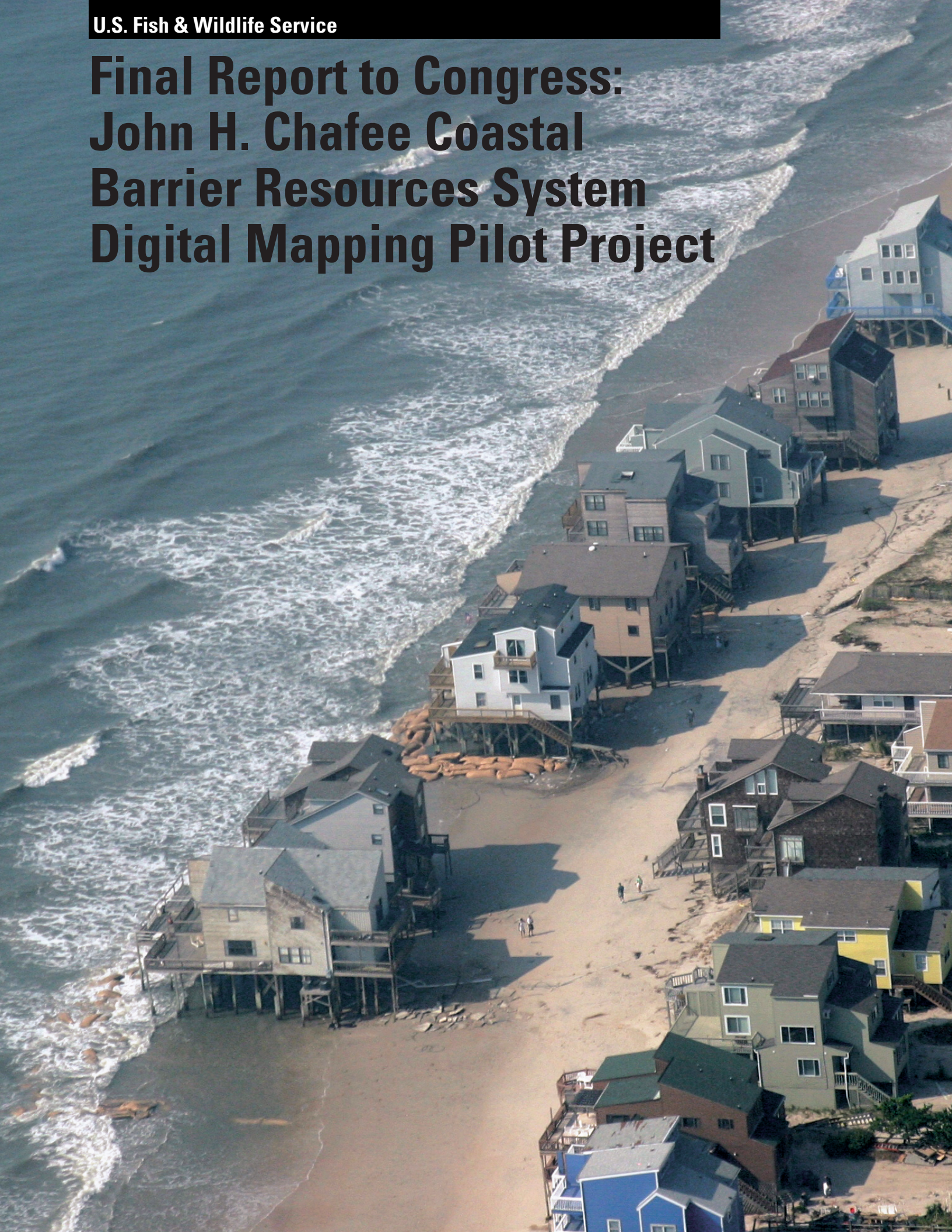
U.S. Fish & Wildlife Service

Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project



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U.S. Fish & Wildlife Service
Ecological Services
Washington, D.C.

Acknowledgements

Many people within the Department of the Interior and U.S. Fish and Wildlife Service (Service) provided support for the Digital Mapping Pilot Project (pilot project), including: Cheryl Amrani, Marta Anderson, Martha Balis-Larsen, Mitch Bergeson, Cynthia Bohn, Linus Chen, Paul Comlish, Margaret Engesser, Teresa Fish, Gary Frazer, Nancy Green, Angela Gustavson, Alyssa Hausman, Gary Hunt, Martin Kodis, Dominic Maione, Jonathan Phinney, and Gina Shultz. Steve Kalaf, Quinn Moody, and Jen Zosh of Dewberry LLC provided technical and mapping support for the pilot project.

The Service would like to thank the Members of Congress who sponsored and co-sponsored the 2006 Coastal Barrier Resources Reauthorization Act, which directed the Secretary of the Interior to complete final recommended maps for the pilot project and prepare this report, including: former Senator Lincoln Chafee, former Congressman Wayne Gilchrest, Senator James Inhofe, the late Senator James Jeffords, former Congressman James Leach, as well as current and former Senate Committee on Environment and Public Works and House Committee on Natural Resources staff who have supported the map modernization effort, including: Jason Albritton, William Ball, Harry Burroughs, Dave Jansen, John Rayfield, and Matthew Strickler; and the Senate and House Appropriation Committees. The Service also extends special thanks to former Congressman Thomas Evans, who sponsored the original Coastal Barrier Resources Act in 1982, and has provided unwavering support for the Coastal Barrier Resources System ever since.

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Suggested citation:

U.S. Fish and Wildlife Service. Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project. 2016.

Authority for the Digital Mapping Pilot Project and Purpose of this Report

In 2008, the U.S. Fish and Wildlife Service (Service) submitted its initial *Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project* (pilot project) to the Senate Committee on Environment and Public Works and the House Committee on Natural Resources, per a directive in Section 6 of the 2000 Coastal Barrier Resources Reauthorization Act (2000 CBRRA).[1] The 2008 pilot project report: (1) contained draft maps that proposed modifications to 70 units of the John H. Chafee Coastal Barrier Resources System (CBRS) located in Delaware, Florida, Louisiana, North Carolina, and South Carolina and (2) described the methodology and results of the pilot project and the feasibility, data standards and needs, and costs of completing digital maps for the remainder of the CBRS.

The Service made the proposed pilot project maps and report available for public review and comment in 2009. Since the publication of the initial report, six units have been removed from the pilot project and one unit has been added, resulting in a total of 65 units in the pilot project at this time.[2]

This final report to Congress provides the final recommended maps for 65 units (comprising 274,363 acres and about eight percent of the total CBRS acreage), and has been prepared in accordance with Section 3 of the 2006 Coastal Barrier Resources Reauthorization Act (2006 CBRRA),[3] which specifies that the Secretary of the Interior, after providing an opportunity for the submission and consideration of public comments, shall submit a report regarding the digital CBRS maps created under the pilot project to the Senate Committee on Environment and Public Works and the House Committee on Natural Resources. The 2006 CBRRA specifies that the report shall contain:

(1) the final recommended digital maps created under the pilot project;
(2) recommendations for the adoption of the digital maps by Congress;
(3) a summary of the comments received from the Governors of the States, other government officials, and the public regarding the digital maps;
(4) a summary and update of the protocols and findings of the initial pilot project report required under Section 6(d) of the 2000 CBRRA, which included:

- a description of the cooperative agreements that would be necessary to complete digital mapping of the entire CBRS,
- the extent to which the data necessary to complete digital mapping of the entire CBRS are available,
- the need for additional data to complete digital mapping of the entire CBRS,
- the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps, and
- the amount of funding necessary to complete digital mapping of the entire CBRS; and

(5) an analysis of any benefits that the public would receive by using digital mapping technology for all CBRS units.

The following table provides an introduction to the chapters of this report and notes which chapters and appendixes address the requirements listed above.

Report Chapter	*Description*
Chapter 1: Overview of the Coastal Barrier Resources System	This chapter includes an overview of the Coastal Barrier Resources Act and CBRS map modernization.
Chapter 2: Benefits of Map Modernization and Successes to Date	This chapter includes an analysis of benefits that the public will receive by using digital mapping technology for all CBRS units, as required by Section 3(c)(5) of the 2006 CBRRA.
Chapter 3: Pilot Project Public Review Process	This chapter includes a summary of the public review process, as required by Section 3(b)(2)(A) of the 2006 CBRRA.
Chapter 4: Summary of Public Comments and Service Responses, Changes to Maps, and Updates to Mapping Protocols	This chapter includes a summary of the substantive overarching comments received during the public review period regarding the proposed maps and a summary and update of the protocols of the initial pilot project report, as required by Sections 3(c)(3) and 3(c)(4) of the 2006 CBRRA, respectively.
Chapter 5: Summary and Update of Pilot Project Results	This chapter describes the results of the pilot project and the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps, as required by Section 3(c)(4) of the 2006 CBRRA.
Chapter 6: Guiding Principles and Criteria for Coastal Barrier Resources System Modifications	This chapter includes a set of guiding principles and criteria to be applied to assessments of areas under consideration for removal from, addition to, and reclassification within the CBRS, and is based upon the lessons learned through the pilot project and other comprehensive remapping projects.
Chapter 7: Next Steps and Conclusions	This chapter includes a recommendation for the adoption of the final recommended maps by Congress, as required by Section 3(c)(2) of the 2006 CBRRA. This chapter also describes the next steps to comprehensively modernize the remainder of the CBRS, including the cooperative agreements, digital data needs, data availability, and costs associated with completing digital mapping of the entire CBRS, as required by Section 3(c)(4) of the 2006 CBRRA.
Literature Cited	This section contains a list of the sources cited throughout the report.
Appendix A: Glossary	This appendix includes a glossary of terms used throughout the report.
Appendix B: Summary of Historical Changes to the Coastal Barrier Resources System	This appendix includes a summary table of the historical changes that have been made to the CBRS.
Appendix C: Pilot Project Unit Summaries and Final Recommended Maps	This appendix includes unit summaries that update the findings of the initial pilot project report, as required by Section 3(c)(4) of the 2006 CBRRA. This appendix also includes the final recommended maps created under the pilot project, as required by Section 3(c)(1) of the 2006 CBRRA.
Appendix D: Pilot Project Acreage, Structure and Shoreline Changes	This appendix includes the acreage, shoreline, and structure changes associated with the final recommended maps included in Appendix C.
Appendix E: Responses to Unit-Specific Public Comments	This appendix includes a summary of the comments received for specific units during the public review period regarding the proposed maps, as required by Section 3(c)(3) of the 2006 CBRRA.

[1] Pub. L. 106-514

[2] Units FL-64P, L07, L08, and L09 were removed from the pilot project because comprehensively revised maps for these areas have been adopted by Congress. The Service's proposed map for Unit FL-64P was made effective via Pub. L. 110-419 on October 15, 2008. The Service's final recommended maps for Units L07, L08, and L09 were made effective via Pub L. 113-253 on December 18, 2014. Units FL-19 and FL-78P have been removed from the pilot project because the areas within these two units have been incorporated into existing adjacent CBRS units (Units FL-19P and FL-78, respectively). Unit NC-01P has been added to the pilot project as a new OPA because it contains areas that are currently within a System Unit (Unit NC-01) but are appropriate for reclassification to an OPA.

[3] Pub. L. 109-226

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List of Acronyms and Abbreviations

2000 CBRRA – 2000 Coastal Barrier Resources Reauthorization Act
2006 CBRRA – 2006 Coastal Barrier Resources Reauthorization Act
CBIA – Coastal Barrier Improvement Act
CBRA – Coastal Barrier Resources Act
CBRS/System – John H. Chafee Coastal Barrier Resources System
Department/DOI – Department of the Interior
FEMA – Federal Emergency Management Agency
FIM – Flood Insurance Manual
FIRM – Flood Insurance Rate Map
GAO – Government Accountability Office
GIS – Geographic Information System(s)
IPCC – Intergovernmental Panel on Climate Change
NFIP – National Flood Insurance Program
NOAA – National Oceanic and Atmospheric Administration
NWI – National Wetlands Inventory
OPA – Otherwise Protected Area
Secretary – Secretary of the Interior
Service/USFWS – U.S. Fish and Wildlife Service
SFHA – Special Flood Hazard Area
USGS – United States Geological Survey

Executive Summary

INTRODUCTION

Coastal barriers are the narrow low lying landforms located at the interface of land and sea. These unique geological features buffer the bays, salt marshes, and wetlands behind them that in turn support a great diversity of plants and animals, and protect people and property on the mainland from the full impact of hurricane force winds and storm surge. Coastal barriers serve as popular vacation and recreation destinations; however, developing and redeveloping these vulnerable and often unstable areas is costly, not only to the property owners who risk losing their homes and lives, but also to the American taxpayers who subsidize this development. Development also interferes with the natural movement of the barriers, disturbing important habitat for nesting sea turtles, migratory birds, and other fish and wildlife resources. Despite the risks associated with building on these narrow spits of sand, the aesthetic and recreational lures of coastal barriers continue to drive the development of these areas along our Nation's coasts.

Building on an effort initiated by President Carter, President Reagan and Congress took action to protect undeveloped coastal barrier habitat from intensive development. The Coastal Barrier Resources Act (CBRA), enacted in 1982, recognized that certain actions and programs of the Federal Government have historically subsidized and encouraged development on coastal barriers, resulting in the loss of natural resources, threats to human life, health, and property, and the expenditure of millions of tax dollars each year. To remove the Federal incentive to develop these areas, the CBRA designated relatively undeveloped coastal barriers along the Atlantic and Gulf coasts as part of the Coastal Barrier Resources System (CBRS) and made these "System Units" ineligible for most new Federal expenditures and financial assistance. In 1990, Congress reauthorized the CBRA with the Coastal Barrier Improvement Act (CBIA), which also expanded the CBRS by adding new units, enlarging some previously designated units, and adding "Otherwise Protected Areas" (OPAs) as a second type of unit within the CBRS. "System Units" are generally comprised of privately held areas whereas OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes (e.g., State parks, wildlife refuges, private conservation areas, etc.). The only Federal funding prohibition within OPAs is on Federal flood insurance. The CBRA was again reauthorized in 2000 and 2006, demonstrating consistent bipartisan support for the law across decades.

The CBRS currently contains a total of 859 geographic units covering about 3.3 million acres (400,000 acres of fastland (land above mean high tide), 2.9 million acres of associated aquatic habitat (wetlands and open water)) and approximately 2,500 shoreline miles in 23 States and territories along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts. Of the total units within the CBRS, 585 are System Units (comprising about 1.3 million acres) and 274 are OPAs (comprising about 2 million acres). The CBRS units are depicted on a set of maps that is maintained by the Secretary of the Interior (Secretary), through the U.S. Fish and Wildlife Service (Service, we, our).

Areas located within the CBRS are not eligible for most new Federal expenditures and financial assistance. Development can still occur within the CBRS provided that private developers or other non-Federal parties bear the full cost. Over the past 34 years, the CBRA has helped to reduce the intensity of development in these high-risk coastal areas, protect coastal habitat, and save millions of taxpayer dollars each year. Maintaining the beneficial functions of coastal barriers as natural storm buffers is important as the Nation experiences and prepares for increased flooding and erosion associated with climate change impacts due to increases in sea level rise and storm surge, and more intense and frequent coastal storms throughout the 21st century and beyond.

AUTHORITY FOR THE DIGITAL MAPPING PILOT PROJECT AND PURPOSE OF THIS REPORT

A major challenge associated with administering the CBRA over the years has been the outdated maps that depict the CBRS, many of which date back to the 1990s. CBRS maps have historically been difficult to interpret, and in some cases contain significant errors. The challenges associated with the maps have caused hardships for homeowners who were either issued Federal flood insurance policies in error or whose properties were inadvertently included within the CBRS.

Congress recognized the limitations and problems associated with the CBRS maps and took action to address them. The 2000 Coastal Barrier Resources Reauthorization Act (2000 CBRRA) directed the Secretary to conduct a Digital Mapping Pilot Project (pilot project) that would include: (1) draft digital maps for 50-75 CBRS areas (representing about ten percent of the CBRS) and (2) an accompanying report to Congress that describes the feasibility and cost of creating digital maps for the entire CBRS.

The 2006 Coastal Barrier Resources Reauthorization Act (2006 CBRRA) directs the Secretary to conduct a public review and finalize the pilot project maps, prepare digital maps for the remainder of the CBRS, and provide recommendations for expansion of the CBRS. The 2006 CBRRA specifies that this final report to Congress shall contain:

(1) the final recommended digital maps created under the pilot project;

(2) recommendations for the adoption of the digital maps by Congress;

(3) a summary of the comments received from the Governors of the States, other government officials, and the public regarding the digital maps;

(4) a summary and update of the protocols and findings of the initial pilot project report required under Section 6(d) of the 2000 CBRRA, which included:

- a description of the cooperative agreements that would be necessary to complete digital mapping of the entire CBRS,
- the extent to which the data necessary to complete digital mapping of the entire CBRS are available,
- the need for additional data to complete digital mapping of the entire CBRS,
- the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps, and
- the amount of funding necessary to complete digital mapping of the entire System; and

(5) an analysis of any benefits that the public would receive by using digital mapping technology for all CBRS units.

In 2008, the Service completed draft maps for 70 CBRS units (located in Delaware, Florida, Louisiana, North Carolina, and South Carolina) and an accompanying report to Congress. The draft pilot project maps underwent public review in 2009. They were revised in 2016 to incorporate any appropriate changes based on updated aerial imagery, public input, and objective mapping protocols. These maps are included in this report as the Service's final recommended maps for Congressional consideration. Since the publication of the initial 2008 pilot project report, six units have been removed from the pilot project and one unit has been added.

This report includes final recommended maps for 65 CBRS pilot project units. The final recommended units comprise a total of 274,363 acres (13,671 acres of fastland and 260,692 acres of associated aquatic habitat) and about eight percent of the total CBRS acreage. Forty-one of the total pilot project units are System Units (comprising 257,725 acres) and 24 are OPAs (comprising 16,638 acres).

BENEFITS OF MAP MODERNIZATION AND SUCCESSES TO DATE

As required by the 2006 CBRRA, this final report includes an analysis of any benefits that the public would receive by using digital mapping technology for all CBRS units. The Service has two separate but complementary approaches underway to update the CBRS maps, which are known as "digital conversion" and "comprehensive map modernization." These two mapping efforts and their associated benefits are described in Chapter 2.

The Service and the Federal Emergency Management Agency (FEMA) entered into an interagency partnership in 2011 to facilitate a digital conversion of the official CBRS maps. This effort modernizes the maps to a digital medium that is more useful to the public and local, State, and Federal agencies. This effort is conducted under a limited authority in the CBRA that requires a regular review and update of the CBRS maps (known as the "five-year review"). Through the digital conversion effort, the existing CBRS boundaries are: (1) transferred and fitted to updated base maps (i.e., a recent aerial image) to ensure that the boundaries correspond with the natural or development features they are clearly intended to follow on the official maps; (2) modified to reflect any natural changes that have occurred since the maps were last updated and to incorporate any voluntary additions and additions of excess Federal property within the CBRS; and (3) in limited circumstances, modified to correct transcription errors between the boundaries approved by Congress in the past and those depicted on the official CBRS maps on file with the Service. The revised maps prepared through the digital conversion process undergo stakeholder review by Federal, State, and local officials, and are made effective administratively by the Service through a notice of final map availability published in the *Federal Register*. Changes to the CBRS that are outside the Service's limited administrative authorities under the CBRA cannot be made through the digital conversion process.

The benefits associated with digital conversion include: more accurate and user-friendly CBRS data and maps for the public; improved accuracy of CBRS boundaries depicted on FEMA's Flood Insurance Rate Maps; increased awareness of and compliance with the CBRA; and opportunities for enhanced State, local, and non-governmental conservation efforts. By the end of 2016, the Service will have completed digital conversion maps for 19 of the 23 States and territories that contain CBRS units, covering more than 90 percent of the total CBRS acreage.

Changes that are outside of the scope of digital conversion must be made through the comprehensive map modernization process. This process is more time and resource intensive because it entails significant research into the intent of the original boundaries and the development status on-the-ground at the time the areas were originally included within the CBRS, public review of the draft maps, and Congressional enactment of

legislation to make the revised maps effective.

In addition to all of the benefits of the digital conversion effort listed above, comprehensive map modernization also addresses mapping errors by removing lands that were previously included in error and conserves natural resources by adding qualifying new areas to the CBRS. Through fiscal year 2016, the Service has prepared comprehensively modernized maps for approximately 15 percent of the total CBRS acreage (including the pilot project maps).

In addition to modernizing the CBRS maps using digital technology, the Service has also modernized the delivery of CBRS information to the public by making a CBRS boundary dataset available for use in Geographic Information System applications and making the CBRS boundaries available through a CBRS Mapper on our website.

PILOT PROJECT PUBLIC REVIEW PROCESS

As required by the 2006 CBRRA, this final report was prepared after providing an opportunity for the submission and consideration of public comments. Chapter 3 describes the pilot project public review process. On April 7, 2009, the Service released to the public its initial 2008 pilot project report to Congress and announced the start of a 90-day public comment period, which was later extended to 120 days.

We distributed more than 400 copies of the report and accompanying letters requesting comments to a wide variety of stakeholders including members of Congress, Governors, county and parish chief elected officials, local and State floodplain administrators and emergency managers, State coastal zone managers, officials of other Federal agencies, park managers, and other stakeholders (e.g., non-governmental organizations). We received a total of 159 written comments, about half of which were from private property owners. The remaining comments received were mostly from Federal agencies, State and local officials, conservation organizations, and homeowners associations. The Service solicited comments from the Governors of all 23 States and territories containing CBRS units; however no comments were received from the Governors.

Unit-specific comments were received for 26 of the 70 units in the 2008 pilot project report. The majority of the comments received related to the Florida and North Carolina pilot project units. Significant issues raised during the public comment period that are relevant to more than one CBRS unit are itemized and addressed in Chapter 4. Unit-specific comments are addressed in Appendix E.

SUMMARY OF PUBLIC COMMENTS AND SERVICE RESPONSES, CHANGES TO MAPS, AND UPDATES TO MAPPING PROTOCOLS

As required by the 2006 CBRRA, this report contains a summary of the comments received from government officials and the public regarding the digital maps and a summary and update of the protocols and findings of the 2008 pilot project report.

Through the course of the pilot project and comprehensive remapping efforts over the past several years, the Service has identified the need for updated guidance and clarification on certain CBRS mapping protocols. Chapter 4 contains: (1) a summary of the substantive overarching comments received during the pilot project public comment period and the Service's responses to those comments; (2) a summary of any changes to pilot project maps as a result of public comments; and (3) a summary of significant mapping protocols that were either updated or clarified by the Service through the pilot project.

SUMMARY AND UPDATE OF PILOT PROJECT RESULTS

As required by the 2006 CBRRA, this report contains a summary and update of the findings of the 2008 pilot project report. Chapter 5 describes the results of the pilot project and the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps.

The types of changes associated with the final recommended pilot project maps include modifications to reflect:

- geomorphic change,
- alignment with geomorphic features,
- alignment with development features,
- alignment with cultural features,
- additions to the CBRS based on a directive in the 2006 CBRRA,
- unit type reclassifications,
- removals from the CBRS, and
- consistent mapping of CBRS boundaries in channels.

In addition to the final recommended boundary changes, the Service replaced the base map imagery used for the proposed maps with newer and higher quality imagery. We also reconfigured some of the CBRS map panels to help reduce confusion and improve the usability of the CBRS maps.

The final recommended maps for the 65 units contained in Appendix C (if adopted by Congress through legislation) would remove approximately 396 total acres from the CBRS (236 acres of fastland and 160 acres of associated aquatic habitat) and add approximately 24,510 acres to the CBRS (1,354 acres of fastland and 23,156 acres of associated aquatic habitat). The revised maps would remove about 325 structures from the CBRS and add about 35 structures to OPAs (mostly park-related). The Service is not aware of any existing private residential structures located within the areas recommended for addition to the CBRS.

The final recommended pilot project maps and summaries of change for each unit (including acreage, shoreline, and structure changes for each unit) are provided in Appendix C. The acreage, shoreline, and structure change numbers for each pilot project unit are also provided in Appendix D. Below is a summary table of the final recommended pilot project acreage changes.

Summary of Final Recommended Acreage and Structure Changes

	Fastland Acres		*Associated Aquatic Habitat Acres*		*Total Acres*		*Total Structures*	
	System Units	*OPAs*	*System Units*	*OPAs*	*System Units*	*OPAs*	*System Units*	*OPAs*
Addition to the CBRS	379	975	20,491	2,665	20,870	3,640	0	35
	Total: 1,354		Total: 23,156		Total: 24,510		Total: 35	
Deletion from the CBRS	148	88	102	58	250	146	179	146
	Total: 236		Total: 160		Total: 396		Total: 325	
Net Reclassified	(232)	232	11,146	(11,146)	10,914	(10,914)	N/A	N/A
	Total: 0		Total: 0		Total: 0		N/A	
Net Change	(1)	1,119	31,535	(8,539)	31,534	(7,420)	(179)	(111)
	Total: 1,118		Total: 22,996		Total: 24,114		Total: (290)	

GUIDING PRINCIPLES AND CRITERIA FOR CBRS MODIFICATIONS

Over the years, the Service has received numerous requests from property owners and their representatives from Congress to remove areas from the CBRS. Such requests require careful assessment to determine whether a removal is warranted. In the 2000 CBRRA, Congress codified criteria for the Secretary to "consider" when determining whether an area warrants removal from the CBRS. Another consideration when reviewing CBRS units is the directive in the 2006 CBRRA to the Secretary to recommend additions to the CBRS when carrying out digital mapping for the remainder of the CBRS. Chapter 6 contains the Service's guiding principles and criteria for assessing removals from, additions to, and reclassifications within the CBRS (i.e., reclassifying areas from System Unit to OPA and vice versa).

When assessing potential modifications to the CBRS, the Service considers the following guiding principles and criteria:

Guiding Principles for CBRS Modifications

(1) Whether the area may reasonably be considered to be a coastal barrier feature, or related to a coastal barrier ecosystem (this generally includes areas that are inherently vulnerable to coastal hazards such as flooding, storm surge, wind, erosion, and sea level rise).

(2) Whether inclusion of the area within the CBRS is rationally related to the purposes of the CBRA (i.e., to minimize the loss of human life, wasteful expenditure of Federal revenues, and damage to fish, wildlife, and other natural resources).

Criteria for CBRS Modifications

(1) The level of development on-the-ground at the time the area was included within the CBRS (i.e., whether the number of structures or complement of infrastructure on-the-ground exceeded the threshold for the area to be considered undeveloped).

(2) The location of geomorphic, cultural, and development features on-the-ground at the time the area was included within the CBRS (i.e., whether the CBRS boundary lines on the maps precisely follow the underlying features they were intended to follow on-the-ground).

The Service generally will not recommend a removal unless there is clear and compelling evidence that an error in boundary delineation was made.

Protocol for CBRS Unit Classification

One of the significant lessons learned through the course of the pilot project and other comprehensive remapping efforts over the past several years is that the level of effort necessary to research, classify, and in some cases, reclassify, small discrete areas as System Unit or OPA (based on ownership at the time they were included within the CBRS) is impractical, complicated, and cost prohibitive. The Service has determined that CBRS boundaries should generally be drawn to correspond with underlying

geomorphic (e.g., shorelines and streams), development (e.g., property parcel boundaries, roads), and cultural features (e.g., county lines, park boundaries). Areas that qualified as undeveloped coastal barriers at the time of their inclusion within the CBRS should generally be classified as System Unit or OPA based on the predominant ownership of the coastal barrier system at the time it was included within the CBRS. These updated protocols are described in Chapters 4 and 6 and will be applied to future comprehensive remapping projects.

NEXT STEPS AND CONCLUSIONS

As required by the 2006 CBRRA, this report contains a recommendation to Congress for the adoption of the final recommended pilot project maps and a summary and update of the findings of the 2008 pilot project report (i.e., the extent to which the data necessary to complete digital mapping of the entire CBRS are available, the need for additional data and cooperative agreements to complete digital mapping of the entire CBRS, and the amount of funding necessary to complete digital mapping of the entire CBRS).

Adoption of the Final Recommended Pilot Project Maps

Appendix C of this report includes final recommended maps for 65 CBRS pilot project units. The Service recommends that Congress replace the existing controlling maps for the pilot project units with the final recommended maps. Enactment of these maps will address clear mapping errors that have unintended negative effects on property owners and that warrant correction. The Service's final recommended maps will become effective only if adopted by Congress through legislation.

Next Steps to Comprehensively Modernize the CBRS

The CBRA is a map-based law, and although most of the CBRS maps have been modernized through the digital conversion effort and are now more accurate and easier to use, some of them may still contain legitimate errors that warrant a comprehensive review and remapping by the Service.

Through fiscal year 2016, the Service has created comprehensively modernized maps for approximately 15 percent of the total CBRS acreage (about 100 units including the pilot project maps). The Service has a project underway to prepare comprehensively revised draft maps for all CBRS units in eight northeastern States affected by Hurricane Sandy (about 370 units comprising approximately 15 percent of the total acreage of the CBRS), and will create comprehensively modernized maps for additional CBRS units given the availability of resources for this effort. The estimated cost for completing comprehensively revised maps for the remainder of the CBRS (about 400 units comprising approximately 70 percent of the CBRS acreage) is about $5 million.

Comprehensive map modernization allows for the opportunity to correct errors that negatively affect property owners and expand the CBRS to include eligible undeveloped land and associated aquatic habitat. The Service supports map modernization and will continue to prepare comprehensively revised maps for remaining areas within the CBRS as resources are made available for this effort.

Dauphin Island, Alabama. (Credit: LieutenantCommander Mark Moran, NOAA Corps)

CHAPTER 1: Overview of the Coastal Barrier Resources System

Coastal barriers, the narrow low lying landforms located at the interface of land and sea, buffer the bays, salt marshes, and wetlands behind them that in turn support a great diversity of plants and animals, including many threatened or endangered species, and protect people and property on the mainland from the full impact of hurricane winds and storm surge. Coastal barriers are continually shifting in response to the natural forces of wind, wave, and tidal action. The location and dynamic nature of coastal barriers makes them hazardous areas on which to build. Development of these areas not only puts property owners at risk of losing their homes but also disrupts the natural movement of the barriers, harming fish and wildlife habitat, and often increasing natural erosion processes. Maintaining the beneficial functions of coastal barriers as fish and wildlife habitat and natural storm buffers will be even more important as the Nation experiences and prepares for increased flooding and erosion associated with climate change impacts due to increases in sea level rise, storm surge, and more intense and frequent coastal storms throughout the 21st century and beyond.[1] Updating the maps through this Digital Mapping Pilot Project (pilot project) and other comprehensive mapping projects will help secure the future integrity of the Coastal Barrier Resources System (CBRS) by correcting legitimate technical mapping errors and adding eligible areas to the CBRS.

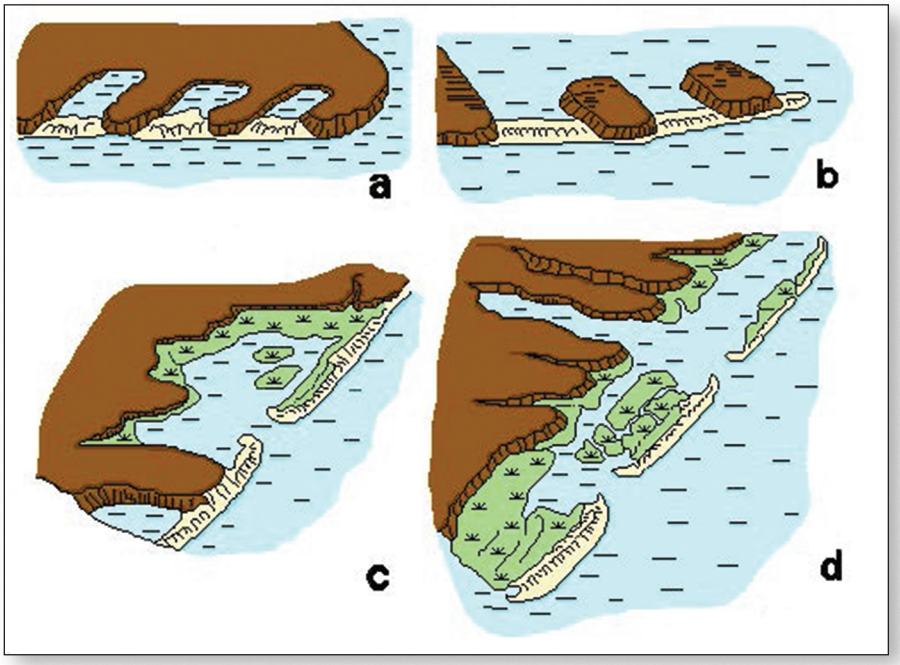

Figure 1. Types of coastal barriers. Bay barriers (a), tombolos (b), barrier spits (c), and barrier islands (d).

Geomorphology of Coastal Barriers

The term "coastal barrier" generally describes a class of low lying coastal landforms that are long and narrow and parallel to the coast. They are completely or mostly surrounded by open water, wetlands, or other aquatic habitat that separates them from the mainland; and they protect these landward aquatic habitats from direct wave attack. Often, substantial portions are sufficiently above normal high tides that dunes and terrestrial vegetation are prevalent. Most coastal barriers are comprised of unconsolidated sediments (e.g., sand and gravel). Figure 1 illustrates the four common categories of coastal barriers, including bay barriers, tombolos, barrier spits, and barrier islands. Bay barriers have grown entirely across the mouth of a bay. Tombolos are formed when sand accumulates between the mainland and an island. Barrier spits extend into open water. Barrier islands are detached from the mainland. Coastal barriers are dynamic landforms that can, and often do, change position in response to storms, sea level rise, currents, and numerous other factors. The Coastal Barrier Resources Act (CBRA) definition of a coastal barrier includes all associated aquatic habitats, encompassing the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters.[2] The statutory definition is consistent with the fact that the upland component and the associated aquatic habitat are inseparable parts of a single coastal barrier ecosystem.

Costs and Risks Associated with the Development of Coastal Barriers

Coastal barriers serve as popular vacation and recreation destinations, though developing and redeveloping these vulnerable and often unstable areas is costly, not only to the American taxpayers who subsidize the development, but to the property owners who risk losing their homes and lives. Development also interferes with the natural movement of the barriers, disturbing important habitat for nesting sea turtles, migratory birds,

and other fish and wildlife resources. Despite the risks associated with building on narrow spits of sand, the aesthetic and recreational lures of coastal barriers continue to drive the development of these areas along our Nation's coasts. In many cases, this development is enabled by the availability of various types of Federal financial assistance, including Federal flood insurance.

The Federal Government spends hundreds of millions of dollars each year on insurance payouts for homes located in high-risk coastal floodplains, pumping sand back onto eroding beaches, and armoring the shoreline to protect coastal development from the naturally occurring processes that continually change the coastal barrier profile. Such expenditures are further exacerbated following major storms. Flood insurance claims paid by the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) following Hurricanes Katrina, Wilma, and Rita in 2005 totaled about $17.7 billion.[3] Since then, the Atlantic and Gulf of Mexico coasts have experienced Hurricanes Ike, Irene, and Sandy, which were among the costliest hurricanes in U.S. history.[4] Congress appropriated approximately $50 billion to Federal agencies for Hurricane Sandy response and recovery efforts.[5] The U.S. Army Corps of Engineers alone received more than $3.4 billion for construction activities along the North Atlantic coast following Hurricane Sandy.[6]

Effects of Climate Change on the Coastal Environment

The Intergovernmental Panel on Climate Change (IPCC) states that "the population and assets exposed to coastal risks as well as human pressures on coastal ecosystems will increase significantly in the coming decades due to population growth, economic development, and urbanization."[7] In the U.S., sea level rise coupled with storm surges, and other climate-related changes, pose increasing risks to coastal water supplies, energy infrastructure, transportation including evacuation routes, tourism, commercial and recreational activities, and wetlands and other ecosystems and the many services they provide.[8] At a global scale, the average rise in sea level has been approximately eight inches since recordkeeping began in the late 1800s, the rate of increase has been accelerating in recent years, and increases in sea level are expected to continue well beyond this century.[9] Changes in sea level vary regionally, and the increase has been greater

Figure 2. Coastal flooding in Rodanthe, North Carolina after Hurricane Isabel in 2003. (Credit: Hillary Stockdon/USGS).

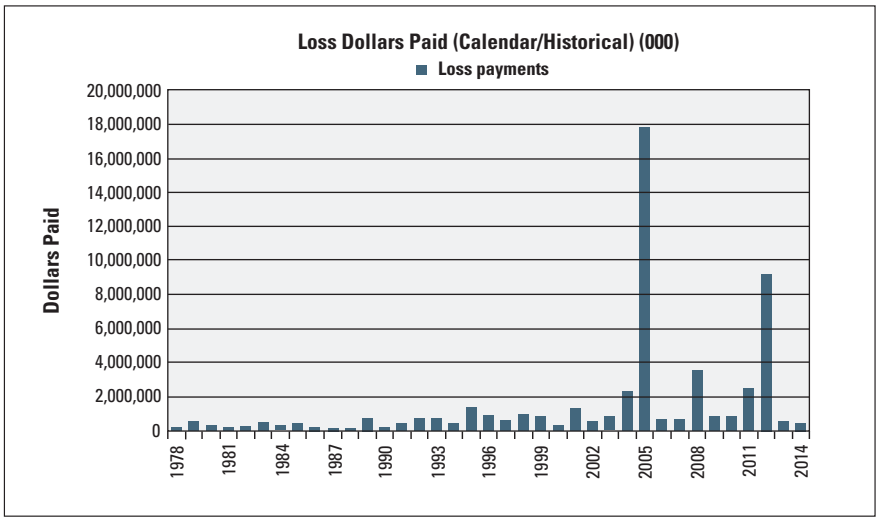

Figure 3. Historical loss dollars paid by the National Flood Insurance Program by year through 2014. (Credit: FEMA).

in U.S. coastal areas. The Third National Climate Assessment notes that at a global level the projected rise in average sea level is another one to four feet in this century, although the change in specific regions will vary from this global average. Storm surges that occur on top of higher sea levels are already having substantial impacts. A recent scientific study based on mid-range climate sensitivity scenarios has estimated that national economic impacts of storm surge and sea level rise will be about $990 billion through 2100. Eastern coastal areas (particularly the mid-Atlantic and Southeast) and the Gulf Coast are especially vulnerable to sea level rise, and the mid-Atlantic coast has been identified as a "hotspot" of accelerated sea level rise.[10]

One of the many consequences of climate change is increased flooding and related flood damage. When storm surge is considered in conjunction with sea level rise, the flood hazard on the East Coast is projected to increase substantially over the 21st century.[11] Similarly, the East and Gulf Coasts face increasing risks of flooding and related impacts due to projected increases in the co-occurrence of storm surges and rainfall.[12]

Nuisance flooding also has increased on all three U.S. coasts between 300 and 925 percent since the 1960s, according to a 2014 National Oceanic and Atmospheric Administration (NOAA) report. One main conclusion of the report is that acceleration of sea level rise, as is projected to occur in this century, will further intensify the impacts of nuisance flooding and further reduce the time between flood events.[13]

Millions of people reside in U.S. coastal counties that are subject to the increased risk of erosion, flooding, and other effects of climate change that can cause widespread damage. According to the Third National Climate Assessment, even more people will be at risk in the future as sea level rises, due to the expansion of the floodplain and the continued movement of people to coastal areas: "By 2100, the fraction of the U.S. population living in coastal counties is expected to increase by 50 percent (46.2 million) to 144 percent (131.2 million) … many of these new arrivals can be expected to locate in high-hazard areas. Thus, coastal population densities, along with increasing economic development, will continue to be an important factor in the overall exposure to climate change."[14]

The associated financial risks of increasing coastal populations are substantial and this has significant implications for the NFIP. The NFIP is one of the Federal Government's largest financial obligations. As of 2014, the NFIP insured over $1.29 trillion in assets.[15] According to a 2013 report commissioned by FEMA,[16] the NFIP is expected to nearly double in size by the year 2100 due to the combined effects of climate change and population growth. The report also states that "as the number of flood insurance policies increase, particularly in flood-hazard areas such as those on the coasts, the NFIP could be exposed to much larger events (with respect to losses) than similar events would have produced in prior years."

Figure 4. A home in the surf on the Outer Banks, North Carolina. (Credit: Jonathan Phinney/USFWS).

Figure 5. Nuisance flooding in Charleston, South Carolina. (Credit: NOAA).

As climate-related impacts to coastal areas have become more widely observed and the future risks become more obvious, interest has increased in adaptation measures that can avoid or reduce these impacts. This includes a growing recognition of the importance of maintaining and restoring natural coastal habitats to shield ecosystems, people, and property from the ongoing and projected increase in impacts.[17]

Coastal Barrier Resources Act

Building on an effort initiated by President Carter, President Reagan and Congress took action to protect undeveloped coastal barrier habitat from intensive development. The CBRA, enacted in 1982, recognized that certain actions and programs of the Federal Government have historically subsidized and encouraged development on coastal barriers, resulting in the loss of natural resources, threats to human life, health and property, and the expenditure of millions of tax dollars each year. The CBRA seeks to save taxpayers' money, keep people out of harm's way, and remove Federal incentives to develop coastal barriers by restricting most new Federal expenditures and financial assistance (e.g., beach nourishment, disaster assistance, flood insurance, loans, and grants) for areas designated within the CBRS. The CBRA does not prohibit or regulate development; however, it removes the Federal incentives to build on these unstable and environmentally sensitive areas. Development can still occur provided that private developers or other non-Federal parties bear the full cost.

In 1990, Congress enacted the Coastal Barrier Improvement Act (CBIA) which expanded the CBRS by adding new units, enlarging some previously designated units, and adding "Otherwise Protected Areas" (OPAs) as a second type of unit within the CBRS. "System Units" are generally comprised of privately held areas, whereas OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes (e.g., State parks, wildlife refuges, private conservation areas, etc.). Most new Federal expenditures and financial assistance are prohibited within System Units, whereas the only Federal funding prohibition within OPAs is on Federal flood insurance. The CBRA was again reauthorized in 2000 and 2006, demonstrating consistent bipartisan support for the law across decades.

The CBRS currently contains a total of 859 geographic units covering about 3.3 million acres (400,000 acres of fastland (land above mean high tide), 2.9 million acres of associated aquatic habitat (wetlands and open water) and approximately 2,500 shoreline miles in 23 States and territories along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts. Of the total units within the CBRS, 585 are System Units (comprising about 1.3 million acres) and 274 are OPAs (comprising about 2 million acres). The CBRS units are depicted on a set of maps that is maintained by the Secretary of the Interior (Secretary), through the U.S. Fish and Wildlife Service (Service, we, our).

The Secretary, through the Service, is responsible for administering the CBRA, which includes: maintaining and updating the official maps of the CBRS; consulting with Federal agencies that propose spending funds within the CBRS; and making recommendations to Congress regarding removals from and additions to the CBRS.

Value of the Coastal Barrier Resources Act

The CBRA is a proactive planning tool that can help to significantly reduce the damage caused by storms, coastal flooding, and sea level rise. According to the IPCC, "planning by coastal communities that considers the impacts of climate change reduces the risk of harm from those impacts. In particular, proactive planning reduces the need for reactive response to the damage caused by extreme events. Handling things after the fact can be

more expensive and less effective."[18] A 2007 Government Accountability Office (GAO) report[19] estimated that 84 percent of CBRS units remain undeveloped and 13 percent of CBRS units had experienced only minimal levels of development since they were added to the CBRS. The CBRA, especially when combined with State and local regulations or other protection measures, has been largely successful at reducing the intensity of development along our coasts. A 2002 Service economic study[20] estimated that between 1983 and 2010, the CBRA would save taxpayers an estimated $1.3 billion from avoided Federal spending for roads, wastewater systems and potable water supply, and disaster relief, and will continue to save millions more in the future. This figure would have been even higher if additional Federal programs had been included in the assessment.

Map Modernization Efforts

The CBRA is a map-based law, and the official CBRS maps were last comprehensively updated more than 25 years ago with the CBIA of 1990.[21] The CBRS maps from the 1990s are technologically outdated and in some cases difficult to interpret.[22] The CBRS boundaries on those maps do not align precisely with the features they were intended to follow on-the-ground (e.g., shorelines, roads, park boundaries, etc.). As a result, some properties and projects intended to be eligible for Federal subsidies are not eligible, and vice versa. These errors can have an adverse financial effect on property owners and project proponents.

Aside from three minor exceptions, only Congress, through new legislation, can modify the boundaries of the CBRS. These exceptions are: (1) voluntary additions to the CBRS by the owners of undeveloped coastal barrier property;[23] (2) additions of excess Federal property, if such property is determined by the Secretary to constitute an undeveloped coastal barrier;[24] and (3) modifications to the CBRS made by the Secretary at least once every five years to account for changes to coastal barriers as a result of natural forces.[25] Neither the Service, nor the Department of the Interior (Department or DOI), is authorized to make any other boundary changes administratively, but may make recommendations to Congress. When technical mapping errors have been found, the Service has supported legislation to modify boundaries accordingly.

Congress recognized the challenges associated with the existing maps and took action to address them with the 2000 Coastal Barrier Resources Reauthorization Act (2000 CBRRA),[26] which directed the Secretary to conduct the pilot project by remapping 50-75 CBRS areas (representing about ten percent of the CBRS) using digital technology and preparing an accompanying report to Congress that describes the feasibility and cost of creating digital maps for the entire CBRS.[27] The 2006 Coastal Barrier Resources Reauthorization Act (2006 CBRRA)[28] directs the Secretary to finalize the pilot project, prepare digital maps for the remainder of the CBRS, and provide recommendations for expansion of the CBRS.[29] The GAO and the Federal Interagency Floodplain Management Task Force[30] have also recommended updating and modernizing the maps.

In 2008, the Service submitted its *Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project* and accompanying draft maps for 70 CBRS units (located in Delaware, Florida, Louisiana, North Carolina, and South Carolina) to Congress. In 2009, we conducted a public review of the report and draft maps. Since the publication of the initial 2008 report, six units have been removed from the pilot project and one unit has been added, resulting in a total of 65 units in the pilot project at this time.[31] Forty-one of the total pilot project units are System Units and 24 are OPAs.

Currently, the Service has two map modernization efforts underway: (1) "digital conversion," which produces modernized maps that have very limited changes and can be adopted administratively (changes are limited to those authorized under 16 U.S.C. 3503(c)-(e)) and (2) "comprehensive map modernization," which produces revised maps (such as those created through the pilot project) that contain more significant changes and must be adopted by Congress through legislation to become effective. These two mapping efforts and the benefits of each are discussed in more detail in Chapter 2.

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1 Global sea level rise already is occurring and, combined with storm surges, is anticipated to have an increasingly significant impact on coastal and low-lying areas due to more frequent and severe flooding and erosion, as well as impacts to many species of fish, wildlife and plants (IPCC 2014). Many coastal areas of the U.S. are at increasing risk. The east coast of the U.S. is considered to be particularly vulnerable to sea level rise and related impacts (Moser et al. 2014; Carson et al. 2016). The Third National Climate Assessment noted that in the mid-Atlantic region of the U.S. coast, sea level rise and related flooding and erosion threaten coastal homes, infrastructure, ports and other commercial development; the Assessment also raised concern about the potential for profound and in some cases irreversible impacts to coastal ecosystems and associated species (Moser et al. 2014). The highest projected change in sea level rise in populated areas of the world is along the east coast of the U.S. (Carson et al. 2016).

2 16 U.S.C. 3502(1)(B)

3 FEMA Significant Flood Events, 2016. *https://www.fema.gov/significant-flood-events*

4 As of December 31, 2015, flood insurance claims paid by the NFIP totaled about $2.7 billion for Hurricane Ike, $1.3 billion for Hurricane Irene, and $8.1 billion for Hurricane Sandy. *https://www.fema.gov/significant-flood-events*

5 GAO. Report to Congressional Committees: High Risk Series, an Update. Publication No. GAO-13-283. February 2013.

6 Disaster Relief Appropriations Act of 2013. Chapter 4 of Pub. L. 113-2.

[7] IPCC 2014, pg. 67

[8] Moser et al. 2014

[9] Walsh et al. 2014

[10] Moser et al. 2014, Walsh et al. 2014

[11] Little et al. 2015

[12] Wahl et al. 2015

[13] Nuisance flooding is considered an inconvenience to the public and can compromise essential infrastructure (e.g., road closures). Sea level rise has contributed to more frequent nuisance flooding that no longer requires a strong storm or hurricane to produce flooding; in some areas, flooding is now a direct effect of high tide. The top U.S. cities that have experienced an increase in nuisance flooding are located on the East Coast. The impacts of sea level rise along our coasts will become more prevalent and severe over the next several decades (NOAA 2014).

[14] Moser et al. 2014

[15] FEMA Total Coverage by Calendar Year, 2015. *https://www.fema.gov/total-coverage-calendar-year*

[16] AECOM. 2013. The Impact of Climate Change and Population Growth on the National Flood Insurance Program through 2100.

[17] For example, see Arkema et al. 2013.

[18] Wong et al. 2014 (Chapter 5, Coastal Systems and Low-Lying Areas, in the IPCC report Climate Change 2014: Impacts, Adaptation, and Vulnerability, Part A: Global and Sectoral Aspects).

[19] GAO. 2007. Coastal Barrier Resources System: Status of Development that has Occurred and Financial Assistance Provided by Federal Agencies. Washington, D.C.

[20] USFWS. 2002. The Coastal Barrier Resources Act: Harnessing the Power of Market Forces to Conserve America's Coasts and Save Taxpayers' Money. Arlington, VA.

[21] Pub. L. 101-591

[22] USFWS. 2008. Chapter 2, Need for Map Modernization In Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project. Arlington, VA.

[23] The CBRA authorizes the Secretary to add a parcel of real property to the CBRS if: (1) the owner of the parcel requests, in writing, that the Secretary add the parcel to the CBRS and (2) the parcel is an undeveloped coastal barrier (16 U.S.C. 3503(d)).

[24] The CBRA authorizes the Secretary to add excess Federal property to the CBRS following consultation with the Administrator of the U.S. General Services Administration (GSA) and a determination that the property constitutes an undeveloped coastal barrier (16 U.S.C. 3503(e)).

[25] The CBRA requires the Secretary to review the maps of the CBRS at least once every five years and make any minor and technical modifications to the boundaries of the CBRS as are necessary to reflect changes that have occurred in the size or location of any CBRS unit as a result of natural forces (16 U.S.C. 3503(c)). This process is known as the "five-year review."

[26] Pub. L. 106-514

[27] Section 6 of Pub. L. 106-514

[28] Pub. L. 109-226

[29] Sections 3 and 4 of Pub. L. 109-226

[30] Federal Interagency Floodplain Management Task Force. 2013. FIFM Task Force Consensus Recommendations and Actions from a Federal Floodplain Management Policy Analysis Memo. Washington, D.C.

[31] Units FL-64P, L07, L08, and L09 have been removed from the pilot project because comprehensively revised maps for these areas have been adopted by Congress. The Service's proposed map for Unit FL-64P was made effective via Pub. L. 110-419 on October 15, 2008, and the Service's final recommended maps for Units L07, L08, and L09 were made effective via Pub L. 113-253 on December 18, 2014. Units FL-19 and FL-78P have been removed from the pilot project because the areas within these two units have been incorporated into existing adjacent CBRS units (Units FL-19P and FL-78, respectively). Unit NC-01P has been added to the pilot project as a new OPA because it contains areas that are currently within a System Unit (Unit NC-01) but are appropriate for reclassification to an OPA. Information concerning FL-19, FL-78P, and NC-01P can be found in the unit summaries in Appendix C.

CHAPTER 2: Benefits of Map Modernization and Successes to Date

Section 3(c)(5) of the 2006 CBRRA requires that this final pilot project report contain an analysis of any benefits that the public would receive by using digital mapping technology for all CBRS units. This chapter contains a summary of the challenges associated with the CBRS maps; the two separate but complementary efforts underway to modernize the CBRS maps (digital conversion and comprehensive map modernization); the benefits and successes associated with the two different mapping processes; and the Service's efforts to provide CBRS maps and digital boundary data more efficiently to its customers and partners.

The maps depicting the CBRS were last comprehensively revised in 1990 using now antiquated manual cartographic technologies and base maps that were already outdated at the time, some dating as far back as the 1940s. The 1990s era maps are: (1) imprecise and inaccurate (the CBRS boundary lines are 80-100 feet wide on the surface of the Earth, and the underlying features they are meant to follow are not always correctly depicted on the base maps); (2) difficult to use (the scanned paper maps are incompatible with the Geographic Information Systems (GIS) commonly used today); and (3) in some cases contain errors affecting property owners and project proponents. See Figures 6 and 7 for examples of some of the challenges associated with the maps.

The benefits and successes of both the digital conversion and comprehensive map modernization efforts are described in this chapter, and Figure 8 illustrates the differences between the two processes. The digital conversion effort solves many of the main challenges associated with the maps by more precisely depicting the CBRS boundaries on updated

Figure 6. CBRS boundaries on the 1990s era maps can be difficult to interpret because they are typically about 80-100 feet wide on-the-ground. This 1990 map for Rhode Island Unit D01 shows a boundary segment that is about 165 feet wide in one area.

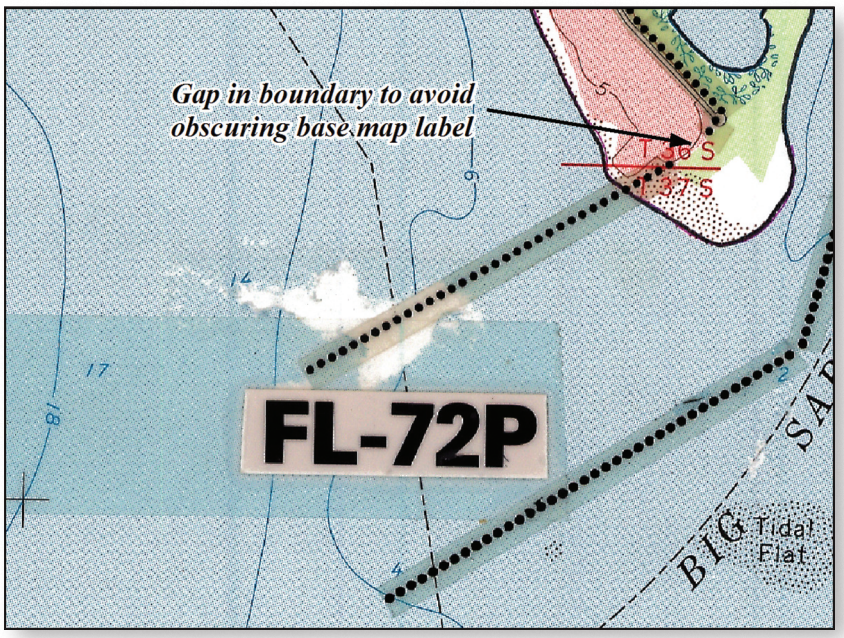

Figure 7. On the 1990s era maps, OPA boundaries were created with strips of tape depicting a dot pattern. The cartographers opted to avoid obscuring annotation on the base maps by leaving gaps in the boundary, such as the one shown on the 1994 map for Florida Unit FL-72P.

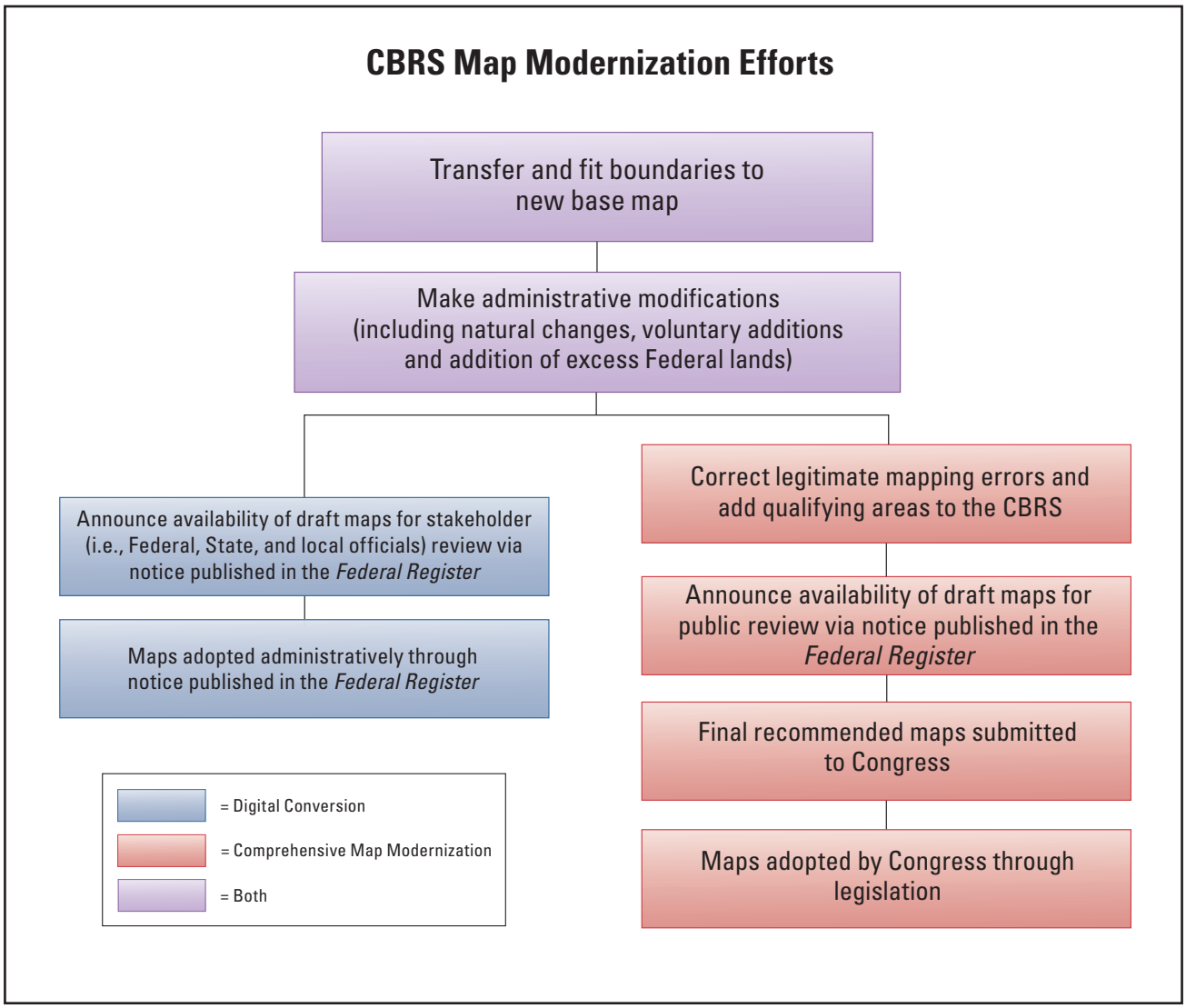

Figure 8. This diagram illustrates the differences between the digital conversion process and the comprehensive map modernization process.

base maps and making the maps available in a GIS format with revised boundaries to account for natural changes; however, the digital conversion does not address mapping errors. Mapping errors negatively affect property owners and result in frequent challenges to the CBRS maps. Comprehensive map modernization not only transfers the CBRS boundaries to new base maps and makes modifications necessary to account for natural changes, but also corrects errors that affect property owners and adds areas appropriate for inclusion to the CBRS. However, comprehensive map modernization takes a significant amount of time and resources.

In addition to making progress on modernizing the CBRS maps through digital conversion and comprehensive map modernization, over the last decade, the Service has also modernized the delivery of CBRS information to the public by making a CBRS boundary dataset available for use in GIS applications and making the CBRS boundaries available through a CBRS Mapper on our website.

Digital Conversion

Recognizing that comprehensive map modernization for the entire CBRS is a time and resource intensive endeavor, the Service and FEMA entered into an interagency partnership in 2011 to facilitate a more timely digital conversion of the official maps. By the end of 2016, the Service will have completed digital conversion maps for 19 of the 23 States and Territories that contain CBRS units, covering more than 90 percent of the total CBRS acreage.[1] All of the pilot project units underwent the digital conversion process between 2014 and 2016.

Through the digital conversion effort, the existing CBRS boundaries are: (1) transferred and fitted to updated base maps (i.e., a recent aerial image) to ensure that the boundaries correspond with the

natural or development features they are clearly intended to follow on the official maps (such adjustments are generally within the width of the existing CBRS boundary); (2) modified to reflect any natural changes that have occurred since the maps were last updated (this is known as the five-year review) and to incorporate any voluntary additions and additions of excess Federal property within the CBRS; and (3) in limited circumstances, modified to correct any administrative errors made in the past in either (a) the transcription of the boundaries from maps that were reviewed and approved by Congress to the official CBRS maps on file with the Service or (b) the previous inclusion of unqualifying (e.g., developed) areas to the CBRS through a map modification to account for natural changes under 16 U.S.C. 3503(c).[2] The revised maps prepared through the digital conversion process undergo stakeholder review by Federal, State, and local officials, and are made effective administratively by the Service through a notice of final map availability published in the *Federal Register*.

Changes to the CBRS boundaries through digital conversion are limited to the administrative modifications the Secretary is authorized to make under the CBRA.[3] Changes that are outside the scope of these authorities cannot be made through the digital conversion process; such changes must be made through the comprehensive map modernization process, which is described in the "Comprehensive Map Modernization" section below.

Benefits and Successes Associated with Digital Conversion

The digital conversion effort provides the public with more accurate, reliable, and user-friendly CBRS maps and digital boundary data that can be integrated into GIS. The benefits of digital conversion include: (1) more accurate and user-friendly CBRS information; (2) improved accuracy of CBRS boundaries on FEMA's Flood Insurance Rate Maps (FIRM); (3) increased awareness of and compliance with the CBRA; and (4) opportunities for State, local, and non-governmental conservation efforts.

- **More Accurate and User-Friendly CBRS Information**
  The digital conversion effort significantly improves the accuracy and reliability of the CBRS maps and boundary data. It has historically been very difficult for the public and Federal agencies responsible for implementing the CBRA to interpret the 1990s era CBRS maps. The Service receives numerous requests from Federal and State agencies, local communities, property owners, and other entities to determine whether or not a particular property or project site is located within the CBRS. Using the old and difficult to interpret paper maps requires a time and labor intensive review, causing delays in the issuance of Federal flood insurance (and therefore delays to real estate transactions), delays in Federally-funded infrastructure projects, and delays in the provision of disaster assistance.

  Digitally converted maps make determining whether particular properties and project sites are located within the CBRS much simpler, faster, cheaper, and less prone to error. In many cases the public is able to determine themselves within minutes whether a property or project site is located within the CBRS by using the Service's online CBRS Mapper instead of waiting for such a determination from the Service.

- **Improved Accuracy of CBRS Boundaries on FEMA's Flood Insurance Rate Maps**
  The digital conversion effort ensures that the CBRS boundaries provided to FEMA during development of FIRMs are consistent with those depicted on the official CBRS maps and within the CBRS Mapper maintained by the Service. Although the Service maintains the official CBRS maps, the FEMA FIRMs are still the most utilized source for landowners, insurance agents,

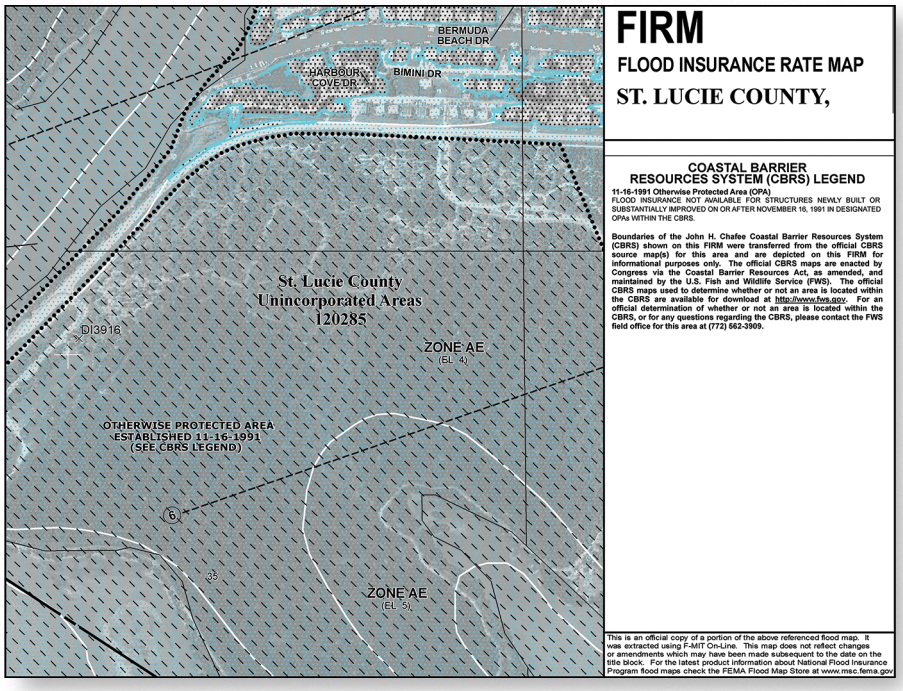

Figure 9. FEMA Flood Insurance Rate Map showing CBRS boundaries (hatched area).

and other interested parties to access CBRS information. In the past there have been cases where the FIRMs have not matched the official CBRS maps, which led to the issuance of erroneous Federal flood insurance policies within the CBRS and hardships for many homeowners. In 2006, the Service and FEMA entered into an interagency partnership whereby the Service places the CBRS boundaries on FIRMs to ensure an accurate depiction of the CBRS boundaries on the FIRMs. This interagency effort has resulted in the placement of the more accurate CBRS boundaries on FIRMs. The CBRS information depicted on the FIRMs is not updated real-time. Instead, users can now access the most recent and reliable CBRS maps and digital boundary data via the Service's website and CBRS Mapper instead of relying solely on the FEMA FIRMs for CBRS information.

- **Increased Awareness of and Compliance with the CBRA**
  The digital conversion effort improves the accuracy, integrity, and usability of the CBRS data and maps, which in turn increases awareness of and compliance with the CBRA by reducing erroneous Federal expenditures (including invalid flood insurance policies) within the CBRS. The 1990s CBRS maps have historically made full compliance with the CBRA challenging for Federal agencies because they are difficult to interpret and incompatible with the GIS systems that are widely used today. The maps have also created challenges for the insurance industry. In CBRS areas, Federal flood insurance is generally not available for structures constructed after the area was included within the CBRS.[4] The Service is frequently contacted by insurance agents who have written invalid Federal flood insurance policies within the CBRS because they were unaware of the CBRA designation affecting the property. In these cases, FEMA may not pay a flood insurance claim for the invalid policy, even if it is first discovered to be invalid after the claim is made.

  In 2007, the GAO issued a report entitled *Coastal Barrier Resources System: Status of Development That Has Occurred and Financial Assistance Provided by Federal Agencies*.[5] This report found that four Federal agencies provided $21 million of prohibited financial assistance within the CBRS. FEMA cited the lack of updated CBRS maps and limitations with mapping technology as the primary reasons for the errors. The report recommended that the Secretary direct the Service to place a high priority on completing efforts to develop digital maps that more accurately depict unit boundaries. Modernized maps will help reduce the number of erroneous Federal flood insurance policies that are issued, and will also help ensure that flood insurance and disaster assistance claims are not paid in violation of the CBRA following a storm.

  The CBRA requires that Federal agencies annually certify to the Secretary that their actions are consistent with the CBRA's prohibitions on Federal expenditures.[6] Digitally converted CBRS maps will enhance outreach efforts at Federal, State, and local levels and help facilitate Federal certification of CBRA compliance.

- **Opportunities for State, Local, and Non-Governmental Conservation Efforts**
  The Service believes that the CBRA works best when coupled with State, local, and non-governmental actions to protect coastal barriers. The digital conversion effort helps conserve natural resources by enabling State and local governments to integrate CBRS boundaries into their GIS for planning and conservation efforts. For example, the State of Maine has enacted a law prohibiting the expenditure of State funds within the Federally-designated CBRS.[7] Additionally, digital conversion helps facilitate the voluntary addition of land to the CBRS. Conservation groups and other non-governmental entities have requested that their land be included within System Units of the CBRS in order to add another layer of protection to their land.[8] The Service reviews such requests and can incorporate qualifying voluntary additions within the CBRS as the maps are updated through the digital conversion effort.

Comprehensive Map Modernization

Congress recognized the need for modernized CBRS maps and, in the 2000 CBRRA, directed the Secretary to complete a pilot project for up to 75 CBRS areas. In the 2006 CBRRA, Congress directs the Secretary to finalize the pilot project, prepare digital maps for the entire CBRS, and recommend additions to the CBRS through the map modernization effort.

The comprehensive map modernization approach requires a thorough review process and generally follows these steps: (1) research by the Service into the intent of the original boundaries and the development status on-the-ground at the time the areas were originally included within the CBRS (the Service generally does not recommend removal of areas from the CBRS unless there is compelling evidence that a mapping error was made); (2) preparation of draft revised maps by the Service; (3) public review of the draft maps; (4) preparation of final recommended maps by the Service that take into consideration information provided during the public comment period; and (5) Congressional enactment of legislation to make the revised maps effective.

The Service receives requests from numerous property owners and other interested parties who seek to remove areas from the CBRS. When the Service finds a technical mapping error that warrants a change in one part of a CBRS map, we also review adjacent areas on the map to ensure that the entire map is accurate. This comprehensive approach to map revisions (which was developed many years ago in coordination with the House Natural Resources Subcommittee that oversees the CBRA) treats all affected landowners equitably. It is also more efficient and cost-effective in the long-run because it ensures that all legitimate errors are corrected and any new areas appropriate for inclusion within the CBRS are identified at the same time.[9]

Through fiscal year 2016, the Service has prepared comprehensively modernized maps for approximately 15 percent of the total CBRS acreage (including the pilot project maps). The Service has a project underway to prepare comprehensively revised draft maps for all CBRS units in eight northeastern States affected by Hurricane Sandy[10] (comprising an additional 15 percent of the total acreage of the CBRS), and will create comprehensively modernized maps for the remainder of the CBRS as resources are made available for this effort.

Benefits and Successes Associated with Comprehensive Map Modernization

In addition to all of the benefits of the digital conversion effort listed above, comprehensive map modernization also: (1) addresses mapping errors by removing areas that were previously included in error and (2) conserves natural resources by adding qualifying new areas to the CBRS.

- **Address Mapping Errors**
  Some of the CBRS maps contain errors that negatively affect property owners. The Service receives numerous requests from property owners and other interested parties who seek to remove land from the CBRS. The Service addresses these requests by objectively applying standard review criteria (see Chapter 6 for an explanation of the Service's guiding principles and criteria for addressing mapping errors). The Service generally does not recommend removal of land from the CBRS unless there is compelling evidence that a mapping error was made.

  Through comprehensive map modernization the Service conducts a thorough assessment of each CBRS unit and corrects legitimate mapping errors, thereby making the maps less prone to future challenges and preserving the long-term integrity of the CBRS.

- **Add Qualifying Areas**
  The addition of new qualifying lands to the CBRS through comprehensive map modernization reduces future taxpayer subsidies for flood insurance, coastal infrastructure, and disaster assistance within vulnerable areas along the coast. Expansion of the CBRS also helps enhance the capacity of coastal barriers and wetlands to protect mainland communities from coastal storms, conserves important habitat for many fish and wildlife species, and increases public safety by reducing the intensity of development within these areas.[11]

  CBRS maps can help communities plan for long-term coastal resiliency by steering development away from vulnerable and valuable natural resources and areas that are susceptible to the effects of climate change such as sea level rise and storm surge, as well as other extreme weather events. The CBRA's removal of Federal funds acts as a disincentive to develop these areas and can help reduce the amount of damage that would otherwise have been caused by storms like Hurricanes Katrina, Ike, Irene, and Sandy. Private entities can develop within the CBRS, but the CBRA shifts the cost for rebuilding homes and infrastructure away from the Federal taxpayer to private and other non-Federal parties who choose to take the financial risk associated with developing these vulnerable areas.

Digital Data and CBRS Mapper

In addition to modernizing the maps, the Service continues to enhance the accessibility and usability of CBRS boundary data for our customers and the public. In 2008, the Service created an "approximate" (accurate to within about 150 feet) digital CBRS boundary dataset for use in GIS applications, which was made available for download on the Service's CBRS website. Since 2014, the Service has begun replacing that approximate digital boundary data with more precise data as it is produced for individual CBRS units through digital conversion and comprehensive map modernization projects.

In the wake of Hurricane Sandy in 2012, the Service created a CBRS Mapper that allows the public to view the digital CBRS boundaries without the need for GIS software. Additionally, the Service now makes digital CBRS boundary data available at Federal data repositories such as the Federal Government's open data warehouse "www.data.gov"[12] and NOAA's Digital Coast,[13] and plans to provide a web mapping service published through ArcGIS Online.[14]

The digital CBRS boundaries and the CBRS Mapper fulfill an important need for easily accessible and GIS compatible CBRS data, which helps improve government efficiency and customer service while also increasing awareness of and compliance with the CBRA.

[1] The Service will not prepare digital conversion maps for Massachusetts, Rhode Island, Connecticut, or most of the Atlantic coast of New York at this time because the maps for those particular States will be revised through a separate project to comprehensively modernize all of the CBRS maps for eight northeastern States affected by Hurricane Sandy (see endnote 10 below).

[2] Additional information about the digital conversion effort, including the Service's methodology, can be found in the notice published by the Service in the *Federal Register* on August 29, 2013 (78 FR 53467).

[3] See endnotes 23, 24, and 25 in Chapter 1.

[4] The NFIP has a Flood Insurance Manual (FIM) that is used primarily by insurers and agents selling and servicing Federal flood insurance. Section 19 of the FIM contains information regarding flood insurance eligibility for structures located within the CBRS. The FIM is accessible on FEMA's website at: *https://www.fema.gov/flood-insurance-manual*. The regulations implementing the CBRA with regards to Federal flood insurance eligibility within the CBRS can be found in 44 Code of Federal Regulations Part 71.

[5] See endnote 19 in Chapter 1.

[6] 16 U.S.C. 3506(b)

[7] Maine Revised Statutes (38 Rev. Stat. sec. 1901-1905).

[8] See endnote 22 in Chapter 1.

[9] The 2006 CBRRA authorizes the Secretary to prepare digital maps for the remaining CBRS units outside of the pilot project (Section 4 of Pub. L. 109-226).

[10] The CBRS units that are being remapped through the Service's Hurricane Sandy project are located in eight States: Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Rhode Island, and Virginia. Draft maps for the Hurricane Sandy project are anticipated to be released for public review starting in 2017. Three CBRS units located in Delaware (Units DE-07, DE-07P, and H01) are included in the pilot project and four CBRS units located in Rhode Island (Unit RI-04P, RI-05P, RI-06, and RI-07) were comprehensively remapped in 2014. Therefore, these seven units will not be remapped through the Hurricane Sandy project.

[11] There is increasing scientific information on this topic. For example, see the following sources:

Sutton-Grier et al. 2015. Future of our coasts: The potential for natural and hybrid infrastructure to enhance the resilience of our coastal communities, economies and ecosystems. Env. Sci. & Policy, 51: 137–148.

Scyphers et al. 2015. Natural shorelines promote the stability of fish communities in an urbanized coastal system. PLoS ONE 10(6):e0118580. doi:10.1371/journal.pone.0118580.

Nel et al. 2014. Natural hazards in a changing world: A case for ecosystem-based management. PLoSONE 9(5): e95942. doi:10.1371/journal.pone.0095942.

Barbier et al. 2013. The value of wetlands in protecting southeast Louisiana from hurricane storm surges. PLoSONE 8(3): e58715.

Spalding et al. 2013. Coastal ecosystems: A critical element of risk reduction. Conservation Letters, May/June 2014, 7(3), 293–301.

Arkema et al. 2013. Coastal habitats shield people and property from sea-level rise and storms. Nat Clim Change 3: 913–18.

[12] Data.gov is the central repository for data created by Federal agencies. Data.gov was created in 2009 as a way to make the government more transparent by making Federal data available to the public. The website is managed by the GSA, and at the time of this report there were nearly 195,000 individual datasets available on the site, which can be accessed at: *http://www.data.gov*.

[13] NOAA's Digital Coast website, which was created in 2007, provides coastal data, information, and tools for coastal practitioners. The site was created primarily for the coastal management community and its data is most relevant to that audience. The Digital Coast can be accessed at: *https://coast.noaa.gov/digitalcoast*.

[14] ArcGIS Online is a cloud-based tool that allows users to create maps and share data, and includes ready to use maps and data layers. Data and maps can be accessed through the website or added directly to ArcGIS Desktop. ArcGIS Online can be accessed at: *https://www.arcgis.com/home*.

CHAPTER 3: Pilot Project Public Review Process

Section 3(b) of the 2006 CBRRA requires that the Secretary prepare this final report after providing an opportunity for the submission and consideration of public comments. On April 7, 2009, the Service released to the public its *Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project* and announced the start of a 90-day public comment period, which was later extended to 120 days.

This chapter describes the: (1) notification process for the public comment period; (2) distribution process for the 2008 pilot project report and proposed maps; (3) extension of the public comment period and public meetings; and (4) results of the public comment period. Significant issues raised during the public comment period that are relevant to more than one CBRS unit are itemized and addressed in Chapter 4. Unit-specific comments are addressed in Appendix E.

Notification Process for the Public Comment Period

The Service advised the public of the availability of the report and draft maps for public review and comment via a notice of availability in the *Federal Register*[1] and a news release, both published on April 7, 2009. The notice and news release both contained background information on the CBRA, a description of the pilot project, information on where to obtain a copy of the report and draft maps, and instructions for submitting comments. The Service held a virtual press conference (via webcast and teleconference) on April 7, 2009. The report, draft maps, *Federal Register* notice, news release, and other materials related to the pilot project were also made available to the public on the Service's website.

Distribution Process for the 2008 Pilot Project Report and Proposed Maps

In April 2009, the Service distributed more than 400 copies of the report and accompanying letters requesting comments to stakeholders, including 43 members of Congress, 23 Governors, 33 county and parish chief elected officials (CEOs), 79 local and State floodplain administrators, 23 State coastal zone managers, 56 local and State emergency managers, 39 officials of other Federal agencies, 28 park managers, and 96 other stakeholders (e.g., non-governmental organizations). In addition to the report, members of Congress and Governors from the five States containing pilot project units (Delaware, Florida, Louisiana, North Carolina, and South Carolina) and county and parish CEOs from all 33 affected counties and parishes also received full-sized (25"x 32") copies of the proposed maps relevant to their area of jurisdiction. On April 20, 2009, the Service held briefings on the pilot project for Congressional staff.

Extension of the Public Comment Period and Public Meetings

On June 29, 2009, the Service published a notice in the *Federal Register*[2] and issued a news release to announce: (1) an extension of the public comment period from 90 days to 120 days (through August 5, 2009) to allow the public more time to review the report and maps and (2) the opportunity to participate in virtual public meetings. A media advisory regarding the comment period extension and the virtual public meetings was sent to media organizations on June 29, 2009. On July 1, 2009, the Service sent letters to county and parish planning officials transmitting the report and draft maps and informing them of the extension of the comment period and virtual public meetings. The Service also sent a notice of the comment period extension and the virtual public meetings via email to most of the individuals to whom the report was distributed, although email addresses for all stakeholders were not available at the time.

Between July 2 and July 8, 2009, the Service published notices in a total of 34 local newspapers and/or their online equivalents that serve the areas containing pilot project units to announce the virtual public meetings and provide registration and participation instructions. In addition, between April 8, 2009, and February 17, 2010, the news media published approximately 20 articles concerning the pilot project.

The Service held four virtual public meetings (via webcast and teleconference) on July 14 and 15, 2009. Each meeting focused on a different geographic area, provided an overview of the pilot project, and offered an opportunity for questions and answers by the public and media. More than 60 people, including members of the press; local, State, and Federal officials; and private property owners, participated in the virtual public meetings.

Results of the Public Comment Period

Throughout the public comment period, the Service responded to numerous inquiries concerning the pilot project from members of Congress, local officials, and the public via email, letters, meetings, and conferences calls. The Service received 159 written comments during the 120-day public comment period (April 7 through August 5, 2009). Unit-specific comments were received for 26 of the 70 units in the 2008 pilot project report, though

three of the units that received comments are no longer included in the pilot project.[3] The majority of the comments received related to the Florida and North Carolina pilot project units. Seventeen of the comments received related to CBRS units that are not within the scope of the pilot project. Comments unrelated to the pilot project are not addressed in this report.

Approximately half of the comments received were from individuals, mostly private property owners. The remaining comments received were mostly from Federal agencies, State and local officials, conservation organizations, and homeowners associations. The Service solicited comments from the Governors of all 23 States and territories containing CBRS units, but no comments were received from the Governors. See Figure 10 for additional information regarding the comments received.

Significant issues raised during the public comment period that are relevant to more than one CBRS unit are itemized and addressed in Chapter 4. Unit-specific comments are itemized and addressed in Appendix E.

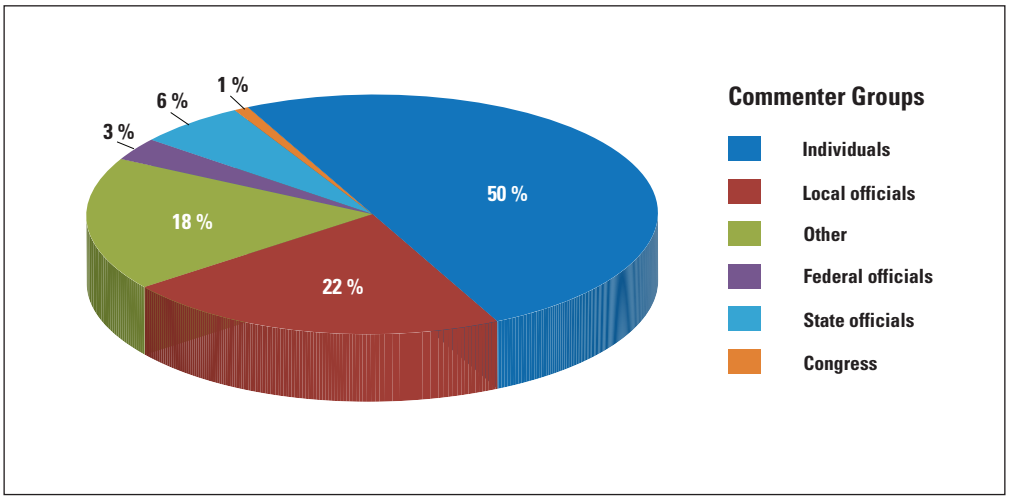

Figure 10. Percentage of comments by commenter type.

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[1] 74 FR 15743

[2] 74 FR 31044

[3] Units L07, L08, and L09 have been removed from the pilot project because comprehensively revised maps for these areas have been adopted by Congress. The Service's final recommended maps for these units were made effective via Pub. L. 113-253 on December 18, 2014. The Service received comments during the comment period related to all three of these units. The Service assessed these comments and made any warranted modifications on the final recommended maps before they were adopted by Congress. The Service has not addressed the comments related to these units in Appendix E. Unit FL-64P has also been removed from the pilot project because a comprehensively revised map for this area has been adopted by Congress. The Service's proposed map for Unit FL-64P was made effective via Pub. L. 110-419 on October 15, 2008. No comments were received during the comment period related to Unit FL-64P.

CHAPTER 4: Summary of Public Comments and Service Responses, Changes to Maps, and Updates to Mapping Protocols

Section 3(c)(3) of the 2006 CBRRA requires that this final report contain a summary of the comments received from Governors, other government officials, and the public regarding the digital maps. Section 3(c)(4) of the 2006 CBRRA requires that this report contain a summary and update of the protocols of the initial pilot project report required under Section 6(d) of the 2000 CBRRA.

This chapter contains: (1) a summary of the substantive overarching comments received during the pilot project public comment period and the Service's responses to those comments; (2) a summary of any changes to pilot project maps as a result of public comments; and (3) a summary of significant mapping protocols that were either updated or clarified by the Service through the pilot project. Table 1 below provides summary information regarding these issues. Comments that are specific to individual pilot project units are addressed in Appendix E. Copies of the comments received during the public review period have not been reproduced in this report but will be made available by the Service's Headquarters Office upon request.

Table 1. Summary of Substantive Overarching Comments and Responses

Number	*Issue*	*Changes to Pilot Project Maps*	*Update or Clarification to Protocol*	*Page Number*
1	Authority of the Service to Recommend Additions to the CBRS	No	No	16
2	Effectiveness of the CBRA	No	No	16
3	Long-Term Preservation of the CBRS	No	Yes	17
4	Modernizing CBRS Maps Using Digital Technology	No	Yes	17
5	Public Disclosure of CBRS Designation	No	No	17
6	Multiple Layers of Protection on Properties in the CBRS	No	No	18
7	Amend the CBRA to Add Exemptions for Projects Deemed to be of Public Benefit	No	No	18
8	Effective Dates for Areas Added to or Reclassified within the CBRS	No	Yes	18
9	Delineation of CBRS Boundaries Based on Legal Descriptions Instead of Maps	No	No	19
10	Age and Quality of Aerial Imagery Used for CBRS Base Maps	Yes	Yes	19
11	System Unit versus OPA Classification and Reclassification	No	Yes	19
12	Mapping Channels within the CBRS	No	Yes	21
13	Mapping Landward CBRS Boundaries Using Easy-to-Map Features	No	No	22
14	Addition of Associated Aquatic Habitat behind a Developed Barrier to the CBRS	Yes	Yes	23
15	Inclusion of Docks, Piers, Marinas, and Other Shoreline Structures within the CBRS	No	No	24
16	Shoreline and Development Feature Buffering	Yes	Yes	24
17	Roads and Road Rights-of-Way in OPAs	No	No	27
18	Mapping Seaward Boundaries of Excluded Areas in the CBRS	Yes	No	27
19	Seaward Limits of CBRS Units	Yes	Yes	27

(1) Authority of the Service to Recommend Additions to the CBRS

Comments Received: The Service received comments from individuals, a homeowners association, and State and local officials in North Carolina questioning the authority of the Service to recommend the creation of new units and the expansion of existing units within the CBRS. The State and local officials also commented that the CBRA authorizes the Service to modify the CBRS boundaries under only three limited circumstances: voluntary additions to the CBRS, additions of excess Federal property, and modifications to the CBRS as a result of natural forces. These officials believe that the Service went beyond what is authorized by proposing modifications that did not fit under one of these circumstances.

Service Response: Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to make recommendations for additions when carrying out digital mapping for the remainder of the CBRS. The Service applied this directive to the pilot project maps because:

(1) the pilot project maps were still being drafted at the time of enactment of the CBRRA in May of 2006;

(2) it was more efficient and cost effective to identify proposed additions at the time that the pilot project maps were drafted than to revisit those areas at a future date; and

(3) this approach is consistent with the comprehensive mapping approach the Service and Congress have followed for most revisions to the CBRS in recent years.

The Service is authorized to make boundary changes administratively only under the three circumstances mentioned by the commenters. However, we may make recommendations to Congress for other boundary changes. In carrying out the pilot project, the Service found areas that are appropriate for removal from the CBRS, addition to the CBRS, and reclassification from one type of unit to another (OPA to System Unit and vice versa). The Service's final recommended changes to the pilot project units are depicted on the maps included in Appendix C of this report. However, the revised maps will only become effective if they are adopted by Congress through legislation.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(2) Effectiveness of the CBRA

Comments Received: The Service received comments from individuals stating that the CBRA has failed to discourage development in certain areas and that those areas should therefore be removed from the CBRS or the law should be repealed.

Service Response: When considering modifications to add areas to or remove areas from the CBRS, the Service considers the purposes of the CBRA as stated in the statute:

> *The Congress declares that it is the purpose of this Act to minimize the loss of human life, wasteful expenditure of Federal revenues, and the damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic and Gulf coasts by restricting future Federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers, by establishing a Coastal Barrier Resources System, and by considering the means and measures by which the long-term conservation of these fish, wildlife, and other natural resources may be achieved.*[1]

On December 5, 1983, the Department published a notice in the *Federal Register* outlining the process for how the Department would implement Section 10 of the CBRA of 1982, which required a report to Congress that included, among other things, recommendations for additions, deletions, or other modifications to the CBRS. The notice states the following regarding boundary changes:

> *The legislative history provides little guidance on the subject of boundary changes except to state explicitly that development of a unit subsequent to the CBRA is not grounds for removal from the System. The fundamental guide for the Department in recommending changes to the System will be derived from the purposes of the CBRA, i.e., Section 2(b)"…to minimize the loss of human life, wasteful expenditure of Federal revenues, and damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic and Gulf coasts…" It is our opinion that reducing or eliminating units of the System will generally violate the purposes of the CBRA unless there are mistakes in the original designation or mapping process.*[2]

The Service continues to apply the purposes of the CBRA as a fundamental guide in recommending changes to the CBRS. While some areas within the CBRS have developed since their inclusion, the CBRA has been successful in preventing the Federal taxpayer from assuming the risk of building there. The Service does not recommend removing areas simply because development occurred after they were added to the CBRS, and does not support the repeal of the CBRA.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(3) Long-Term Preservation of the CBRS

Comments Received: The Service received comments from conservation organizations and individuals urging the Service to protect the integrity of the CBRS. The common concern from commenters was that interested parties with development interests would use the pilot project as an opportunity to remove areas from the CBRS.

Service Response: The Service receives numerous requests from interested parties who seek to remove areas from the CBRS. We recognize that the pilot project, along with other comprehensive remapping projects, provides an opportunity for stakeholders to seek removals from the CBRS. The Service endeavors to protect the integrity of the CBRS and generally does not recommend removals in cases where there is not clear and compelling evidence that a mistake was made as a result of incorrect, outdated, or incomplete information (often stemming from inaccuracies on the original base maps). We carefully review all proposals to remove areas from the CBRS. Changes to the CBRS that are recommended through the pilot project and other comprehensive map modernization projects are still only recommendations, and the final decision as to whether or not areas should be removed from (or added to) the CBRS rests with Congress.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

Update to Protocol: The Service has developed guiding principles and criteria for assessing modifications to the CBRS based on lessons learned through the pilot project and other comprehensive remapping projects over the past several years (see Chapter 6). These guiding principles are consistent with the intent of the CBRA and ensure that the Service's recommendations to Congress for removals from the CBRS are based on clear and compelling evidence that a mistake was made, and will be applied to future requests for removals from the CBRS.

(4) Modernizing CBRS Maps Using Digital Technology

Comments Received: The Service received comments from individuals, homeowners associations, conservation organizations, Federal officials, State officials in Delaware and North Carolina, and local officials in North Carolina and Florida commending the Service for modernizing the CBRS maps using digital technology. One commenter stated that determining whether a property is located within the CBRS will be more accurate using the updated CBRS maps. Although supportive of map modernization in general, many of these same commenters had objections to specific boundary changes.

Service Response: The Service concurs that modernizing the CBRS maps using digital technology has many benefits. Chapter 2 explains the benefits and successes of our efforts to modernize the maps. The commenters' objections to specific boundary changes are addressed in Appendix E. The Service endeavors to protect the integrity of the CBRS and generally does not recommend removals in cases where there is not clear and compelling evidence that a mistake was made as a result of incorrect, outdated, or incomplete information (often stemming from inaccuracies on the original base maps). We carefully review all proposals to remove areas from the CBRS. Changes to the CBRS that are recommended through the pilot project and other comprehensive map modernization projects are still only recommendations, and the final decision as to whether or not areas should be removed from (or added to) the CBRS rests with Congress.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

Update to Protocol: The Service has developed updated protocols for preparing digital maps as well as guiding principles and criteria for assessing modifications to the CBRS, based on lessons learned through the pilot project and other comprehensive remapping projects over the past several years (updated mapping protocols are included in this chapter and guiding principles and criteria are in Chapter 6). The Service's guiding principles and criteria are consistent with the intent of the CBRA and ensure that the Service's recommendations to Congress for removals from the CBRS are based on clear and compelling evidence that a mistake was made, and will be applied to future requests for removals from the CBRS.

(5) Public Disclosure of CBRS Designation

Comments Received: The Service received comments from an individual and a conservation organization concerning the need for public disclosure of CBRS designations during real estate transactions.

Service Response: The Service agrees that there should be greater disclosure of CBRS designations within communities. The Service is regularly contacted by property owners who purchased property without any prior knowledge of the CBRS designation affecting the property. If the structure on a property is located in a FEMA Special Flood Hazard Area (SFHA),[3] which is often the case for areas within the CBRS, flood insurance is usually required as a condition of a mortgage. In CBRS areas, Federal flood insurance is generally not available for structures constructed after the area was included within the CBRS, which leaves the homeowner with very few options aside from purchasing significantly more expensive flood insurance on the private market, paying off the loan, or selling the home.

The Federal Government currently has no mechanism to mandate CBRS disclosure when land is bought or sold. However, States and local authorities can implement their own mandates requiring the disclosure

of a CBRS designation before the ratification of a contract for the sale of real property. Federal, State, and local authorities can now integrate CBRS data into their GIS platforms and other information systems so that CBRS information is readily available to community officials, developers, property owners, prospective buyers, and others. Additionally, public authorities can include CBRS information in outreach materials, on building permit forms, and in planning documents. These actions could help to increase awareness of the CBRS and the associated prohibitions on Federal expenditures and financial assistance.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(6) Multiple Layers of Protection on Properties in the CBRS

Comments Received: The Service received comments from individuals and local officials in North Carolina questioning the need for a CBRS designation in areas that are already regulated at the Federal, State, or local level through various laws and/or zoning designations.

Service Response: When the CBRA was enacted, Congress listed among its findings that "certain actions and programs of the Federal Government have subsidized and permitted development on coastal barriers and the result has been the loss of barrier resources, threats to human life, health, and property, and the expenditure of millions of tax dollars each year," and that "a program of coordinated action by Federal, State, and local governments is critical to the more appropriate use and conservation of coastal barriers."[4] The Service agrees with these findings and believes that the inclusion of areas within the CBRS gives them an additional layer of protection from future development.

Areas established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes, are typically included within OPAs of the CBRS.[5] All other areas, including those subject to certain regulations and/or zoning designations (which may be subject to change), are typically included within System Units rather than OPAs. This is consistent with guidance developed by the Department's Coastal Barriers Task Force in 1982:

> *Areas held as undeveloped open space, for which the purpose of protection has not been established, should not be considered protected. Similarly, local zoning districts and other areas regulated by state or local governments for the purpose of restricting the nature or density of development, such as dune districts, floodplains, beaches, inlet hazard areas, setback zones, and areas of special environmental concern, should not be considered protected. Such regulation does not necessarily reflect the present intent of property owners in the regulated areas to protect the areas for conservation, wildlife management, public recreation, or scientific purposes.*[6]

The Service will continue to recommend that areas such as those described above (e.g., areas subject to certain regulations and/or zoning designations) continue to be included within System Units of the CBRS.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(7) Amend the CBRA to Add Exemptions for Projects Deemed to be of Public Benefit

Comments Received: The Service received comments from an advocacy organization and State officials in North Carolina expressing concern that the CBRA does not contain an exemption for projects deemed to be of public benefit, such as maintenance dredging for navigation channels, and requesting that the CBRA be amended to add such exemptions for infrastructure projects within the CBRS on a case by case basis. These commenters are concerned that Federal funding could be delayed or denied within areas that are newly added to the CBRS.

Service Response: The CBRA provides a public benefit in minimizing the loss of human life; damage to fish, wildlife and other natural resources; and wasteful expenditures of Federal revenues. The Service does not recommend amending the CBRA to add exemptions for projects deemed to be of public benefit. The CBRA already contains more than a dozen exceptions[7] that could potentially be used for such projects (following consultation with the Service), including a specific exception for the maintenance and construction of improvements to existing Federal navigation channels.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(8) Effective Dates for Areas Added to or Reclassified within the CBRS

Comments Received: The Service received comments from State officials in Delaware questioning what effective date would be used for the CBRA prohibitions in areas proposed for reclassification from OPA to System Unit status, such as Unit DE-07.

Service Response: The Service recognizes that the effective date for additions to and reclassifications within the CBRS is significant because it determines whether Federal expenditures and financial assistance are allowable under the CBRA for certain projects and structures. There are two different types of effective dates within the CBRS: (1) the "flood insurance prohibition date," which is the date

when the prohibition on Federal flood insurance first took effect and (2) the "CBRA prohibition date," which is the date when all other prohibitions on Federal expenditures and financial assistance (e.g., beach nourishment, dredging, and disaster assistance) first took effect. In many cases, these two dates are the same; however, the dates are different when a unit is reclassified from OPA to System Unit status because the prohibitions within OPAs and System Units are different (OPAs only carry a prohibition on Federal flood insurance whereas System Units carry a prohibition on Federal flood insurance as well as prohibitions on other Federal expenditures and financial assistance).

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

Clarification to Protocol: The Service recognizes the need to clarify the protocol for the effective date(s) for the prohibition of Federal expenditures and financial assistance. The flood insurance prohibition date for areas added to the CBRS by Congressionally-adopted maps is either the date of the law that first included the area within the CBRS or another date that was specified in the law.[8] The flood insurance prohibition date for areas added through the Service's administrative authorities is the date of the *Federal Register* notice that announced the modification to the CBRS map(s).

In the case of units reclassified from OPA to System Unit status, the flood insurance prohibition date remains the same as it was prior to the reclassification, but the CBRA prohibition date (for all Federally funded activities other than flood insurance) is the date upon which the area became part of a System Unit (i.e., the date upon which the reclassification became effective via a law or *Federal Register* notice). Therefore, the CBRA prohibition date for areas that are reclassified from OPA to System Unit through the pilot project will be the date of the legislation that adopts them.

(9) Delineation of CBRS Boundaries Based on Legal Descriptions Instead of Maps

Comments Received: The Service received comments from an individual, a homeowners association, an advocacy organization, and State and local officials in North Carolina recommending that CBRS unit boundaries be established by definition and legal description and that CBRS maps be used as approximations of those more accurately known boundaries.

Service Response: Establishing a legal description for all CBRS boundaries is impractical for many reasons, primarily because such an effort would be extremely resource intensive. If boundaries were set by legal description, every CBRS unit would need to be surveyed on-the-ground, which would be difficult and costly. The CBRS consists of about 3.3 million acres and more than 7,500 boundary miles, and many of the boundaries are located in open water or inaccessible areas. In addition, Congress intended the CBRS boundaries to have a relationship with the underlying geomorphic, development, and cultural features on-the-ground. The boundaries drawn on the maps allow the user to see the boundaries of the CBRS as they relate to features on the underlying base map.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(10) Age and Quality of Aerial Imagery Used for CBRS Base Maps

Comments Received: The Service received comments from individuals and a homeowners association recommending that the aerial imagery used as the underlying base maps for the pilot project units be replaced with more current aerial imagery.

Service Response: The Service's original pilot project protocol for the age of the base map imagery was that it must not be more than two years old; however, most of the base map imagery used for the proposed maps published in the Service's 2008 pilot project report is dated 1998 and 1999. The Service agrees that the imagery used for the proposed maps was not recent enough. However, we decided to not update the imagery prior to publication of the 2008 report (which would have delayed the release of the report), planning instead to update it following the public comment period.

Changes to Pilot Project Maps: The Service has replaced the base map imagery for the final recommended maps with newer (dated between 2013 and 2015)[9] and better quality imagery. The source and date of the base map(s) for each unit are included in the unit summaries in Appendix C and are printed on the title block of each map.

Update to Protocol: The Service's updated protocol for selecting aerial imagery to serve as the CBRS base maps is that the imagery should be: (1) recent (less than five years old); (2) high resolution (preferably one meter per pixel resolution or better); (3) orthorectified (i.e., adjusted to ensure the proper perspective of features relative to their true position on the Earth's surface); and (4) available free of charge. This protocol is consistent with the base map selection criteria identified in a notice published in the *Federal Register* by the Service in 2013[10] for the digital conversion project and the 2008 pilot project report (except that the two year maximum age of imagery recommended in the earlier pilot report has since been determined to be impractical and has therefore been changed to a five year maximum age).

(11) System Unit versus OPA Classification and Reclassification

Comments Received: The Service received comments from local officials in North Carolina and Florida that opposed the reclassification of certain areas of associated aquatic habitat from OPA to System Unit status.

Service Response: The CBRS contains two types of units, System Units and OPAs. System Units are

generally comprised of privately held areas. OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. However, there are cases throughout the CBRS where areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas are located within OPAs. Through the pilot project, the history of the areas within the units was evaluated to determine whether they were appropriately classified as System Unit or OPA at the time of inclusion. The Service generally recommended reclassification of areas from System Unit to an OPA, or vice versa, depending on when the particular area was included within the CBRS and whether the area was held for conservation and/or recreation according to the definition of an OPA[11] at the time it was included. Additionally, the Service sought to identify new qualifying areas adjacent to existing pilot project units as either System Unit or OPA depending on the ownership and land use at the time the map was prepared (e.g., Units DE-07, FL-67P).

One of the significant lessons learned through the course of the pilot project and other comprehensive remapping efforts over the past several years is that the level of effort necessary to research and reclassify discrete segments of land and associated aquatic habitat based on ownership and use at the time of inclusion within the CBRS is extremely time and resource intensive. Precise park boundaries can be difficult to acquire, concurrence on such boundaries by land owners/managers is cumbersome and not always attainable, and the reclassification or creation of new units with mixed ownership is more costly and time intensive than larger units of a single type. In cases where there is a combination of conserved and non-conserved areas within a coastal barrier system, the resulting map is a complex and error prone patchwork of OPA/System Unit classification that is difficult for stakeholders to interpret and the Service to administer (see Figure 11). Minor qualifying areas along the fringes of the units may be left out of the CBRS under the existing System Unit/OPA classification protocol, simply because their ownership and use does not match the adjacent unit type and they are too small to warrant the creation of a new unit. For example, a small privately owned undeveloped area that would otherwise qualify for inclusion within the CBRS might be left out of the CBRS if the adjacent unit is an OPA, and the private parcel is too small to be a new System Unit on its own. The Service believes that the protocol for CBRS unit classification should be simplified so that all qualifying undeveloped coastal barrier areas and associated aquatic habitat may be included within the CBRS, with the classification of System Unit versus OPA generally determined based on the predominant ownership of the area at the time of inclusion.

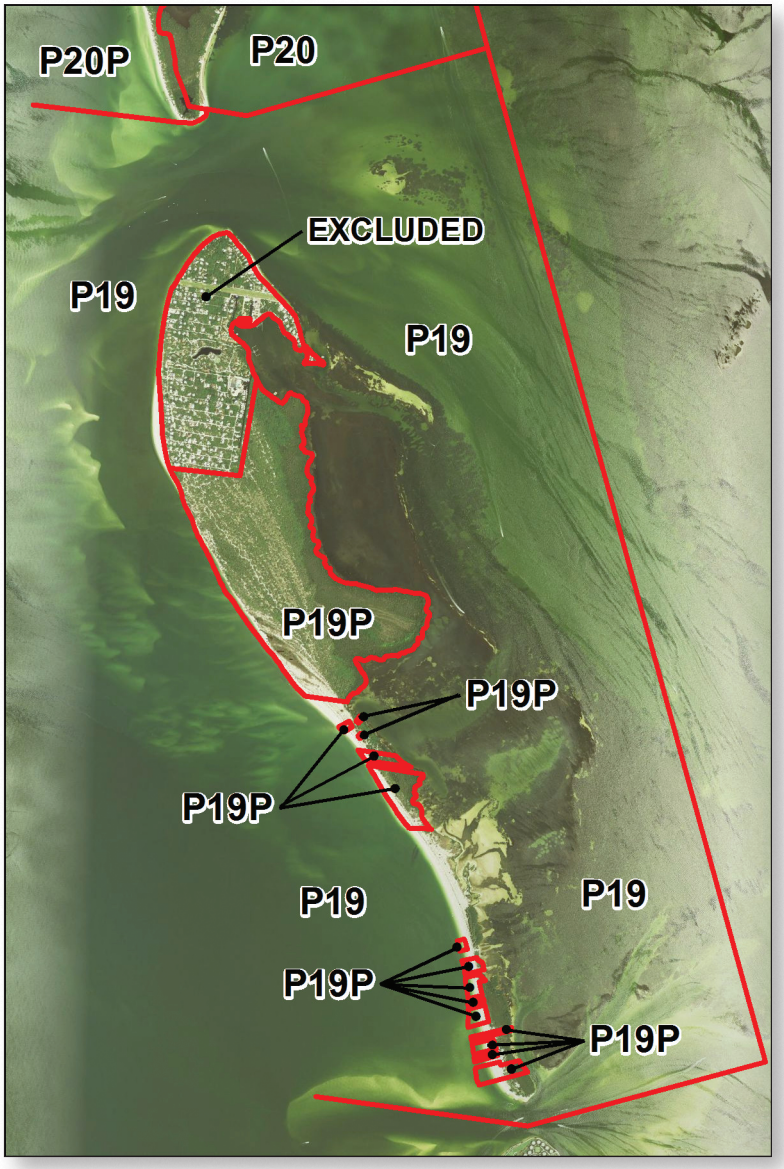

Figure 11. The map for Florida Units P19/P19P, which was modified in 2000 in an attempt to map OPA Unit P19P to mirror the underlying conservation area, resulted in a complex patchwork of OPA/System Unit classification. Although the best available data was used to establish the location of the underlying conservation area, we now know that some of the areas that were mapped within the OPA are privately-owned parcels that are not held for conservation/recreation and some of the areas that were mapped within the System Unit are conservation areas.

Revising the protocol for CBRS unit classification means that some areas that are not held for conservation/recreation will be included within OPAs and therefore will only have a prohibition on Federal flood insurance, while some conservation/recreation areas will be included within System Units and therefore will have the full suite of prohibitions on Federal expenditures and financial assistance (though most land management activities associated with conservation or passive recreation (e.g., bird watching) would fall under one of the CBRA's exceptions following consultation with the Service).[12] This is consistent with the Service's 1985 approach for delineating conservation/recreation areas within the CBRS.[13] However, this approach is a notable departure from the Service's protocol, established in 1999,[14] of mapping OPA boundaries as closely as possible to an underlying conservation/recreation area. Continuing to attempt to classify every discrete area within the CBRS as System Unit or OPA based on land ownership and use at the time it was included is impractical, complicated, and cost prohibitive.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received. The updated protocol below will be applied to future comprehensively revised maps.

Update to Protocol: The Service is updating its protocol for classifying areas within the CBRS as follows.

CBRS boundaries should generally be drawn to correspond with underlying geomorphic, development, and cultural features. Areas that qualified as undeveloped coastal barriers at the time of their inclusion within the CBRS should generally be classified as System Unit or OPA based on the predominant ownership of the coastal barrier system at the time of inclusion within the CBRS. OPAs will generally be mapped using the same criteria and protocols as those applied to System Units. The following considerations apply:

Non-Conserved Areas within OPAs

Areas that are not held for conservation/recreation, but are (1) interspersed with and/or adjacent to a larger conservation/recreation area and (2) were undeveloped at the time they were included within the CBRS (or are currently undeveloped in the case of proposed additions), may be included within OPAs.

Conserved Areas within System Units

Conserved Prior to CBRS Designation
Areas that are held for conservation/recreation and are (1) interspersed with and/or adjacent to a larger non-conserved area and (2) were undeveloped[15] at the time they were included within the CBRS (or are currently undeveloped in the case of proposed additions), may be included within System Units.

During the course of preparing proposed maps, the Service will coordinate with the conservation/recreation area owners (or managers) to seek their concurrence on inclusion of their area within the System Unit. If the owners do not concur with System Unit status, the Service will classify such areas as OPA to the extent practicable. Such coordination will generally not occur for areas smaller than ten acres or certain areas of open water where it is impractical from a mapping perspective to delineate them separately as an OPA (i.e., small islands or other features that are too small to carve out from the surrounding area). In such cases, portions of the conserved areas may still be included in the System Unit and the stakeholder will receive notification of the public review period.

An exception is made for certain conservation/recreation areas that were intentionally added to the CBRS as System Units through maps adopted by Congress.[16] The Service generally will not seek concurrence from owners when there is evidence that their conservation/recreation area was intentionally added to a System Unit. Additionally, the Service will accommodate requests from landowners for voluntary additions or reclassifications of conserved areas within System Units rather than OPAs.

Conserved Post CBRS Designation
If the areas were not predominantly held for conservation/recreation at the time they were included within the CBRS, they are generally classified as System Unit.

Due to the diversity of the geography and land ownership along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts, there may be special cases that are not addressed by this protocol. Additionally, the Service may weigh coastal barrier fastland more than associated aquatic habitat when determining whether or not a coastal barrier area is "predominately" held for conservation/recreation.

This updated protocol was applied to comprehensively revised maps that were adopted by Congress in 2016 for Florida Units P15/P15P, P16/P16P, and FL-63P,[17] and will be applied to future comprehensively revised maps.

(12) Mapping Channels within the CBRS

Comments Received: The Service received comments from local officials in North Carolina and Florida asserting that some channels within the associated aquatic habitat of the units should be considered "developed" due to ongoing dredging projects and therefore excluded from the CBRS.

Service Response: The Service understands the importance of navigation channels and recommended in its 1988 Report to Congress that they be excluded from the CBRS in many cases.[18] However, Congress determined that it would be sufficient to exempt existing Federal navigation channels from the CBRA's prohibitions on Federal expenditures rather than exclude or remove them from the CBRS.[19] Channels are part of the associated aquatic habitat of coastal barriers[20] and have been included as such throughout the CBRS.

In 1982 and 1988 the Department published guidance for delineating CBRS boundaries located along channels and other water bodies.[21] In carrying out the pilot project, the Service noted that this guidance has not been consistently applied to the CBRS maps created in the past. CBRS boundaries generally follow the center of the channel, but sometimes include all or none of the channel within the unit (see Figures 12 and 13). The 2008 pilot project report proposed standardizing the channel mapping protocol to include the entire channel within System Units, but to include only half of the channel within OPAs. The Service has since recognized that it would simplify CBRS mapping to use the same protocol for both OPA and System Unit boundaries in channels and has updated the protocol below. This updated protocol for OPA channel mapping will not affect Federally funded activities within channels because the CBRA's only Federal funding prohibition within OPAs applies to flood insurance.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received. The updated protocol below will be applied to future comprehensively revised maps.

Update to Protocol: Where CBRS boundaries are intended to follow channels, both System Units and OPAs will be mapped to include the entire channel within the unit. In cases where a System Unit and an OPA share a coincident boundary that follows a channel, the entire channel will generally be included within the System Unit.

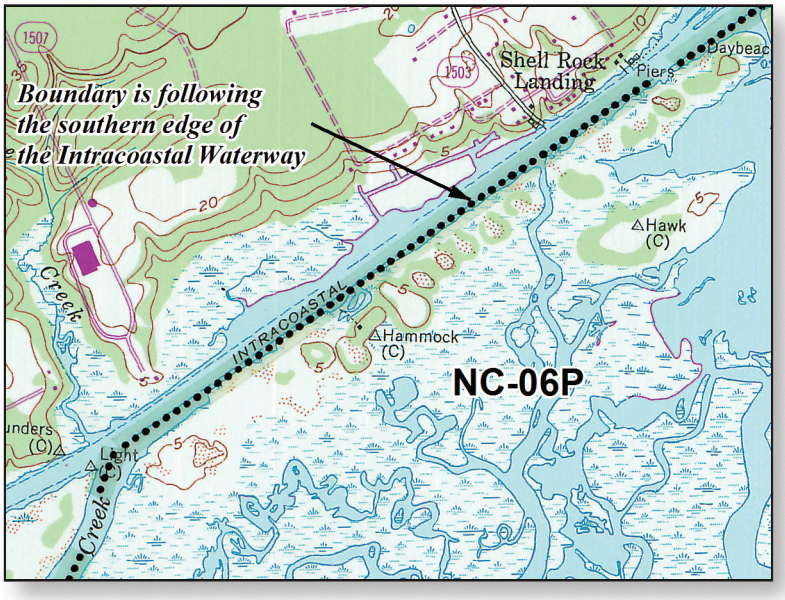

Figure 12. Some CBRS boundaries follow the edge of a channel. The 1990 map for North Carolina Unit NC-06P shows the boundary following the southern edge of the Intracoastal Waterway.

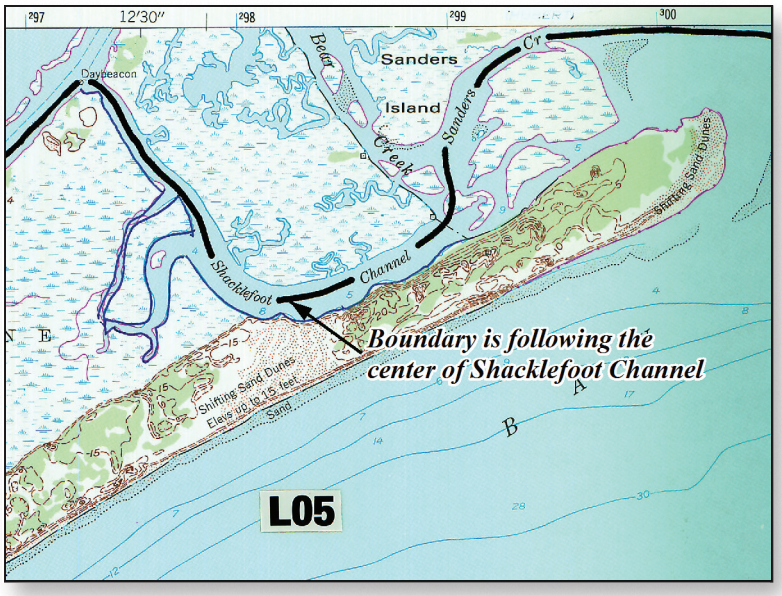

Figure 13. Some CBRS boundaries follow the center of a channel. The 1990 map for North Carolina Unit L05 shows the boundary following the center of Shacklefoot Channel.

(13) Mapping Landward CBRS Boundaries Using Easy-to-Map Features

Comments Received: The Service received comments from an advocacy organization and local officials in North Carolina recommending that the landward limits and side boundaries of CBRS units be based on easy-to-map, well-established geographic features, such as the centerline of the Atlantic Intracoastal Waterway, and not the more difficult-to-map marsh and mean high tide lines.

Service Response: The associated aquatic habitat of coastal barriers encompasses the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters. The Service will

continue to include the associated aquatic habitat within the CBRS, even in cases where the features are dynamic. The CBRA includes a provision that allows for the Service to make such minor and technical modifications to the boundaries of the CBRS units as are necessary to reflect changes in the size or location of the units as a result of natural forces. Such revisions are being made for most of the CBRS through the digital conversion effort (see Chapter 2 for additional information about digital conversion).

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(14) Addition of Associated Aquatic Habitat behind a Developed Barrier to the CBRS

Comments Received: The Service received comments from State and local officials in North Carolina that opposed the addition of associated aquatic habitat that is located behind developed barriers, such as Emerald Isle, North Carolina (Unit NC-06).

Service Response: In carrying out the pilot project, the Service noted that there are inconsistencies in how the associated aquatic habitat situated behind development was mapped in 1982, 1990, and when areas were added to the CBRS through subsequent legislative amendments. A notice published by the Department in the *Federal Register* on March 4, 1985,[22] provided guidance on the delineation of landward boundaries, which generally follow the interface between the aquatic habitat and the mainland. The guidance stated that associated aquatic habitat behind a barrier should be included in cases where the coastal barrier is 50 percent or more undeveloped. However, the Department's 1988 Report to Congress states that "Only that associated aquatic habitat that is behind the undeveloped portion of the coastal barrier is included in cases where the coastal barrier is partially developed."[23] Some units include the entire associated aquatic habitat, regardless of the level of development on the barrier in front of it, while others do not include the full extent of the associated aquatic habitat.

The Service recognizes that aquatic habitat located between the coastal barrier and the mainland is an inseparable part of the coastal barrier ecosystem and serves a valuable function in protecting mainland communities such as the ability of wetlands to absorb storm surge. Wetlands also provide important habitat for fish and wildlife species, and there is value in including them within the CBRS.[24] Through the initial pilot project report, the Service established a consistent protocol for including associated aquatic habitat behind developed barriers. However, the Service agrees that there should be a limit as to how far these additions of associated aquatic habitat may extend behind a developed barrier (perpendicular to the shoreline), and we believe these changes are consistent with Congress' intent to include such areas within the CBRS. The updated protocol for adding associated aquatic habitat behind a developed coastal barrier to the CBRS is described below.

Changes to Pilot Project Maps: There are changes between the proposed and final recommended pilot project maps as a result of the comments received. The final recommended maps add associated aquatic habitat located behind developed coastal barriers consistent with the updated protocol below.

Update to Protocol: In cases where aquatic habitat associated with an undeveloped coastal barrier continues behind an adjacent developed barrier (perpendicular to the shoreline) that is outside of the CBRS, some of the associated aquatic habitat may be added to the unit. The boundary is generally drawn along the outside edge of a channel that exists in the associated aquatic habitat within one mile of the undeveloped portion of the coastal barrier (see Figure 14). This protocol is applied to the final recommended pilot project maps contained in this report and will be applied to future comprehensively revised maps.

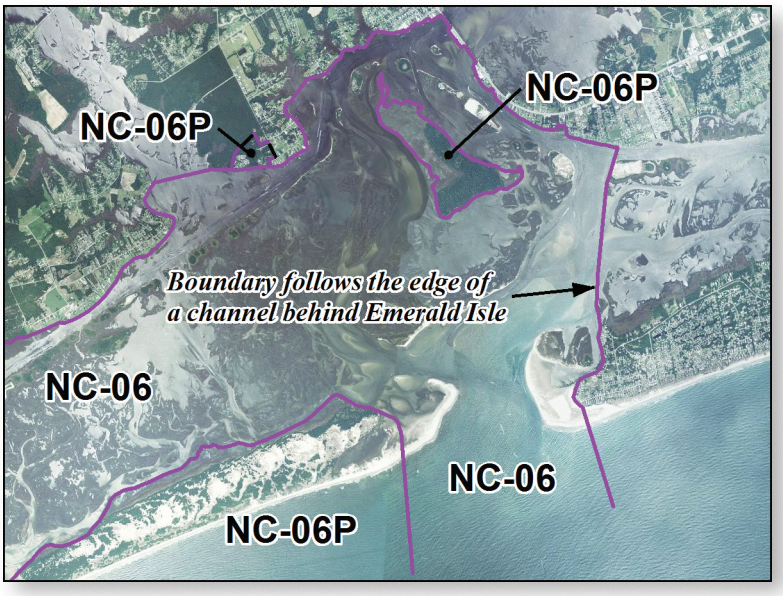

Figure 14. Some CBRS units include portions of associated aquatic habitat behind developed coastal barriers. An area behind development on Emerald Isle, North Carolina, is recommended for addition to Unit NC-06, and the boundary is drawn at the first natural break within one mile of the undeveloped portion of the barrier.

(15) Inclusion of Docks, Piers, Marinas, and Other Shoreline Structures within the CBRS

Comments Received: The Service received comments from an advocacy organization and State and local officials in Florida and North Carolina seeking to have the CBRS boundaries drawn to exclude any docks, piers, marinas, and other structures located along the shoreline. The comments expressed concern regarding: (1) maintenance and development of structures in waterfront areas that are included within the CBRS, and (2) obtaining permits for docks, piers, and marinas within the CBRS.

Service Response: As described in the 2008 pilot project report and under Issue 12 above, the guidance for delineating CBRS boundaries located along channels and other water bodies has not been consistently applied on the CBRS maps created in the past. Through the pilot project, the Service has developed a consistent protocol for mapping CBRS boundaries within channels, taking into consideration the CBRA definition of an undeveloped coastal barrier and its associated aquatic habitat. The boundaries of pilot project System Units are modified where appropriate to consistently include the entire extent of the channel within the unit. As a result of this channel mapping protocol, additional docks, piers, marinas, and other shoreline structures are included within the CBRS. However, such structures are already prevalent within the CBRS.

When comprehensively remapping CBRS units, the Service generally applies a 20 foot buffer (i.e., leaving space between the boundary and the feature it is intended to follow) along developed shorelines to ensure that structures and/or infrastructure (e.g., walled and roofed structures, roads, and bulkheads) located along the shoreline are not inadvertently included within the CBRS. The Service also generally recommends the exclusion of large marinas from the CBRS. However, because docks, piers, and other similar structures are located throughout the waterways that are part of the associated aquatic habitat of the CBRS, and these structures frequently change in size and shape over time, it would be impractical to map CBRS units to exclude them.

It is important to note that although the CBRA restricts most Federal expenditures and financial assistance within the CBRS, it does not prohibit Federal agencies from issuing permits for activities within or adjacent to CBRS units. Federal agencies may issue permits within the CBRS, including those for the construction of docks and marinas.[25]

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

(16) Shoreline and Development Feature Buffering

Comments Received: The Service received comments from local officials in Florida concerning the pilot project protocol of buffering the CBRS boundaries along developed shorelines. The question is whether the Service considers only the presence of structures when determining whether a shoreline is developed, or whether we also consider the presence of existing infrastructure such as bulkheads and roads that closely follow the shoreline.

Service Response: The draft maps published in the Service's 2008 pilot project report applied approximately 50 foot buffers between the CBRS boundaries and developed shorelines in order to avoid the inadvertent inclusion of existing development within the CBRS, but only considered the presence of walled and roofed structures and not the presence of other development features such as bulkheads or roads. However, after consideration of the comments, the Service believes that a reasonable definition of a developed shoreline would include bulkheads and roads that run parallel to and closely follow (or are coincident with) the shoreline. In addition, the Service believes that it is appropriate to buffer the CBRS boundaries along the wetland/fastland interface (in areas where the structures on-the-ground at the time the area is or was included within the CBRS are very close to the wetlands) and along visible bridge infrastructure. Applying a buffer between the CBRS boundaries and certain features will reduce the administrative burden for those seeking Federal funding or financial assistance for projects or structures that are located close to (but outside of) the CBRS, because it will in many cases eliminate the need for a CBRS in/out property determination and/or CBRA consistency consultation.

Changes to Pilot Project Maps: There are changes between the proposed and final recommended pilot project maps as a result of the comments received. In particular, CBRS boundaries are buffered along shorelines where existing infrastructure such as bulkheads and roads run parallel to and closely follow (or are coincident with) the shoreline. Buffers are also added between CBRS boundaries and bridges, and in certain cases, between CBRS boundaries and a developed wetland/fastland interface. In preparing the final recommended maps (using higher quality aerial imagery that is now available), the Service determined that applying an approximately 20 foot buffer between CBRS boundaries and developed shorelines is sufficient to avoid the inadvertent inclusion of existing structures and infrastructure, while still maintaining the relationship between the CBRS boundaries and the underlying shoreline feature.

Update to Protocol: Through the pilot project, the Service has developed protocols for buffering CBRS boundaries along developed shorelines and other features to ensure that it is clear whether existing structures and/or infrastructure are within the CBRS. The final recommended pilot project maps contained in this report (and future comprehensively revised maps) will apply buffers to CBRS boundaries along developed shorelines and other development features as follows:

- Developed shorelines – In cases where the CBRS boundaries follow a shoreline where structures and/or infrastructure (e.g., bulkheads and roads) are close to the water, an appropriate buffer (about 20 feet) is applied between the shoreline and the CBRS boundaries (see Figure 15). Buffers are not applied along shorelines that are only sparsely developed or along the seaward boundaries of excluded areas.
- Developed shorelines with development set-back – No buffer is applied in cases where the CBRS boundaries follow a shoreline that is developed, but the development is set back far enough from the shore that the structures and/or infrastructure are clearly outside of the CBRS (see Figure 16).
- Bridges – In cases where the CBRS boundaries follow a bridge, an appropriate buffer (about 20 feet) is applied between the bridge and the boundaries. Additional visible bridge infrastructure (e.g., fenders) is generally excluded but not buffered (see Figures 17 and 18). This protocol is not intended to allow for existing bridges (which are currently not within the CBRS) to be expanded, but rather to ensure that the structure as it existed at the time of inclusion within the CBRS is clearly outside of the unit.
- Wetland/Fastland Interface – In cases where the CBRS boundaries follow a wetland/fastland interface and development is situated within a few feet of the wetlands, an appropriate buffer (about 20 feet) is applied (see Figure 19). This protocol is only applied in limited cases; the general protocol is for the CBRS boundaries to follow the wetland/fastland interface without a buffer.
- Structures along CBRS boundaries at the break-in-development– In all other cases where the CBRS boundaries fall very close to existing structures or infrastructure that is intended to be outside of the unit, an appropriate buffer (generally at least 5 feet) is applied between the boundaries and the structures or infrastructure.

Figure 15. The area within the purple boundary is recommended for addition to Florida Unit P05. An approximately 20 foot buffer has been applied to the eastern and western boundaries to ensure that it is clear that the existing structures and infrastructure are not within the CBRS.

Figure 16. No buffer is necessary when the development is set back from the shoreline. The existing boundary of North Carolina Unit L09 (comprehensively revised in 2014), shown in red, follows the shoreline. Adjacent development is clearly not within the CBRS.

Figure 17. When a CBRS boundary follows a bridge, an appropriate buffer is applied between the bridge and the boundary. The area within the purple boundary is recommended for addition to Florida Unit P21. An approximately 20 foot buffer has been applied to the segment of boundary along the bridge.

Figure 18. In some cases, additional accommodations are made to ensure that infrastructure associated with an existing bridge is outside of the CBRS. The area within the purple boundary is recommended for addition to Florida Unit P21. This boundary was placed to exclude the visible bridge fenders.

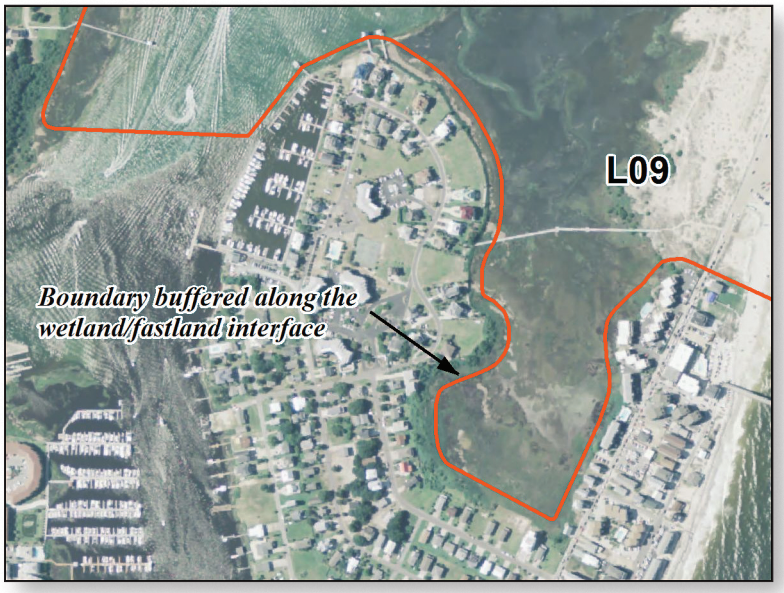

Figure 19. In cases where the CBRS boundaries follow a wetland/fastland interface and development is situated within a few feet of the wetlands, the boundary is buffered by approximately 20 feet. The existing boundary of North Carolina Unit L09 (comprehensively revised in 2014), shown in red, is buffered to clarify that the existing development is not within the CBRS.

(17) Roads and Road Rights-of-Way in OPAs

Comments Received: The Service received comments from local officials in Florida regarding publicly owned roads and road rights-of-way that are located within the proposed boundaries of OPAs, but are not held for conservation or recreation purposes, such as Unit FL-13P (see Figure 20). The local officials objected to the inclusion of these public lands within the OPAs because they are not part of the underlying conservation areas.

Service Response: Roads and road rights-of-way are included within OPAs throughout the CBRS. The only Federal funding prohibition within OPAs is on flood insurance. There are no CBRA prohibitions affecting Federal funding or financial assistance for road construction and/or maintenance within OPAs. Remapping OPAs to exclude all roads and road rights-of-way would be resource intensive, impractical, and unnecessary.

Changes to Pilot Project Maps: There are no changes between the proposed and final recommended pilot project maps as a result of the comments received.

Figure 20. Roads and road rights-of-way are included within OPAs throughout the CBRS, even though they are not held for conservation or recreation purposes. Florida Unit FL-13P includes portions of Highway A1A.

(18) Mapping Seaward Boundaries of Excluded Areas in the CBRS

Comments Received: The Service received inquiries from local officials in Florida concerning the delineation of the seaward boundaries of CBRS excluded areas. In particular, the local officials believe that the seaward boundaries of excluded areas should be open at the shoreline so that the open water in front of the excluded development is not within the CBRS. Although these inquiries were not submitted as official comments, the Service determined that this is an important issue to address.

Service Response: The seaward boundaries of excluded areas are not delineated consistently throughout the CBRS. In most cases, the seaward boundaries of the excluded areas are closed at the shoreline; however, there are some cases where they are left open at the shoreline (see Figures 21 and 22). To address this inconsistency, in carrying out the pilot project, the Service closed the seaward boundaries of the excluded areas along the shoreline (i.e., along the wet/dry sand line as interpreted on the base map imagery) (see Figure 23). The wet/dry sand line was chosen because it is a feature that is usually visible on the base map imagery and approximates the mean high tide line. This clarifies that only the developed area (and not the adjacent nearshore area) is excluded from the CBRS unit.

Beach nourishment and dredging projects in System Units along the shoreline of such excluded areas are subject to the CBRA and may only be conducted with Federal funds if they meet one of the exceptions under the CBRA.[26]

Changes to Pilot Project Maps: In preparing the final recommended maps, the Service noted that the proposed maps for a few units included in the 2008 pilot project report did not close the excluded areas at the shoreline according to the protocol. This is corrected on the final recommended maps in Appendix C.

(19) Seaward Limits of CBRS Units

Comments Received: The Service received a comment from local officials in Florida, requesting that the seaward limits of the CBRS units be clearly delineated on the maps or described in the report because of projects such as channel dredging or beach nourishment that might occur in the nearshore or offshore areas of the units.

Service Response: CBRS units are generally left open on the ocean (i.e., seaward) side and are intended to contain the entire sand-sharing system, including the beach, shoreface, and offshore bars (see Figure 24). The sand sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour, and is not delineated on the CBRS maps due to the dynamics of the systems, which cause variability from site-to-site and time-to-time. In the Great Lakes and in large coastal embayments (e.g., Chesapeake Bay, Delaware Bay, and Narragansett Bay), the sand-sharing system is more limited in extent and is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.[27] The

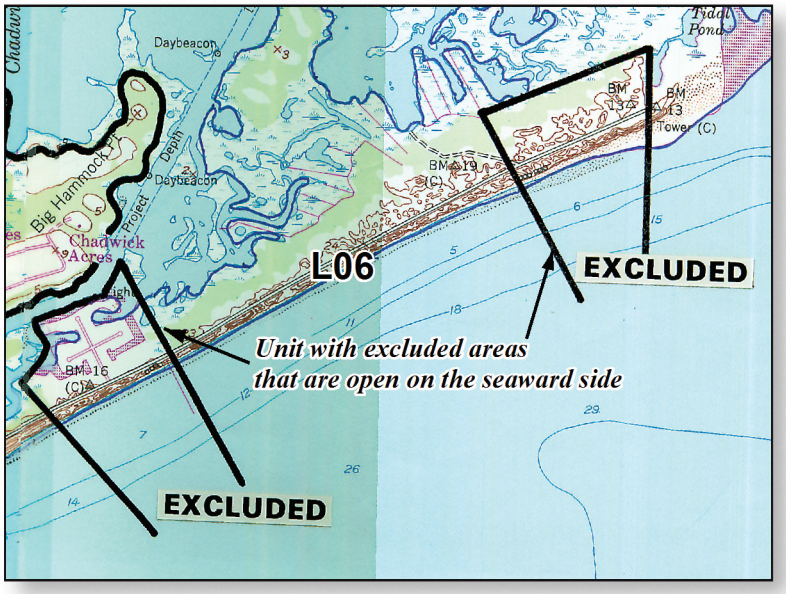

Figure 21. The seaward boundaries of excluded areas are not delineated consistently throughout the CBRS. The seaward boundaries of some excluded areas are left open at the shoreline. This 1990 map for North Carolina Unit L06 shows the excluded areas open on the seaward side.

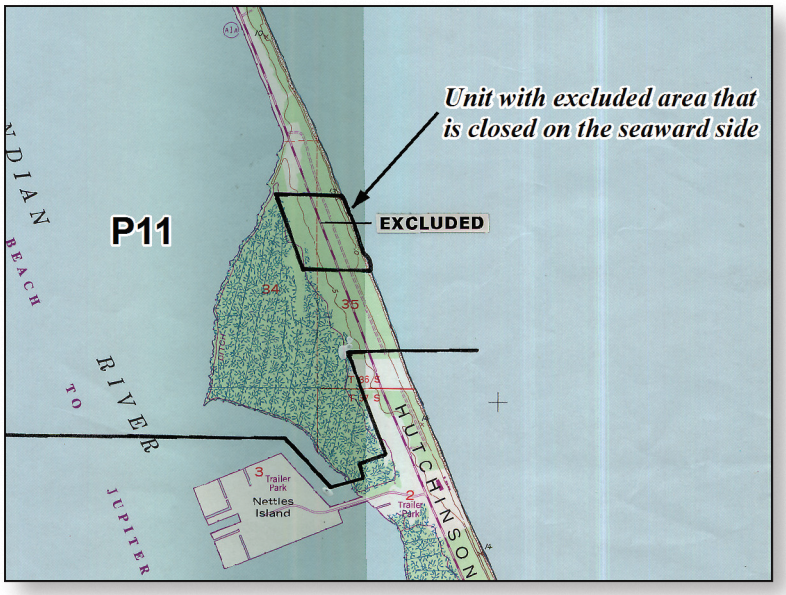

Figure 22. This 1990 map for Florida Unit P11 shows an excluded area that is closed on the seaward side along the shoreline.

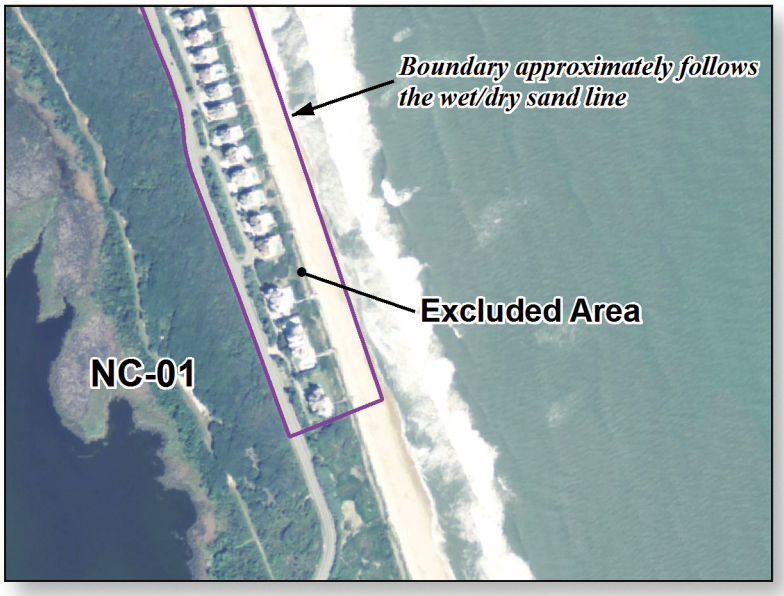

Figure 23. In carrying out the pilot project, the Service closed the seaward boundaries of excluded areas along the shoreline. The final recommended boundary for North Carolina Unit NC-01, shown in purple, generally follows the wet/dry sand line as depicted on the base map imagery.

Figure 24. CBRS units are generally left open on the seaward side and are intended to contain the entire sand-sharing system, including the beach, shoreface, and offshore bars. The offshore extent of the units is generally not delineated on the CBRS maps.

Figure 25. The Service is updating the mapping protocol for delineating the seaward limits of the CBRS units. In the future, an additional boundary segment may be added to close off CBRS units, such as Massachusetts Unit C34A, in order to clarify that the land opposite the unit is not within the CBRS.

Service agrees that information about the seaward limits of CBRS units should be more accessible, and this information is now included in the title block of the final recommended pilot project maps.

The Service notes that there are areas, mainly in embayments (although they were not encountered in the pilot project), where a unit would extend up onto the land opposite the barrier because the intervening water does not reach the necessary depth or the land opposite the barrier is closer than one mile (see Figure 25). Due to these factors, the Service is updating the protocol for defining and delineating the seaward limits of the CBRS units.

Changes to Pilot Project Maps: The title blocks of the final recommended maps contained in Appendix C include a note describing the seaward limits of the CBRS units. There are no changes between the proposed and final recommended pilot project boundaries as a result of the comments received.

Update to Protocol: The Service will generally leave the offshore side of the CBRS units open with the understanding that the offshore limits of the units are as follows.

In CBRS units located along the Atlantic Ocean, Gulf of Mexico, and Puerto Rico and the U.S. Virgin Islands coasts, the offshore extent of the units is generally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the offshore extent of the units is generally defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier. However, in cases where this would result in the unit extending up onto land that is obviously not intended to be within the CBRS, the offshore extent of the unit will be delineated on the map.

In some cases where the extent of the CBRS unit is not obvious, the Service may extend lateral boundaries (i.e., boundaries that are perpendicular to the shoreline) or add offshore segments of boundary to the map for clarification purposes.

[1] 16 U.S.C. 3501(b)

[2] 48 FR 54542

[3] The land area covered by the floodwaters of the base flood is the SFHA on the NFIP's maps. The SFHA is the area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The SFHA includes Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE, and V. *http://www.fema.gov/special-flood-hazard-area*

[4] 16 U.S.C. 3501(a)(4) and (5)

[5] 16 U.S.C. 3503 note

[6] DOI, Coastal Barriers Study Group. 1982. Preliminary Draft Criteria for Defining and Delineating Protected Coastal Barriers. Washington, D.C.

[7] 16 U.S.C. 3505

[8] Section 11 of Pub. L. 97-348 and Section 9 of Pub. L. 101-591

[9] There is one exception. The final recommended maps for Unit L06 and the southern portion of Unit L05 use base map imagery dated 2010 and 2012 because these particular maps were transmitted to Congress as part of an April 8, 2014, hearing before the House Natural Resources Committee, Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs.

[10] See endnote 2 in Chapter 2.

[11] See endnote 5 above.

[12] 16 U.S.C. 3505(a)(6)(A) is an exception for "Projects for the study, management, protection, and enhancement of fish and wildlife resources and habitats, including acquisition of fish and wildlife habitats and related lands, stabilization projects for fish and wildlife habitats, and recreational projects" that are consistent with the purposes of the CBRA. Federal expenditures for such projects and activities that meet this exception may be made following consultation with the Service.

[13] 50 FR 8698

[14] Frazer, Gary. 1999. USFWS-DOI, Testimony of Gary Frazer, Acting Assistant Director for Ecological Services, Fish and Wildlife Service, Department of the Interior, before the House Committee on Resources, Subcommittee on Fisheries Conservation, Wildlife and Oceans, Oversight Hearing on the Coastal Barrier Resources System. May 6, 1999.

[15] 16 U.S.C. 3503(g)(1)

[16] The Service's records include copies of the majority of the maps from the 1988 Report to Congress: Coastal Barrier Resources System, recommending modifications to the CBRS that were reviewed by Congress in 1990, just prior to enactment of the CBIA. Many of these maps contain evidence of areas that were identified as protected on the draft maps, but were intentionally added to the CBRS as System Unit rather than OPA (e.g., Units CT-04, CT-05, CT-07, FL-15, and FL-89).

[17] Pub. L. 114-128

[18] Pages 115-116 in: DOI, Coastal Barriers Study Group. 1988. Report to Congress: Coastal Barrier Resources System with recommendations as required by Section 10 of the Public Law 97-348, the Coastal Barrier Resources Act of 1982. Volume 1 in Report to Congress: Coastal Barrier Resources System. U.S. Department of the Interior, Washington D.C. 265 pp.

[19] H. Rept. 101-657, Part 1. "The section 10 report recommended exclusion of the channels from the System, based on concerns that the recommended inclusion of large areas of associated aquatic habitat might interfere with plans to study, widen, or deepen Federal navigation channels. We believe the amendment to section 6(2) will be sufficient however, to allow for construction and maintenance of improvements authorized by Congress." This amendment modified the exception to the CBRA found at 16 U.S.C. 3505(a)(2): "The maintenance or construction of improvements of existing Federal navigation channels (including the Intracoastal Waterway) and related structures (such as jetties), including the disposal of dredge materials related to such maintenance or construction." According to 16 U.S.C. 3505(b), "a Federal navigation channel or a related structure is an existing channel or structure, respectively, if it was authorized before the date on which the relevant System Unit or portion of the System Unit was included within the CBRS."

[20] See endnote 2 in Chapter 1.

[21] 47 FR 35707 and DOI, Coastal Barriers Study Group. 1988. Report to Congress: Coastal Barrier Resources System with recommendations as required by Section 10 of the Public Law 97-348, the Coastal Barrier Resources Act of 1982. Volume 1 in Report to Congress: Coastal Barrier Resources System. U.S. Department of the Interior, Washington, D.C. 265 pp.

[22] See endnote 13 above.

[23] Page II-10 of the 1988. Report to Congress: Coastal Barrier Resources System. Final Supplemental Legislative. Environmental Impact Statement on the Proposed Changes to the Coastal Barrier Resources System. Washington, D.C.

[24] See endnote 11 in Chapter 2.

[25] 16 U.S.C. 3502(3)(C)

[26] 16 U.S.C. 3505(a)

[27] See endnote 13 above.

CHAPTER 5: Summary and Update of Pilot Project Results

Section 3(c)(4) of the 2006 CBRRA requires that this final report contain a summary and update of the findings of the initial pilot project report required under Section 6(d) of the 2000 CBRRA. This chapter summarizes the results of the pilot project and the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps by describing the: (1) types of changes to the CBRS boundaries on the pilot project maps; (2) changes to the pilot project maps that do not affect the CBRS boundaries; and (3) final recommended acreage, shoreline, and structure changes. The final recommended pilot project maps and summaries of change for each unit (including acreage, shoreline, and structure changes for each unit) are provided in Appendix C. The acreage, shoreline, and structure change numbers for each pilot project unit are also provided in Appendix D.

The Service found through the course of the pilot project that several of the CBRS mapping protocols needed to be updated and/or clarified. Chapter 4 contains information about the changes to the mapping protocols. The Service also learned a number of lessons through the pilot project about assessing modifications to the CBRS and has developed a set of guiding principles and criteria to be applied to future mapping projects. These guiding principles and criteria are described in Chapter 6.

Types of Changes to CBRS Boundaries on Pilot Project Maps

Modifications to Reflect Geomorphic Change

The CBRA requires that every five years the Service makes modifications to the boundaries of CBRS units solely to reflect changes caused by natural forces such as accretion and erosion.[1] The pilot project units underwent this five-year review assessment between 2014 and 2016 through the digital conversion effort; therefore, most geomorphic changes depicted on the proposed maps included in the 2008 pilot project report have been incorporated into the existing boundaries on the final recommended maps contained in this report.[2] The final recommended boundaries incorporate any additional geomorphic changes that have occurred following the assessment that was conducted through the digital conversion effort. For more information on digital conversion, see Chapter 2.

Alignment with Geomorphic Features

CBRS boundaries are often intended to follow geomorphic features such as a shoreline or the interface between wetlands and fastlands. This applies mostly to System Units, though there are many cases where OPA boundaries follow geomorphic features. The boundaries of pilot project System Units and OPAs were modified where appropriate to align with underlying geomorphic features.

Alignment with Development Features

CBRS boundaries are often intended to follow development features (e.g., the edge of a road, a bridge, or the "break-in-development") that existed on-the-ground when the area was included within the CBRS. The break-in-development is where development ended, immediately adjacent to the last structure in a cluster or row of structures, or at the property parcel boundary of the last structure.[3] This applies mostly to System Units, though there are cases where OPA boundaries follow development features. The boundaries of pilot project System Units and OPAs were modified where appropriate to align with development features.

Alignment with Cultural Features

CBRS boundaries are often intended to follow cultural features such as political boundaries or conservation/recreation area boundaries. Both System Units and OPAs follow cultural features; however, this applies especially to OPAs, which generally coincide with the boundaries of the underlying conservation and/or recreation areas (although there are several exceptions – see Issue 11 in Chapter 4 for additional information). The boundaries of pilot project System Units and OPAs were modified where appropriate to align with cultural features.

Additions to the CBRS

In carrying out the pilot project, the Service found areas of undeveloped fastland[4] and associated aquatic habitat[5] that are not currently within the CBRS, but are appropriate for inclusion within the CBRS (either as additions to existing units or as entirely new units).

Such additions to the CBRS are consistent with: (1) Section 4(c)(3)(D) of the 2006 CBRRA,[6] which directs the Secretary to make recommendations for the expansion of the CBRS when carrying out digital mapping for the remainder of the CBRS and (2) maps adopted by Congress since 1990 that have expanded the boundaries of CBRS units (e.g., FL-95P, FL-70, FL-70P, P16, P16P, and SC-03) to include qualifying undeveloped areas that were not originally included within the CBRS.[7]

In preparing the proposed pilot project maps included in the 2008 report, the Service was not as robust in its proposals for additions

to the CBRS as it may be in future comprehensive remapping projects (including the Hurricane Sandy project described in Chapter 2). Instead, the Service mainly looked for areas immediately adjacent to the existing CBRS units because, in part, it was not until the 2006 CBRRA that Congress specifically directed the Secretary to recommend additions to the CBRS. In preparing the final recommended maps for the pilot project, the Service found additional areas where qualifying undeveloped fastland and associated aquatic habitat could have been proposed for addition on the maps included in the 2008 report but were not. However, the Service determined that it would not be appropriate to recommend significant new areas for addition to the CBRS without the opportunity for public review, except for a few cases where the new additions are primarily associated aquatic habitat and do not affect any private structures. These areas are noted in the unit summaries in Appendix C. See Chapter 6 for additional information about the Service's guiding principles and criteria for future additions to the CBRS.

- **Additions to System Units**
  The boundaries of pilot project System Units were modified where appropriate to add undeveloped fastland and associated aquatic habitat to the CBRS. Additionally, four new System Units are recommended through the pilot project. All four of the new System Units (Units DE-07, NC-06, FL-01, and FL-93) are comprised of a combination of areas that are reclassified from OPAs and areas not currently within the CBRS. The recommended new units contain undeveloped fastland and associated aquatic habitat that is appropriate for inclusion within the CBRS.

The 2000 CBRRA codified the development criteria (density of development and existing infrastructure)[8] that the Secretary is required to consider when making recommendations to the Congress regarding the addition of any area to the CBRS and in determining whether, at the time of inclusion of a System Unit within the CBRS, a coastal barrier is undeveloped. During the preparation of the final recommended maps for the pilot project, the Service reviewed the level of development in the areas recommended for addition by visually analyzing the updated base map imagery and oblique aerial photos, reviewing property parcel records as necessary, and reviewing any development information provided by interested parties during the public comment period. The Service is not aware of any existing private residential structures located on lands that are recommended for addition to the pilot project System Units. The final recommended maps are based upon the best data available to the Service at the time the maps were prepared.

- **Additions to OPAs**
  The boundaries of pilot project OPAs were modified where appropriate to add conservation and/or recreation areas to the CBRS. When the Service found conservation/recreation areas that are adjacent to existing pilot project units and that meet the CBRA definition of an OPA[9] but are not currently within the CBRS, the appropriate stakeholders were generally asked to review and concur with the placement of the underlying conservation/recreation area boundary on a base map. This outreach process ensures that the Service has the best available data with which to make changes to the OPA boundaries. Additionally, five new OPAs are recommended through the pilot project. Two of the new OPAs (Units P08P and P11P) are comprised of areas that are reclassified from System Units; two of the new OPAs (Units NC-01P and P09AP) are comprised of a combination of areas that are reclassified from a System Unit and areas not currently within the CBRS; and one of the new OPAs (Unit FL-67P) is comprised entirely of areas not currently within the CBRS.

Unit Type Reclassifications

In carrying out the pilot project, the Service noted cases where areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas (that are not inholdings) are located within OPAs. When the Service comprehensively remapped the CBRS units in the pilot project, the conservation/recreation areas within the unit were identified and the history of those areas was evaluated to determine whether they were appropriately classified as System Unit or OPA. The Service's remapping protocol at the time of the pilot project generally recommended reclassification from System Unit to an OPA, or vice versa, depending on when the particular area was included within the CBRS and whether the area was held for conservation/recreation at the time it was included.[10] An exception was made for certain conservation/recreation areas where the owner/manager specifically requested that their area be included within the CBRS as a System Unit or for certain privately owned conservation/recreation areas that were intentionally added to the CBRS as System Units through maps adopted by Congress in the past.[11] Another exception was made for minor portions of land and open water in cases where it was impractical from a mapping perspective to delineate them separately as System Unit or OPA (e.g., small islands or other features that are too small to carve out from the surrounding aquatic habitat).

If the Service found no evidence that an area within an existing OPA was held for conservation or recreation at the time it was originally included within the CBRS, then the area in question was generally recommended for reclassification from OPA to System Unit as long as it met the CBRA criteria for an undeveloped coastal barrier at the time it was included within the CBRS. The reclassified areas were either added to an existing adjacent unit (e.g., portions of Unit FL-73P became part of Unit FL-78) or were given a new unit number (e.g.,

portions of Unit DE-07P were reclassified to new Unit DE-07).

Lessons learned through the course of the pilot project and other comprehensive remapping projects resulted in a revision to the Service's protocol regarding System Unit versus OPA classification for future mapping projects. See Issue 11 in Chapter 4 for more information about reclassifications and changes to the Service's OPA mapping protocols and Chapter 6 for additional information about the Service's guiding principles and criteria for future mapping.

Removals from the CBRS

In carrying out the pilot project, the Service found properties that were inappropriately included within the CBRS and are appropriate for removal.

- **Removals from System Units** The boundaries of pilot project System Units were modified where appropriate to remove private lands that were included within the CBRS in error. To determine whether an area was appropriate for removal from a System Unit, the Service assessed, as necessary, whether the System Unit boundary followed the underlying feature(s) it was intended to follow; the density of development on-the-ground at the time the area was included within the CBRS; and, in limited cases, the level of infrastructure that was on-the-ground when the area was included within the CBRS. In the pilot project the Service proactively sought historical infrastructure information (e.g., the date of installation of electrical infrastructure from the local electrical utility company and information regarding road construction from the local government) for certain areas within Unit L06 to help determine whether those particular areas are appropriate for removal from the CBRS and to help determine the feasibility of obtaining such information for future comprehensive remapping projects. The Service also reviewed and considered any infrastructure information for pilot project units that was submitted by interested parties during the public comment period. Proactively obtaining the necessary historical infrastructure documentation is burdensome and resource intensive for the Service. Therefore, for future comprehensive mapping projects, the Service will generally rely on property owners and other interested parties who seek removals to provide the historical documentation necessary to substantiate their infrastructure claim (see Chapter 6 for additional information on the infrastructure review process).
- **Removals from OPAs** The boundaries of pilot project OPAs were modified where appropriate to remove private lands that were included within the CBRS in error. The private lands that are recommended for removal are for the most part relatively minor in size, are not inholdings, were not held for conservation or recreation at the time of inclusion, and were likely included within the OPA inadvertently due to the imprecise nature of the 1990s era CBRS maps (see Figure 26). In cases where a significant portion of private land was included within the existing OPA and met the CBRA criteria for an undeveloped coastal barrier at the time it was included within the CBRS it was reclassified to a System Unit (see Figure 27). See "Unit Type Reclassifications" section above for additional information on reclassifications.

See Chapter 6 for additional information about the Service's guiding principles and criteria for future removals from the CBRS.

Modifications to Map CBRS Boundaries in Channels Using a Consistent Protocol

Channels are often located between coastal barriers and the mainland and are a part of the barrier's associated aquatic habitat.[12] In 1982 and 1988, the Department published guidance for delineating CBRS boundaries located along channels and other water bodies.[13] In carrying out the pilot project, the Service noted that this guidance has not been consistently applied to the CBRS maps created in the past. CBRS boundaries generally follow the center of the channel, but in some cases include all channels

Figure 26. The northern boundary of Florida Unit FL-18P, shown in red, includes a portion of developed private land. The Service determined that this boundary was intended to mirror the boundary of John D. MacArthur Beach State Park. The final recommended boundary shown in purple is modified to follow the park boundary and remove the private land from the CBRS.

Figure 27. Private land adjacent to Delaware Seashore State Park is recommended to be reclassified from OPA Unit DE-07P to System Unit DE-07. The Service determined that this area was undeveloped when it was added to the CBRS and the boundary was intended to follow the 1990 break-in-development.

and in other cases include none of the channel within the unit. The 2008 pilot project report proposed standardizing the channel mapping protocol to include the entire channel within System Units, but to include only half of the channel within OPAs (as there is no impact to channels in OPAs, the only restriction within OPAs is on Federal flood insurance).

- **Modification to Map System Unit Boundaries in Channels Using a Consistent Protocol** The boundaries of pilot project System Units were modified where appropriate to include the entire extent of the channel within the System Unit instead of placing the boundary at the center of the channel. A buffer (of about 20 feet) was generally applied along developed shorelines to ensure that development and infrastructure located on the shoreline was not inadvertently included within the CBRS (see Issue 16 in Chapter 4 for additional information).
- **Modification to Map OPA Boundaries in Channels Using a Consistent Protocol** The boundaries of pilot project OPAs were modified where appropriate to place the boundary at the center of the channel. The Service has since recognized that it would simplify CBRS mapping to use the same protocol for both OPA and System Unit boundaries in channels and has updated this protocol for future comprehensive mapping projects (see Issue 12 in Chapter 4 for additional information).

No Modification

Five of the pilot project units (Units LA-01, LA-02, FL-43, FL-80P, and S05) contain no recommended boundary modifications. This scenario only occurs in cases where the coastal barrier islands associated with the unit have not significantly eroded or prograded in such a way that requires a boundary modification and no mapping errors were identified (see Figure 28).

Other Changes Affecting Pilot Project CBRS Maps

In addition to the recommended boundary changes, there are two other notable changes affecting the pilot project maps that will help reduce confusion and improve the usability of the CBRS maps, which are: updating the base map imagery used for the proposed maps with newer and higher quality imagery, and reconfiguring some of the CBRS map panels.

Updated Base Map Imagery

Most of the base map imagery used for the proposed maps included in the Service's 2008 pilot project report is from 1998 and 1999. The Service has replaced this imagery with newer (dated between 2013 and 2015)[14] and better quality imagery for the final recommended pilot project maps. The source and date of the base map(s) for each unit are included in the unit summaries in Appendix C and are printed on the title block of each map.

Reconfigured Map Paneling

Each official CBRS map covers a spatial extent roughly equivalent to one U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle; this spatial extent is referred to as a "map panel." There are many places throughout the CBRS (as well as in the pilot project) where the existing map panels overlap each other, yet provide no indication that there is another unit in the same area that is shown on a different map panel. This omission is a source of confusion for users who assume that if no CBRS unit is depicted on a specific map, then there is no CBRS unit in that area. Through the digital conversion effort (between 2014 and 2016) many existing map panels were shifted and/or combined to eliminate overlaps and depict all CBRS units that exist within the spatial extent of a given map panel. Therefore, the paneling of the final recommended maps in Appendix C has been changed in most cases to be consistent with the map panels used in the digital conversion. The result of this change is that (1) the extent of the final recommended maps is slightly different than the extent of the proposed maps in the Service's 2008 pilot project report and (2) a few maps will depict additional CBRS units that have not been revised through the pilot project. For example, the final recommended map depicting Unit P22, which is revised by the pilot project, also depicts Unit FL-71P, which is not revised by the pilot project. Changes to the configuration of the CBRS map panels do not affect the placement of the CBRS boundaries, but will help reduce confusion and improve the usability of the CBRS maps.

Figure 28. In limited cases, no boundary modification is necessary. The final recommended boundary for Florida Unit FL-43, shown in purple, is identical to the existing boundary.

Final Recommended Acreage, Shoreline, and Structure Changes

Table 2 summarizes the overall acreage, shoreline, and structure changes associated with the final recommended pilot project maps contained in Appendix C. The "existing" and "final recommended" numbers in this report differ from the "existing" and "proposed" numbers in the 2008 pilot project report for the following reasons:

(1) changes were made between the existing and final recommended boundaries to address public comments;

(2) new areas are recommended for addition to or removal from the CBRS on the final recommended maps (that were not proposed for addition or removal on the proposed maps included in the 2008 report);

(3) adjustments were made to fit the final recommended boundaries to the updated base map imagery;

(4) changes were made to the existing boundaries of the pilot project units between 2014 and 2016 through the digital conversion effort (described in Chapter 2);

(5) six units (Units L07, L08, L09; Unit FL-19; Unit FL-64P; and Unit FL-78P) were removed from the pilot project and one unit (Unit NC-01P) was added, resulting in a total of 65 units in the pilot project;[15]

(6) the updated imagery used for the final recommended maps is newer and better quality (this makes it easier to see and count structures, and also shows new construction that has occurred since the date of the base map imagery used for the proposed maps); and

(7) changes were made to the methodology for acreage calculations (described below).

The final recommended maps for the 65 units contained in Appendix C (if adopted by Congress through legislation) would remove approximately 396 total acres from the CBRS (236 acres of fastland and 160 acres of associated aquatic habitat) and add approximately 24,510 acres to the CBRS (1,354 acres of fastland and 23,156 acres of associated aquatic habitat). The revised maps would remove about 325 structures from the CBRS and add about 35 structures to OPAs (mostly park-related). The Service is not aware of any existing private residential structures located within the areas recommended for addition to the CBRS.

The net changes were quantified by assessing the differences in acreage, shoreline, and structures between the existing and final recommended boundaries. Appendixes C and D provide the acreage, shoreline, and structure change information for each of the 65 pilot project units.

Table 2. Summary of Final Recommended Acreage and Structure Changes

	Fastland Acres		*Associated Aquatic Habitat Acres*		*Total Acres*		*Total Structures*	
	System Units	*OPAs*	*System Units*	*OPAs*	*System Units*	*OPAs*	*System Units*	*OPAs*
Addition to the CBRS	379	975	20,491	2,665	20,870	3,640	0	35
	Total: 1,354		Total: 23,156		Total: 24,510		Total: 35	
Deletion from the CBRS	148	88	102	58	250	146	179	146
	Total: 236		Total: 160		Total: 396		Total: 325	
Net Reclassified	-232	232	11,146	-11,146	10,914	-10,914	N/A	N/A
	Total: 0		Total: 0		Total: 0		N/A	
Net Change	-1	1,119	31,535	-8,539	31,534	-7,420	-179	-111
	Total: 1,118		Total: 22,996		Total: 24,114		Total: -290	

Acreage Calculations

The total acreage of a CBRS unit is comprised of fastland and associated aquatic habitat (wetlands and open water). For the purpose of this pilot project, the wetland/fastland acreage breakdown was derived from the Service's National Wetlands Inventory (NWI) data.[16] The sole use of NWI data for the wetland/fastland acreage calculations for the pilot project is a change in methodology from the 2008 pilot project report. For the 2008 report, the Service calculated the wetland/fastland breakdown of acreage by interpretation of infrared aerial imagery in consultation with NWI data. The Service has since determined that the benefits of using aerial imagery, while resulting in more accurate wetland/fastland calculations, did not warrant the added cost.

The associated aquatic habitat acreage numbers include open water landward of the coastal barrier, but not nearshore waters seaward of the shoreline. For the purpose of the acreage calculation, all units were artificially closed at the seaward shoreline using a dataset digitized for this purpose (described below) before acreage calculations were performed. Although the acreage of the nearshore waters is not calculated, the entire sand-sharing system on the seaward side, including the beach and nearshore area, is included within the CBRS unit. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In the Great Lakes and in large coastal embayments (e.g., Chesapeake Bay, Delaware Bay, and Narragansett Bay), the sand-sharing system is more limited in extent. In these cases, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier. See Issue 19 in Chapter 4 for additional information regarding the seaward limits of CBRS units.

Shoreline Calculations

For purposes of the pilot project, the Service digitized a shoreline boundary to artificially close off the units along the seaward shoreline. This shoreline boundary generally follows the wet/dry sand line as interpreted from the base map image. Additionally, the shoreline boundary crosses any inlets and/or other dividing water bodies within each unit. In conjunction with the boundaries of the unit, the shoreline boundary is also used to define the total area of a unit that is subject to an acreage calculation (as described above).

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[1] See endnote 25 in Chapter 1.

[2] Final maps produced through the digital conversion effort, which affected all of the pilot project units, were adopted for CBRS units located in Delaware and South Carolina on April 17, 2014 (79 FR 21787); units located in North Carolina on May 4, 2015 (80 FR 25314); and for units located in Florida and Louisiana on March 14, 2016 (81 FR 13407).

[3] 47 FR 35696

[4] The portion of a coastal barrier between the mean high tide line on the ocean side, and the upper limit of tidal vegetation (or, if such vegetation is not present, the mean high tide line) at the rear of the coastal barrier.

[5] See endnote 2 in Chapter 1.

[6] See endnote 28 in Chapter 1.

[7] AL-01P (Pub. L. 103-461); DE-03P (Pub. L. 106-128); FL-35 (Pub. L. 105-277); FL-64P (Pub. L. 110-419); FL-95P (Pub. L. 109-355); GA-06P (Pub. L. 109-354); NC-03P (Pub. L. 106-116); NC-07P (Pub. L. 108–339); NY-51P (Section 4(e) of Pub. L. 101-591); P19P (Pub. L. 103-461); P19P (Pub. L. 106-360); P32 and P32P (Pub. L. 105-277); VA-60 (Pub. L. 108-7); RI-04P, RI-05P, RI-06, RI-07, SC-01, SC-03, FL-70 (new unit); FL-70P, L07, L08, and L09 (Pub. L. 113-253); FL-64P (Pub. L. 109-581), P15, P16, and new units P15P and P16P (Pub L. 114-128); NC-01 (Pub. L. 106-332).

[8] See endnote 15 in Chapter 4.

[9] See endnote 5 in Chapter 4.

[10] System Units are generally comprised of privately held areas. OPAs are generally comprised of areas established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes (Section 12 of the Coastal Barrier Improvement Act; Pub. L. 101-591). See Chapter 4 for additional information.

[11] See endnote 16 in Chapter 4.

[12] See endnote 2 in Chapter 1.

[13] See endnote 21 in Chapter 4.

[14] See endnote 9 in Chapter 4.

[15] See endnote 31 in Chapter 1.

[16] Fastland and wetland acreage numbers included in this report inherit the level of accuracy and completeness of NWI data. The NWI metadata states that it "represents the extent of wetlands and deepwater habitats that can be determined with the use of remotely sensed data and within the timeframe for which the maps were produced. The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data, and the amount of ground truth verification work conducted. There is a margin of error inherent in the use of imagery, thus detailed on-the-ground inspection of any particular site, may result in revision of the wetland boundaries or classification, established through image analysis. Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site." USFWS. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, May 2014. Washington, DC. *http://www.fws.gov/wetlands*

CHAPTER 6: Guiding Principles and Criteria for Coastal Barrier Resources System Modifications

This chapter contains a set of guiding principles and criteria for assessing modifications to the Coastal Barrier Resources System (CBRS). We developed these guiding principles and criteria after careful consideration of the CBRA's statutory language and legislative history, our reports to and testimony before Congress, historical background records for individual CBRS units, notices published in the *Federal Register*, and lessons learned through the pilot project and other remapping projects.

Overview of Guiding Principles and Criteria for Removals from the CBRS

The Service receives numerous requests from property owners and their representatives from Congress who seek to remove areas from the CBRS based on an alleged "technical mapping error."

The Service generally will not apply a literal interpretation of the statutory definition of a coastal barrier to our review of alleged mapping errors. The fact that an area may not precisely fit the definition of a coastal barrier does not, by itself, constitute a mapping error. When assessing whether an area may be appropriate for removal from the CBRS, the Service considers the following guiding principles:

(1) whether the area may reasonably be considered to be a coastal barrier feature, or related to a coastal barrier ecosystem (this generally includes areas that are inherently vulnerable to coastal hazards such as flooding, storm surge, wind, erosion, and sea level rise) and

(2) whether inclusion of the area within the CBRS is rationally related to the purposes of the CBRA (i.e., to minimize the loss of human life, wasteful expenditure of Federal revenues, and damage to fish, wildlife, and other natural resources).

The Service considers a technical mapping error to be a mistake in the delineation of the CBRS boundaries that was made as a result of incorrect, outdated, or incomplete information (often stemming from inaccuracies on the original base maps). We generally will not recommend a removal from the CBRS unless there is clear and compelling evidence that an error in boundary delineation was made. When assessing whether an area may be appropriate for removal, the Service considers the following criteria:

(1) the level of development on-the-ground at the time the area was included within the CBRS (i.e., the number of structures or complement of infrastructure on-the-ground exceeded the threshold for the area to be considered undeveloped)[1] and/or

(2) the location of geomorphic, cultural, and development features on-the-ground at the time the area was included within the CBRS (i.e., the CBRS boundary lines on the maps do not precisely follow the underlying features they were intended to follow on-the-ground).

See the "Guiding Principles for CBRS Modifications" and "Criteria for CBRS Modifications" sections below for additional information regarding how the Service assesses potential removals from the CBRS.

Overview of Guiding Principles and Criteria for Additions to the CBRS

The 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the remainder of the CBRS.[2] This directive is consistent with the comprehensive mapping approach the Service and Congress have followed for most revisions to the CBRS in recent years. Through the pilot project and other comprehensive remapping projects over the past several years, the Service has assessed areas adjacent to the existing units being revised to identify undeveloped areas that were not currently within the CBRS, but were appropriate for inclusion within the CBRS based on the CBRA criteria for an undeveloped coastal barrier. In future comprehensive remapping projects, the Service will not only recommend additions in areas located immediately adjacent to existing CBRS units, but will also identify other relatively undeveloped areas along the coast that are appropriate for inclusion within the CBRS. When assessing whether an area may be appropriate for addition to the CBRS, the Service considers the following guiding principles:

(1) whether the area may reasonably be considered to be a coastal barrier feature or related to a coastal barrier ecosystem (this generally includes areas that are inherently vulnerable to coastal hazards such as flooding, storm surge, wind, erosion, and sea level rise) and

(2) whether inclusion of the area within the CBRS is rationally related to the purposes of the CBRA (i.e., to minimize the loss of human life, wasteful expenditure of Federal revenues, and damage to fish, wildlife, and other natural resources).

When assessing potential additions to the CBRS, the Service also considers the following criteria:

(1) the level of development on-the-ground (i.e., whether the number of structures and

complement of infrastructure exceed the threshold for the area to be considered undeveloped) and

(2) in the case of certain additions to existing units, the location of geomorphic, cultural, and development features on-the-ground at the time the adjacent area was included within the CBRS (i.e., the CBRS boundary lines on the maps do not precisely follow the underlying features they were intended to follow on-the-ground).

See the "Guiding Principles for CBRS Modifications" and "Criteria for CBRS Modifications" sections below for additional information regarding how the Service assesses potential additions to the CBRS.

Overview of Protocol for CBRS Unit Classification

The CBRS contains two types of units, System Units and OPAs. System Units are generally comprised of privately held areas. OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. However, there are cases throughout the CBRS where areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas (that are not inholdings) are located within OPAs. One of the significant lessons learned through the course of the pilot project and other comprehensive remapping efforts over the past several years is that the level of effort necessary to research, classify, and in some cases, reclassify, small discrete areas as System Unit or OPA based on ownership at the time they were included in the CBRS is impractical, complicated, and cost prohibitive.

The Service has determined that CBRS boundaries should generally be drawn to correspond with underlying geomorphic, development, and cultural features and include the entire coastal barrier ecosystem. Areas that qualified as undeveloped coastal barriers at the time of their inclusion within the CBRS should generally be classified as System Unit or OPA based on the predominant ownership of the coastal barrier area at the time of inclusion within the CBRS. This approach is a notable departure from the Service's protocol, first established in 1999,[3] of mapping OPA boundaries as closely as possible to an underlying conservation and/or recreation area (regardless of whether the area was undeveloped at the time it was added to the OPA). As a result, some areas held for conservation and/or recreation will now be retained (or added in the case of new additions) within a System Unit, while some private areas will be retained (or added in the case of additions) within an OPA. The Service's updated general protocol for determining CBRS unit classification (both for new additions and the reclassification of existing areas) is described in Chapter 4 (Issue 11).

Guiding Principles for CBRS Modifications

The sections below describe the guiding principles the Service will apply to its assessment of potential modifications to the CBRS.

Purposes of the CBRA

When considering modifications to add areas to or remove areas from the CBRS, the Service considers the purposes of the CBRA as stated in the statute:

> *The Congress declares that it is the purpose of this Act to minimize the loss of human life, wasteful expenditure of Federal revenues, and the damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic and Gulf coasts by restricting future Federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers, by establishing a Coastal Barrier Resources System, and by considering the means and measures by which the long-term conservation of these fish, wildlife, and other natural resources may be achieved.*[4]

On December 5, 1983, the Department published a notice in the *Federal Register* outlining the process for how the Department would implement Section 10 of the CBRA of 1982, which required a report to Congress that included, among other things, recommendations for additions, deletions, or other modifications to the CBRS. This notice states the following regarding boundary changes:

> *The legislative history provides little guidance on the subject of boundary changes except to state explicitly that development of a unit subsequent to the CBRA is not grounds for removal from the System. The fundamental guide for the Department in recommending changes to the System will be derived from the purposes of the CBRA … It is our opinion that reducing or eliminating units of the System will generally violate the purposes of the CBRA unless there are mistakes in the original designation or mapping process.*[5]

The Service continues to apply the purposes of the CBRA as a fundamental guide in recommending changes to the CBRS. If the inclusion of an area is rationally related to the purposes of the Act, and in the absence of clear and compelling evidence that the area did not qualify as undeveloped at the time the area was included within the CBRS, or that a mistake was made as a result of inaccuracies in the depiction of the underlying features on the base map, the Service generally will not recommend the removal of the area from the CBRS. Likewise, the Service continues to recommend for addition to the CBRS areas that are rationally related to the purposes of the CBRA and meet the CBRA criteria for an undeveloped coastal barrier (see "Definition of a Coastal Barrier" and "Level of Development" sections below).

Definition of a Coastal Barrier

When considering modifications to add areas to or remove areas from the CBRS, the Service considers whether the area can reasonably be considered a coastal barrier feature or related to a coastal barrier ecosystem. The CBRA includes the following definition of an "undeveloped coastal barrier":

(1) The term "undeveloped coastal barrier" means—

(A) a depositional geologic feature (such as a bay barrier, tombolo, barrier spit, or barrier island) that—

(i) is subject to wave, tidal, and wind energies, and

(ii) protects landward aquatic habitats from direct wave attack; and

(B) all associated aquatic habitats, including the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters;

but only if such feature and associated habitats contain few manmade structures and these structures, and man's activities on such feature and within such habitats, do not significantly impede geomorphic and ecological processes.[6]

Through the pilot project and other comprehensive remapping projects over the past several years, the Service has found numerous areas located on the mainland that are behind undeveloped coastal barriers and their associated aquatic habitat, as well as other areas that do not clearly meet the CBRA's statutory definition of an undeveloped coastal barrier but were still included within the CBRS. In some cases, there is evidence indicating that Congress intentionally included such areas within the CBRS (particularly with the CBIA of 1990).[7]

The legislative history of the CBRA states that "the term 'coastal barrier' is included in the legislation for informational purposes only," and that "this definition is designed to demonstrate the values [*sic*] of coastal barriers and provide a logical basis for identifying them."[8] The Service has found nothing in the legislative history of the CBRA indicating that Congress intended the Service to analyze whether an area literally meets the statutory definition of a coastal barrier when making recommendations to Congress for additions to or removals from the CBRS. The only directive that Congress has specifically given the Service when conducting such reviews is that we shall consider whether the area in question met the development criteria at the time that it was (or is) first included in the CBRS (see "Level of Development" section below).

Areas that may reasonably be considered to be coastal barrier features, or related to coastal barrier ecosystems, which are inherently vulnerable to coastal hazards (e.g., flooding, storm surge, wind, erosion, and sea level rise) are, in most cases, rationally related to the purposes of the CBRA. Therefore, these areas may be appropriate for inclusion in the CBRS, even if they do not meet all elements of the literal definition of a coastal barrier under CBRA. Generally, the Service will not recommend the removal of such areas from the CBRS unless there is compelling evidence that a mistake in the delineation of the CBRS boundaries was made as a result of incorrect, outdated, or incomplete information. In addition, the Service may recommend adding such coastal areas to the CBRS because they would achieve the purposes of the CBRA and are not unlike areas that have previously been included in the CBRS by Congress.

Criteria for CBRS Modifications

The sections below describe the criteria the Service will apply to its assessment of potential modifications to the CBRS, with consideration of the guiding principles described above.

Level of Development

With the passage of the 2000 CBRRA, Congress codified the set of development criteria for the Secretary to "consider" when making recommendations to Congress for additions to or removals from the CBRS.[9] These criteria are as follows:

In making any recommendation to the Congress regarding the addition of any area to the System or in determining whether, at the time of the inclusion of a System Unit within the System, a coastal barrier is undeveloped, the Secretary shall consider whether within the area - (A) the density of development is less than one structure per five acres of land above mean high tide; and (B) there is existing infrastructure consisting of (i) a road, with a reinforced road bed, to each lot or building site in the area; (ii) a wastewater disposal system sufficient to serve each lot or building site in the area; (iii) electric service for each lot or building site in the area; and (iv) a fresh water supply for each lot or building site in the area.[10]

The legislative history of the 2000 CBRRA makes it clear that Congress codified the density of development and infrastructure criteria specifically to set a high bar for areas to be removed from the CBRS. One of the Congressional reports associated with the 2000 CBRRA states that "the criteria will make it easier for Congress to oppose the removal of undeveloped coastal areas from the CBRS."[11] When reviewing an area to determine whether an addition to or removal from the CBRS is warranted, the Service assesses the level of development on-the-ground at the time the area was (or is) included within the CBRS.[12]

- **Density of Development**
  When determining whether an area was undeveloped and appropriately included in the CBRS (or is appropriate for inclusion), the Service inspects aerial imagery for the presence of walled and roofed structures and considers whether the density of development on-the-ground at the time of inclusion was (or is) less than one structure per five acres of land above mean high tide. On August 16, 1982, the Department published a notice in the *Federal Register* that included the proposed definitions and delineations criteria of undeveloped coastal barriers. This notice states:

  A density threshold of roughly one structure per five acres of fastland is used for categorizing a coastal barrier as developed. This threshold is cited by the House Committee in their report on the Omnibus Budget Reconciliation Act (House Report 97-158, Volume 1, page 100) and was used in previous Department of the Interior delineations. It is based on scientific considerations and empirical observations. At densities greater than this threshold, the number of structures and the associated levels of human activity tend to interfere with natural processes which build and shape (i.e., stabilize the surface of) coastal barriers. Below the threshold, existing development usually results in little or no interference with natural processes. Of even greater importance, above this density threshold a strong commitment to rebuild after major storm damage exists thereby assuring the area will be stabilized in perpetuity.[13]

  The CBRA does not specify how density should be calculated. However, in the same *Federal Register* notice, the Department stated the following regarding density:

  To be considered in determining density of structures…, a man-made structure must:

  - *be located on the fastland portion of the coastal barrier;*
  - *have a foundation, an enclosed ground area, or, if elevated, a projected ground area exceeding 200 square feet;*
  - *be a walled and roofed building as described previously, and*
  - *be constructed in conformance with all Federal, State, or local legal requirements (i.e. only legally authorized structures will be counted).*

  Structures that appear to have been constructed primarily to avoid designation as an undeveloped coastal barrier will be evaluated on a case-by-case basis. An appurtenant structure will be counted as a separate structure provided it satisfies the above criteria and is completely detached from any other structure.

  In a number of instances coastal barrier units are complexes with more than one discrete segment (i.e. areas separated by inlets or intervening areas that are otherwise protected or clearly developed). When applying the "density threshold" rule to such complexes, density calculations will be for each discrete segment individually, not the entire unit.[14]

  Through the pilot project and other comprehensive remapping projects over the past several years, the Service has recognized the need to clarify what constitutes a "discrete segment" for the purposes of calculating the density of structures on-the-ground at the time an area was (or is) included within the CBRS. The Service typically considers a discrete segment to be one piece of a unit that is comprised of many disconnected pieces. These segments are separated either by areas not included within the CBRS, or by areas that are within different units of the CBRS. For example, Prudence Island Complex D02B in Rhode Island is comprised of 16 discrete segments that are broken up by areas that are not included in the CBRS (see Figure 29).

  When conducting density of development assessments, the Service does not consider only the acreage of individual parcels or subdivisions, but rather considers the total fastland acreage of the discrete segment of the CBRS unit (e.g., a single structure on a three acre lot will still meet the criteria for inclusion so long as the density of the discrete segment of the CBRS unit in which the structure is located has a density of development of less than one structure per five acres of land above mean high tide).

- **Level of Infrastructure On-the-Ground**
  When determining whether an area was undeveloped and appropriately included in the CBRS (or is appropriate for inclusion), the Service considers whether a full complement of infrastructure (i.e., reinforced roads, potable water, wastewater disposal, and electric lines) was (or is) on-the-ground at the time of inclusion within the CBRS. The Service only conducts infrastructure assessments in cases where the density threshold would have been exceeded had the construction of the associated structures been fully completed.

  Infrastructure Review Process (Removals): The Service receives numerous requests for removals from the CBRS based on an assertion that infrastructure was present at the time of inclusion. When reviewing such claims, the Service carefully assesses whether a full complement

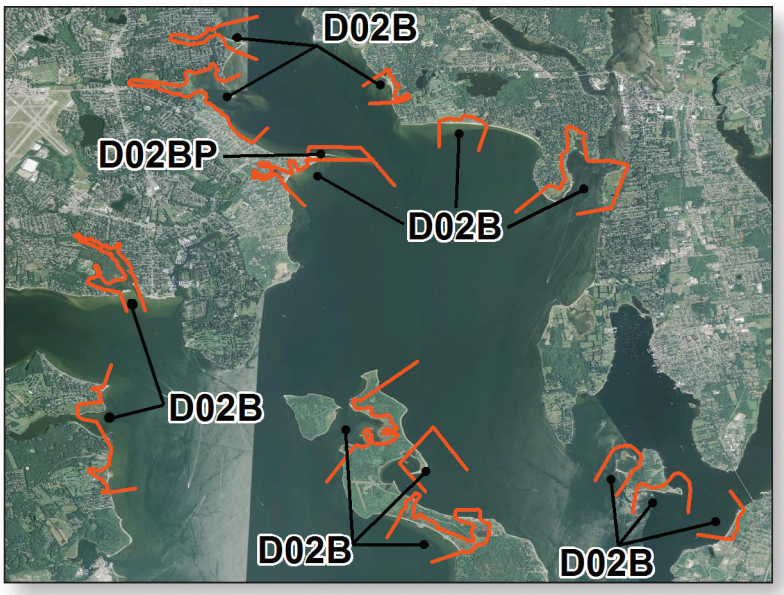

Figure 29. Rhode Island Unit D02B is comprised of many discrete segments, some of which are shown here.

Figure 30. Historic imagery of North Carolina Unit L06 shows an undeveloped coastal barrier with a main road and few scattered structures. The Service does not consider the presence of a single road such as this, plus associated electric transmission and water and sewer lines in the highway corridor to constitute a full complement of infrastructure.

of infrastructure was on-the-ground and available to each lot or building site at the time of inclusion. Because water, sewer, and electric infrastructure is typically placed in roadbeds, the Service reviews historic aerial imagery (from as close to the time of inclusion as possible) for the presence of improved road networks (i.e., paved roads) laid out in a pattern similar to roads in developed areas in the vicinity. The Service does not consider the presence of a single road, or even a through highway, plus associated electric transmission and water and sewer lines in the highway corridor to constitute a full complement of infrastructure[15] (see Figure 30). If the road was just a throughway with no radials, unimproved (e.g., gravel or dirt), or revegetating, the Service does not consider the area to have met the development threshold (see Figure 31).[16] Areas that were lacking an intensive level of infrastructure on-the-ground at the time of inclusion are generally not proposed for removal from the CBRS based on the infrastructure criterion.

Many infrastructure claims cannot be substantiated due to the lack of available historic aerial imagery from the appropriate time period, and therefore require historical documentation (e.g., inspection documents and record drawings) to support the claim that a full complement of infrastructure was on-the-ground at the time the area was included within the CBRS (in many cases two to three decades prior). Obtaining such historical documentation can be difficult and burdensome for the Service; therefore we generally rely on property owners or other interested parties who seek a removal to provide the necessary documentation to support their infrastructure claim.

Figure 31. Historic imagery of Florida Unit P30 shows that the subdivision to the north did not have paved roads and therefore did not have a full complement of infrastructure. However, the subdivision to the south did have paved roads. Additional research would be necessary to determine if this subdivision had the other components necessary to constitute a full complement of infrastructure.

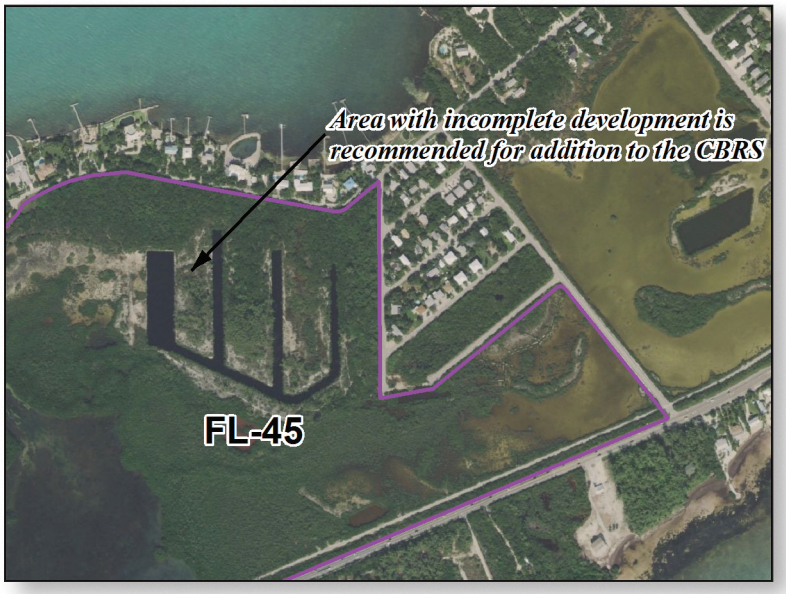

Figure 32. A review of recent aerial imagery shows a network of dredged canals in this recommended addition to Florida Unit FL-45. An analysis of historical imagery shows that there has been no change in the development status of this area for more than 20 years. The Service does not consider this type of incomplete development to be indicative of imminent development.

Infrastructure Review Process (Additions): To determine whether an area that is proposed for addition to the CBRS meets the infrastructure threshold, recent aerial imagery is reviewed to identify the presence of infrastructure (as described in the prior section) (see Figure 32). The Service generally does not conduct a detailed assessment of the infrastructure status beyond this level of visual inspection due to the limitations of available information and resources. However, when landowners or other interested parties provide evidence of a full complement of infrastructure (e.g., inspection documents and record drawings), this additional information is reviewed and considered by the Service.

Public versus Private Infrastructure: Another key factor that the Service considers when conducting an infrastructure assessment is whether the existing infrastructure was publicly or privately capitalized. The Department's 1982 definitions and delineation criteria state that, "The existence of intensive private capitalization on-the-ground within a coastal barrier area is the most significant indicator of its development status."[17] The Department's 1982 *Undeveloped Coastal Barriers: Report to Congress states that*:

> *Implicit in this criterion is the requirement that the developer must have expended private capital to make these services available. Only those areas that are clearly being developed or capitalized "on the ground" have been deleted. The entire development concept rests on this premise. A general availability of utilities, particularly if provided at little or no expense to the property owner, does not meet this critical requirement; the*

determinant is the level of private capital involvement on the ground. Development is not inevitable until direct private construction begins in earnest.[18]

The maps adopted by Congress in 1982 and in 1990 sought to exclude intensively capitalized, privately financed development with many lots where a full complement of infrastructure was already available to each lot. The rationale in excluding these subdivisions was that when private funds were used to provide a full complement of infrastructure throughout the subdivision, it was expected the construction of the structures was imminent.[19]

Infrastructure Supporting Prior Uses: When conducting assessments of areas for potential removal from or addition to the CBRS, the Service sometimes encounters areas that contain infrastructure that was put in place long ago to support prior uses (e.g., military facilities, energy facilities, or structures that have since been destroyed by a storm or removed). While future development could potentially access such infrastructure, the Service believes that the intent of the infrastructure criterion is to exclude from the CBRS areas where there is intensive private capitalization for development that is underway (e.g., a subdivision funded by a developer that is under construction). Therefore, the Service may consider for inclusion within the CBRS (and maintaining within the CBRS) areas where infrastructure was put in place to support a prior use.

Additionally, the Service may consider for inclusion within the CBRS (and maintaining within the CBRS) areas where infrastructure was put in place long ago, but structures are still not present and the passage of time has demonstrated that further development is not imminent.

- **Clusters of Structures**
  When determining whether an area was undeveloped and appropriately included (or is appropriate for inclusion) in the CBRS, the Service considers whether a "cluster" of approximately ten or more closely related structures was on-the-ground at the time of inclusion. Volume 1 of the Department's 1988 Report to Congress states:

  Clusters of approximately 10 or more structures are specifically excluded from the unit where the impact of the development on geological and ecological processes is local and confined primarily to the fastland on which the structures are located. A boundary is drawn around the cluster of development to exclude it from the unit.[20]

- **On-the-Ground Versus Planned Development**
  The Service receives many requests for the removal of areas from the CBRS based on the assertion that development was planned and permitted at the time of inclusion. The Department's 1982 definitions and delineation criteria state that:

  Commitments or legal arrangements necessary for and leading toward construction of either structures or infrastructure will not be considered relevant to the development status of coastal barriers except to the degree that they are actually reflected in the existence of structures or infrastructure on the coastal barrier, or portion thereof.[21]

  We have found nothing in the legislative history indicating that Congress intended for the Service to consider permits, approved development plans, or other legal indicators of intent to develop when proposing areas for inclusion within the CBRS. In lieu of providing for the consideration of such plans, the CBRA of 1982 and CBIA of 1990 provided a delay in the date for terminating the availability of new Federal flood insurance as a means of dealing with structures that were already under development on-the-ground at the time of inclusion within the CBRS.[22] The Service continues to consider only development that existed (or exists for new additions) on-the-ground at the time of inclusion.

Base Map Inaccuracies along the CBRS Boundaries

When reviewing an area to determine whether a removal from or addition to the CBRS is warranted, the Service assesses whether the geomorphic, cultural, and/or development features of the area at the time that it was added to the CBRS were depicted with reasonable accuracy on the original base map. If there was a clear error in the depiction of the underlying features on the original base map that resulted in the unintentional inclusion of an area in the CBRS, then the Service may propose that the area be removed (see Figure 33). Similarly, the Service may determine that an addition to the CBRS is warranted in cases where there is a clear error in the depiction of the underlying features on the original base map.

If the underlying features in an area were depicted on the base map with reasonable accuracy, the Service generally will not recommend a removal unless there is clear and compelling evidence that the area did not meet the development criteria (see Figure 34). This criterion only applies along the margins of the units where base map errors affect boundary placement, as any base map errors within the unit will be reviewed according to the development criteria as described above.

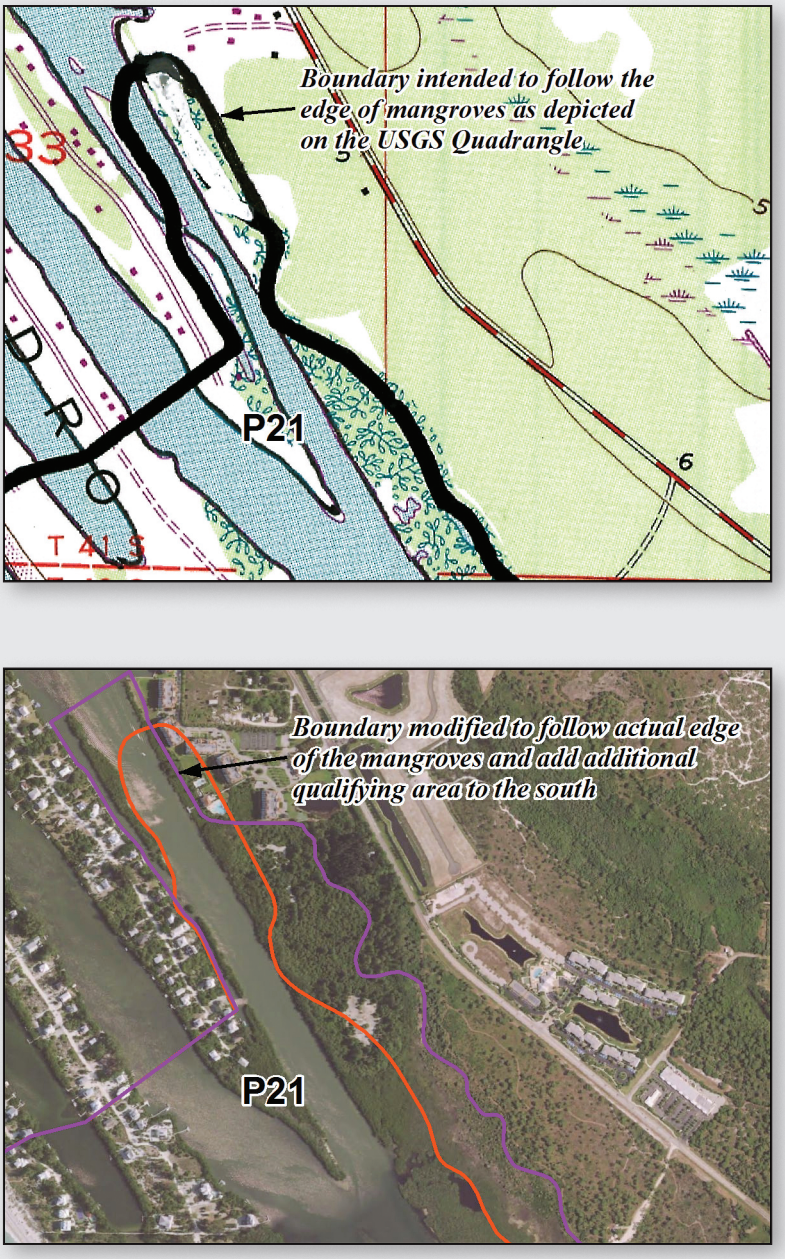

Figure 33. This is an example of an area on the mainland in Florida Unit P21 that was inaccurately depicted as mangroves on the original base map (upper right) and was therefore included within the CBRS on the premise that it was part of the associated aquatic habitat of the coastal barrier system. Historical imagery and information provided to the Service by Charlotte County shows that this mangrove symbology was inaccurate at the time the CBRS map for this area was created in 1990. This is a base map error, and the Service's final recommended boundary (shown in purple) would remove the area that was misrepresented as mangroves in the northern part of the unit and add additional qualifying undeveloped areas to the south (lower right).

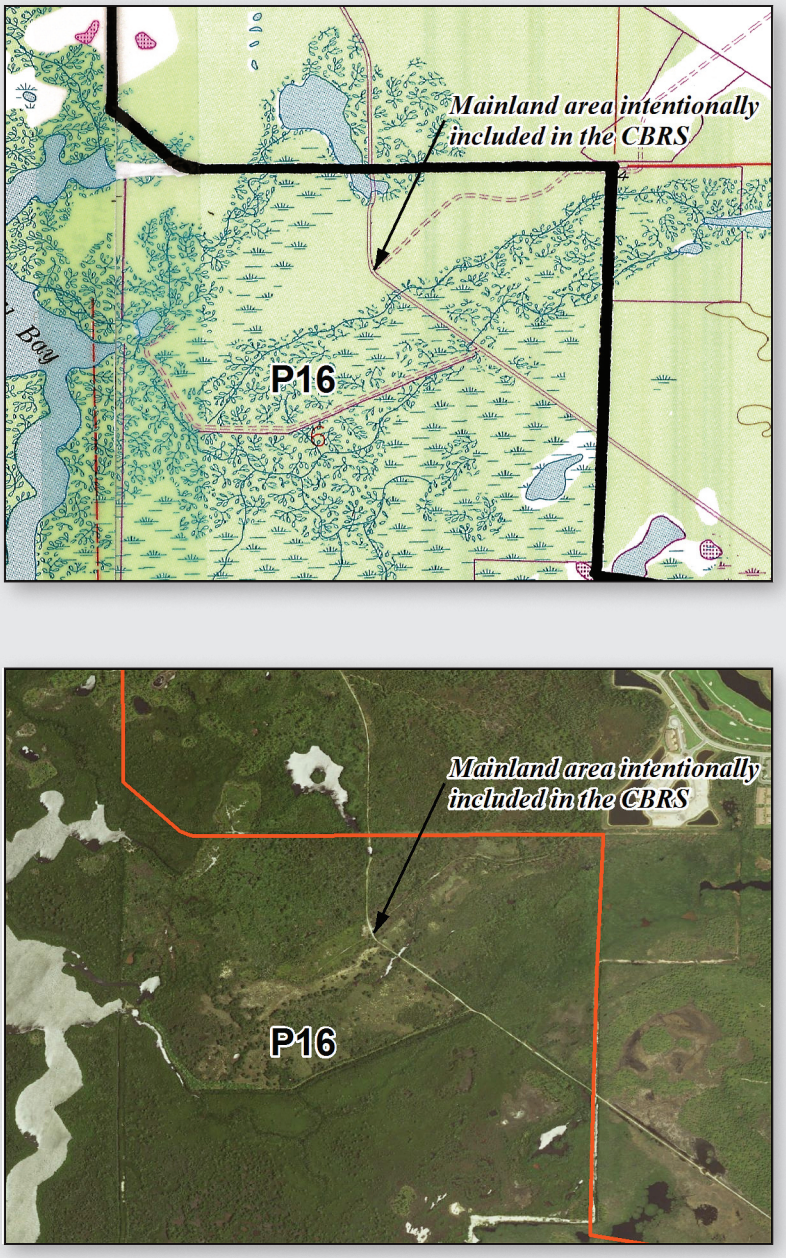

Figure 34. This is an example of an area on the mainland in Florida Unit P16 that was depicted on the original base map (upper left) with reasonable accuracy and was purposefully included within the CBRS. In such cases, a removal may not be appropriate so long as the development criteria were appropriately applied.

[1] See endnote 15 in Chapter 4.

[2] Section 4(c)(3)(D) of Pub. L. 109-226

[3] See endnote 14 in Chapter 4.

[4] See endnote 1 in Chapter 4.

[5] 48 FR 54542

[6] 16 U.S.C. 3502(1)

[7] The Service's records include copies of the majority of the maps from the 1988 Report to Congress: Coastal Barrier Resources System, recommending modifications to the CBRS that were reviewed by Congress in 1990, just prior to enactment of the CBIA. Many of these maps contain evidence of additional modifications made to the boundaries by the Congressional committees, some of which included mainland areas within the CBRS (e.g., Units SC-03, VA-55, VA-58, and PR-41).

[8] House Report 97-841, Part 1

[9] Prior to the enactment of the CBRA, the Department was tasked with mapping undeveloped coastal barriers for Congressional consideration. The definitions and delineation criteria were published on August 16, 1982, in the *Federal Register* (47 FR 35696). These criteria were later codified by Pub. L. 106-514.

[10] See endnote 15 in Chapter 4.

[11] Senate Report 106-252

[12] The Service generally considers the on-the-ground conditions at the time the area was included within the CBRS (either by an act of Congress or by an administrative action of the Service that is published in the *Federal Register*). However, in the case of areas that were included by the CBRA of 1982 (Pub. L. 97-348), the Service uses March 15, 1982, as the cutoff date for its analysis of ground conditions as specified in guidance published in the *Federal Register* on August 16, 1982 (47 FR 35696).

[13] See endnote 3 in Chapter 5.

[14] See endnote 3 in Chapter 5.

[15] See endnote 3 in Chapter 5.

[16] Page 102 of: DOI, Coastal Barriers Study Group. 1988. Report to Congress: Coastal Barrier Resources System with recommendations as required by Section 10 of the Public Law 97-348, the Coastal Barrier Resources Act of 1982. Volume 1 in Report to Congress: Coastal Barrier Resources System. U.S. Department of the Interior, Washington, D.C. 265 pp.

[17] See endnote 3 in Chapter 5.

[18] DOI. 1982. Inventory of Undeveloped and Unprotected Barrier Beaches of the U.S. Atlantic and Gulf Coasts.

[19] Page II-9 of the Department's 1988 Final Supplemental Legislative Environmental Impact Statement on the Proposed Changes to the Coastal Barrier Resources System reiterates this policy: "Physical evidence that infrastructure is in place to each unit in the development must be present before an area is considered developed. This infrastructure must be provided by the developer, thereby demonstrating his commitment to imminent construction."

[20] Page 113 of: DOI, Coastal Barriers Study Group. 1988. Report to Congress: Coastal Barrier Resources System with recommendations as required by Section 10 of the Public Law 97-348, the Coastal Barrier Resources Act of 1982. Volume 1 *in* Report to Congress: Coastal Barrier Resources System. U.S. Department of the Interior, Washington, D.C. 265 pp.

[21] See endnote 3 in Chapter 5.

[22] Section 3(3)(E) of Pub. L. 97-348 and Section 9 of Pub. L. 101-591

CHAPTER 7: Next Steps and Conclusions

Section 3(c)(2) of the 2006 CBRRA requires that this final report contain recommendations for the adoption by Congress of the final recommended digital maps created under the pilot project. Section 3(c)(4) of the 2006 CBRRA requires that this report contain a summary and update of the findings of the initial pilot project report required under Section 6(d) of the 2000 CBRRA (i.e., the extent to which the data necessary to complete digital mapping of the entire CBRS are available, the need for additional data and cooperative agreements to complete digital mapping of the entire CBRS, and the amount of funding necessary to complete digital mapping of the entire CBRS).

This chapter contains: (1) a recommendation to Congress for adoption of the final recommended pilot project maps; (2) next steps to comprehensively modernize the remainder of the CBRS; and (3) conclusions from the pilot project.

Adoption of the Final Recommended Pilot Project Maps

The Service recommends that Congress adopt the final recommended maps for the 65 CBRS pilot project units in Appendix C. The final recommended maps remove areas that were inappropriately included within the CBRS decades ago, while also adding undeveloped lands and associated aquatic habitat that meet the CBRA criteria for inclusion within the CBRS. These comprehensively revised maps were prepared using modern cartographic tools and techniques, and draft versions were reviewed by interested stakeholders through a 120-day public comment period. The Service assessed the comments received during the public comment period and made appropriate adjustments to the draft maps based on the CBRA criteria, objective mapping protocols, and the best available data. The unit summaries in Appendix C describe the extent to which the boundary lines on the final recommended maps differ from both the existing controlling maps and the proposed maps that were included in Appendix D of the 2008 pilot project report. Significant issues raised during the public comment period and modifications to existing mapping protocols are described in Chapter 4. Responses to unit-specific comments are included in Appendix E. The final recommended maps and related information can also be found on the Service's website at: *http://www.fws.gov/ecological-services/habitat-conservation/cbra/Act/Pilot.html*.

The Service's final recommended maps will become effective only if adopted by Congress through legislation. Because coastal barriers are highly dynamic areas that are subject to continual geomorphic change and development conditions on-the-ground are also subject to change, the Service recommends that Congress adopt the maps contained in Appendix C in a timely manner. Delays in the adoption of the final recommended maps may necessitate updated reviews by the Service of on-the-ground conditions that can be time and resource intensive.

Next Steps to Comprehensively Modernize the Remainder of the CBRS

The CBRA is a map-based law, and although most of the CBRS maps have been modernized through the digital conversion effort and are now more accurate and easier to use, some of them may still contain legitimate errors that warrant a comprehensive review and remapping by the Service.

Through fiscal year 2016, the Service has created comprehensively modernized maps for approximately 15 percent of the total CBRS acreage (about 100 units including the pilot project maps). The Service has a project underway to prepare comprehensively revised draft maps for all CBRS units in eight northeastern States affected by Hurricane Sandy (about 370 units comprising approximately 15 percent of the total acreage of the CBRS), and will create comprehensively revised maps for additional CBRS units given the availability of resources for this effort. The estimated cost for completing comprehensively revised maps for the remainder of the CBRS (about 400 units comprising approximately 70 percent of the CBRS acreage) is about $5 million.

The Service continues to make progress on the significant backlog of requests from property owners and other interested parties who seek technical correction reviews and revised maps to remove land from the CBRS.[1] The Service does not support removing land from the CBRS unless there is compelling evidence that a mapping error was made (see Chapter 6 for additional information concerning the guiding principles and criteria the Service applies when reviewing such requests). In cases where mapping errors are found, the Service will continue to produce comprehensively revised maps for Congressional consideration that remove areas that were included in error and also add qualifying areas to the CBRS.

Digital Data Needs and Availability

Chapter 3 and Appendix B of the Service's 2008 pilot project report described: (1) the cooperative

agreements that will be necessary to complete the digital mapping of the entire CBRS; (2) the extent to which the data necessary to complete digital mapping of the entire CBRS are available; and (3) the need for additional data to complete digital mapping of the entire CBRS. Since the majority of the data mining for the 2008 report was conducted, there have been significant advances in GIS technology and the availability of data. The vast majority of GIS data necessary to complete digital mapping of the CBRS is now available free of charge in the public domain through venues such as the Federal Government's open data warehouse "www.data.gov,"[2] NOAA's Digital Coast,[3] and local and State government geographic data warehouses, or through enterprise subscription services that the Service already has access to such as ArcGIS Online[4] and DigitalGlobe EnhancedView.[5] Data licensing agreements are seldom needed, except in the case of digital property parcel data from some local governments. Infrastructure data, typically comprised of historical documentation (e.g., inspection documents and record drawings) dating back to the 1980's or 1990's, remains difficult to obtain.

Costs

The Service's cost estimate for completing comprehensively revised maps for the remaining approximately 70 percent of the CBRS acreage is about $5 million. The average cost per unit is anticipated to be about $12,000. This average cost per unit is taking into consideration the economy of scale of conducting large mapping projects.

The Service's 2008 pilot project report previously estimated the cost of producing comprehensively revised maps for the remainder of the CBRS to be, on average, $18,000 per unit or up to $17 million for the entire CBRS.[6] The Service has revised and reduced that cost estimate due to the following factors:

(1) significant advances in GIS technology and data availability since the publication of the initial 2008 report have made obtaining aerial imagery and other data necessary for the production of the CBRS maps far less labor intensive;

(2) modifications and efficiencies in the methodology used for acreage calculations (including reliance on NWI data for the wetland/fastland breakdown);

(3) modifications to the Service's protocol for System Unit versus OPA classification and reclassification;

(4) a partnership with FEMA facilitated updates to most of the CBRS maps through the digital conversion effort (more than 90 percent of the total CBRS acreage will be digitally converted by the end of 2016); and

(5) the Department funded a $5 million project to prepare comprehensively revised maps for the CBRS units in eight northeastern States affected by Hurricane Sandy (comprising approximately 15 percent of the total acreage of the CBRS).[7]

It should be noted that when completed in small batches, the average cost per unit is typically higher. Delays in the adoption of the revised maps may necessitate updated reviews by the Service of on-the-ground conditions, which also increases costs.

Conclusions

It has been more than 30 years since the CBRA was enacted. This common sense approach to conservation has successfully reduced the intensity of development along some of our Nation's most vulnerable and ecologically sensitive coastlines, without increasing Federal regulatory involvement. In passing the CBRA, Congress recognized that certain actions and programs of the Federal Government had historically subsidized and encouraged development on coastal barriers, resulting in the loss of natural resources; threats to human life, health, and property; and the expenditure of millions of tax dollars each year. In his *Statement on Signing the Coastal Barrier Resources Act (October 18, 1982)*, President Ronald Reagan stated that "the CBRA meets a national problem with less Federal involvement, not more…with enactment of this landmark legislation, the Nation takes a major step forward on the road to restoring a sound fiscal and environmental balance to the programs of the Federal Government."

The CBRA has saved American taxpayers well over $1 billion in its first three decades,[8] and continues to save taxpayer dollars and benefit important habitats for fish and wildlife, including migratory birds and many threatened and endangered species, by removing the Federal incentive to develop and redevelop the areas of the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts that are part of the CBRS.

In 2008, the Service completed the first phase of the pilot project, which included draft maps for 70 CBRS units and an accompanying report to Congress. The pilot project maps were revised to incorporate any appropriate changes based on public input and objective mapping protocols, and are included in this report as the Service's final recommended maps for Congressional consideration. The pilot project now contains 65 units (six units were removed from the pilot project and one unit was added after publication of the first report). This report contains a summary of the comments received from government officials and the public regarding the draft maps and the Service's responses to those comments. The maps contained in this report address clear mapping errors that have unintended negative effects on property owners and add qualifying areas to the CBRS. These maps will become effective only if adopted by Congress through legislation. The Service strongly recommends that Congress adopt the final recommended pilot project maps.

The Service has made significant strides since 2014 in conducting a digital conversion of most of the CBRS maps, but some CBRS maps still contain legitimate errors that warrant a comprehensive review

and correction. Comprehensive map modernization allows for the correction of errors that negatively affect property owners and expansion of the CBRS to include eligible undeveloped land and associated aquatic habitat. This report contains updates to mapping protocols and provides a set of guiding principles and criteria for assessing modifications to the CBRS that will guide our mapping efforts well into the future. The Service supports map modernization and will continue to prepare comprehensively revised maps for remaining areas within the CBRS as resources are made available for this effort.

Today the CBRA is more relevant than ever before. The costs of armoring vulnerable shorelines, replenishing eroded beaches, rebuilding washed out roads, dredging channels, and subsidizing coastal flood insurance will only continue to increase with projected increases in sea level rise and storm surge, and the increased frequency and severity of storms impacting our coasts. This report highlights the importance of the Service's continuing efforts to bring the CBRS maps into the digital age and provide user-friendly information to a wide range of stakeholders, including other Federal agencies, State and local officials, property owners, developers, and others.

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[1] In fiscal year 2016, the Service had a backlog of requests to conduct technical correction reviews of more than 25 CBRS units (not including units affected by the pilot project or the Hurricane Sandy project), the earliest of which was received in 2002.

[2] See endnote 12 in Chapter 2.

[3] See endnote 13 in Chapter 2.

[4] See endnote 14 in Chapter 2.

[5] Under the EnhancedView program, the National Geospatial-Intelligence Agency acquires imagery and imagery-derived products on behalf of its clients within the U.S. government. This program provides authorized U.S. government personnel cost-effective, preemptive access to unclassified high-resolution satellite imagery. EnhancedView is designed to promote collaboration within the U.S. government for national security, homeland defense, and disaster and emergency response situations. The imagery can also be readily shared with other collaborators, such as international coalition partners and non-government support and relief organizations. *https://dg-cms-uploads-production.s3.amazonaws.com/uploads/document/file/6/DG_EVWHS_DS.pdf*

[6] USFWS. 2008. Chapter 6: Costs, Next Steps, and Conclusions In Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project. Arlington, VA.

[7] See endnote 10 in Chapter 2.

[8] See endnote 19 in Chapter 1.

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*White Ibis (**Eudocimus albus**) at Pelican Island National Wildlife Refuge. (Credit: Keenan Adams, USFWS)*

APPENDIX A: Glossary

Accretion: An accumulation of sediments along a shoreline.

Associated aquatic habitat: Aquatic habitat associated with coastal barriers, including the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters.

Barrier islands: Coastal barriers completely detached from the mainland. Barrier spits may become barrier islands if their connection to the mainland is severed by creation of a permanent inlet. The barrier island represents a broadened barrier beach, commonly sufficiently above high tide to have dunes, vegetated zones, and wetland areas.

Barrier spits: Coastal barriers that extend into open water and are attached to the mainland at only one end. They can develop into bay barriers if they grow completely across a bay or other aquatic habitat. Alternatively, bay barriers can become spits if an inlet is created.

Bathymetry: The underwater equivalent to topography.

Bay barriers: Coastal barriers that connect two headlands and enclose a pond, marsh, or other aquatic habitat. The terms bay mount bar or bay bar are considered to be synonymous.

Break-in-development: Where development ends, either immediately adjacent to the last structure in a cluster of structures or at the property parcel boundary of the last structure.

CBRA prohibition date: The date on which all prohibitions on Federal expenditures and financial assistance (e.g., beach nourishment, dredging, and disaster assistance) within the CBRS, excluding Federal flood insurance, first took effect. The CBRA prohibition date is the date upon which the area was first included within a System Unit of the CBRS, either the date of the law for areas added through Congressionally-adopted maps or the date of the *Federal Register* notice for areas added through the Service's administrative authorities.

Coastal Barrier Improvement Act (CBIA) (Pub. L. 101-591): This law, enacted in 1990, reauthorized the CBRA through fiscal year 1993, made modifications to existing units, added a new type of unit called Otherwise Protected Areas (OPAs), and expanded the CBRS to include areas along the Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts.

Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348): This law, enacted in 1982, designated relatively undeveloped coastal barriers along the Atlantic and Gulf of Mexico coasts as part of the Coastal Barrier Resources System (CBRS), and made these areas ineligible for most new Federal expenditures and financial assistance. The three purposes of this law are to minimize the loss of human life, conserve natural resources associated with coastal barriers, and save taxpayers' dollars.

Coastal Barrier Resources Reauthorization Act of 2000 (Pub. L. 106-514): This law, enacted in 2000, reauthorized the CBRA through fiscal year 2005, and directed the Secretary of the Interior (Secretary) to: (1) conduct a digital mapping pilot project by remapping 50-75 CBRS areas using digital technology and preparing an accompanying report to Congress; and (2) submit to Congress an economic assessment of the CBRS. It also codified the criteria for assessing the development status of a coastal barrier.

Coastal Barrier Resources Reauthorization Act of 2005 (Pub. L. 109-226): This law, which was actually enacted in 2006, reauthorized the CBRA through fiscal year 2010, and directed the Secretary to (1) conduct a public review of the draft pilot project maps and submit the final recommended maps and accompanying report to Congress, and (2) modernize the remainder of the CBRS maps using digital technology.

Coastal Barrier Resources System (see ***John H. Chafee Coastal Barrier Resources System***)

Comprehensive map modernization: One of two processes through which the Service modernizes maps of the CBRS. The comprehensive map modernization approach requires a thorough review process and generally follows these steps: (1) research by the Service into the intent of the original boundaries and the development status on-the-ground at the time the areas were originally included within the CBRS (the Service generally does not

recommend removal of areas from the CBRS unless there is compelling evidence that a mapping error was made); (2) preparation of draft revised maps by the Service; (3) public review of the draft maps; (4) preparation of final recommended maps by the Service that take into consideration information provided during the public comment period; and (5) Congressional enactment of legislation to make the revised maps effective.

Consistency consultation: The process required of a Federal agency under the CBRA (16 U.S.C. 3505(a)) prior to making Federal expenditures or financial assistance available within the CBRS; consultation is with the U.S. Fish and Wildlife Service (Service).

Digital conversion: One of two processes through which the Service modernizes maps of the CBRS. Through the digital conversion effort, the existing CBRS boundaries are: (1) transferred and fitted to updated base maps (i.e., a recent aerial image) to ensure that the boundaries correspond with the natural or development features they are clearly intended to follow on the official maps (such adjustments are generally within the width of the existing CBRS boundary); (2) modified to reflect any natural changes that have occurred since the maps were last updated (this is known as the "five-year review") and to incorporate any voluntary additions and excess Federal property within the CBRS; and (3) in limited circumstances, modified to correct any administrative errors made in the past either in (a) the transcription of the boundaries from maps that were reviewed and approved by Congress to the official CBRS maps on file with the Service or (b) the previous inclusion of unqualifying (e.g., developed) areas to the CBRS through a five-year review map modification to account for natural changes. The revised maps prepared through the digital conversion process undergo stakeholder review by Federal, State, and local officials, and are made effective administratively by the Service through a notice of final map availability published in the *Federal Register*.

Fastland: The portion of a coastal barrier between the mean high tide line on the ocean side and the upper limit of tidal vegetation (or, if such vegetation is not present, the mean high tide line) at the rear of the coastal barrier.

Five-year review: The CBRA (16 U.S.C. 3503(c)) directs the Secretary to conduct, at least once every five years, a review of the CBRS maps and make minor and technical modifications to the CBRS boundaries as are necessary to reflect changes that have occurred in the size or location of any CBRS unit as a result of natural forces.

Flood insurance prohibition date: The date on or after which the issuance of Federal flood insurance coverage through the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) is prohibited for new construction or substantial improvements of existing structures located within the CBRS. Any structure built or substantially improved on or after the prohibition date is ineligible for Federal flood insurance. The flood insurance prohibition date for areas added to the CBRS by Congressionally-adopted maps is either the date of the law that first included the area within the CBRS or another date that was specified in the law. The flood insurance prohibition dates for areas added through the Service's administrative authorities is the date of the *Federal Register* notice that announced the modifications to the CBRS map(s).

Flood Insurance Rate Map (FIRM): The official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community. The FIRM is the basis for floodplain management, mitigation, and insurance activities of the NFIP.

Geographic Information System (GIS): A system designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.

Geomorphic: Of or resembling the Earth or its shape or surface configuration.

Inholding: Developed or undeveloped private tracts of land that are not held for conservation or recreation purposes by their owners, and are contained within the exterior boundaries of the areas held primarily for wildlife refuge, sanctuary, recreation, or natural resource conservation purposes.

John H. Chafee Coastal Barrier Resources System (CBRS): A geographic system, established by the CBRA of 1982, that consists of the undeveloped coastal barriers and other areas located on the coasts of the U.S. that are identified and generally depicted on the maps on file with the Secretary entitled "John H. Chafee Coastal Barrier Resources System." The CBRS was renamed the "John H. Chafee Coastal Barrier Resources System" by Pub. L. 106-167 in 1999 to honor the late Senator Chafee.

Metadata: "Data about data." It describes the content, quality, condition, and other characteristics of data. Metadata are used to organize and maintain investments in data, to provide information to data catalogs and clearinghouses, and to aid data transfers.

National Flood Insurance Program (NFIP): A Federal program administered through FEMA which enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance was designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

National Wetlands Inventory (NWI): A Federal program administered through the Service which provides information to the public on the extent and status of the Nation's wetlands. NWI has developed a series of topical maps to show wetlands and deepwater habitats. These maps have been used extensively to make resource management decisions at the Federal, State and local government levels.

Orthorectification: The process of adjusting an aerial photograph to ensure the proper perspective of features in the image relative to their true position on the Earth's surface.

Otherwise Protected Area (OPA): An undeveloped coastal barrier within the boundaries of an area established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes that is included within the CBRS. The only Federal funding prohibition within OPAs is on Federal flood insurance.

Prograding: The seaward migration of a shoreline.

Property determination: A determination made by the Service of whether or not a specific property is located within the CBRS. The Service's determination is based upon the official CBRS map of the area and is used by the insurance agent and the NFIP to determine the Federal flood insurance eligibility for the property in question.

System Unit: Any undeveloped coastal barrier, or combination of closely-related undeveloped coastal barriers, included within the CBRS. Most new Federal expenditures and financial assistance, including Federal flood insurance, are prohibited within System Units.

Technical correction: A correction to a CBRS map to fix a legitimate mapping error. Such corrections are done on a case-by-case basis and the updated maps become effective through legislation enacted by Congress. When the Service makes a technical correction to a map we look at the entire affected CBRS unit(s) and prepare a new comprehensively modernized map for the area.

Tombolos: Coastal barriers that are sand or gravel beaches and connect one or more offshore islands to each other or to the mainland. Coastal barriers of this type occur principally in New York and New England. The terms connecting bar, tie bar, and tying bar are synonymous.

USGS topographic quadrangle: A four sided map produced by the U.S. Geological Survey that is bounded by parallels of latitude and meridians of longitude and displays elevation contours, physical features, and cultural features.

APPENDIX B: Summary of Historical Changes to the Coastal Barrier Resources System

Table 3. Summary of Historical Changes to the Coastal Barrier Resources System

Effective Date[1]	*Public Law*[2]	*Federal Register Notice*[2]	*Affected Unit(s)*	*Map Date*	*Additional Comments*
8/13/1981	Omnibus Budget and Reconciliation Act (Pub. L. 97-35 Sec. 341(d))	46 FR 58346			The Omnibus Budget and Reconciliation Act (OBRA) prohibited new flood insurance coverage on or after October 1, 1983, for new construction or substantial improvements located on undeveloped coastal barriers which were to be designated by the Secretary of the Interior (Secretary).
10/18/1982	Coastal Barrier Resources Act (Pub. L. 97-348)	47 FR 52388	186 CBRS units in Maine, Massachusetts, Rhode Island, Connecticut, New York, Delaware, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas were established. See *Federal Register* for full list of affected units	9/30/1982	The Coastal Barrier Resources Act (CBRA) established the Coastal Barrier Resources System (CBRS) and prohibited new Federal expenditures and financial assistance (with limited exceptions as specified by the Act) within the units of the CBRS. The CBRA superseded the OBRA, resulting in CBRS units that were established by law rather than by an administrative action of the Secretary.
12/31/1982	Pub. L. 97-396		T02A and T03A (formerly T02 and T03, respectively)	12/8/1982	
4/22/1983		48 FR 17406	A01A, A03C, C03A, C19A, C31, D02, D04, E02, F04,H00, L01, M09, P11, P18, P23, S01A, S02, S03, S05, S06, S07, S08, S09, S10, T02A, T03A, T11	4/18/1983	Changes made administratively under Section 4(c) of Pub. L. 97-348 went into effect. This section allowed for minor and technical boundary modifications subsequent to the passage of the CBRA. Several of the units were revised for reasons other than boundary modifications, such as changes to the map scale.
11/23/1988	Great Lakes Coastal Barrier Act (Pub. L. 100-707)				The Great Lakes Coastal Barrier Act added a provision to the CBRA for the identification and addition to the CBRS of undeveloped coastal barriers along the shores of the Great Lakes.
11/16/1990	Coastal Barrier Improvement Act (Pub. L. 101-591)	56 FR 26304	Most of the CBRS units created in 1982 were affected. New CBRS units and Otherwise Protected Areas (OPAs) were established along the Great Lakes, Atlantic, and Gulf coasts, as well as in the Florida Keys, Puerto Rico and the U.S. Virgin Islands.	10/24/1990	The Coastal Barrier Improvement Act (CBIA) reauthorized the CBRA and amended CBRA to modify existing units and expand the CBRS.
10/23/1992	Pub. L. 102-440	58 FR 60288	NC-01 (formerly NC-01P), NC-05P, VA-60, VA-60P	10/23/1992	
11/15/1993		58 FR 60288	114 CBRS units in Massachusetts, Rhode Island, Connecticut, New York, Delaware, North Carolina, South Carolina, Georgia, Florida, Louisiana, Puerto Rico, Virgin Islands, Ohio, and Michigan were modified. See *Federal Register* for full list of affected units.	10/15/1992	Changes made administratively under Section 4(e) of Pub. L. 101-591 went into effect. This section allowed for minor and technical boundary modifications subsequent to the passage of the CBIA. Several of the units were revised for reasons other than boundary modifications, such as changes in map symbols.
11/2/1994	Pub. L. 103-461	60 FR 10268	NY-75, VA-62P, FL-05P, P11A, FL-15, FL-36P, P17, P17A, P18P, P19P, FL-72P, P31P, FL-95P, AL-01P, MI-21	11/2/1994	
5/24/1996	Pub. L. 104-148	62 FR 19125	NY-59P	5/24/1996	
10/9/1996	Pub. L. 104-265	62 FR 19125	SC-01	10/9/1996	
11/12/1996	Pub. L. 104-333	62 FR 28891	P05, P05A, P10, P11, P11A, P18, P25, P32, P32P	11/12/1996	Changes made by Pub. L. 104-333 were later invalidated by the U.S. Federal District Court of DC.
2/24/1997		62 FR 8258	ME-17, ME-18, MA-03, C01B, MA-20P, MA-24, C28, C31, D02B, NY-04P, NY-50, F10, NJ-09, MD-03, MD-37P, MD-38, VA-09, VA-23, VA-36, L07, L09, P16, P17, FL-89, FL-99, FL-101, Q01A, VI-07	7/12/1996	Changes made administratively under Section 3 of Pub. L. 101-591 went into effect. This section allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

[1] The date in the Effective Date column is the date of the Pub. L., or the date of the *Federal Register* notice (in the cases where the Pub. L. is blank).

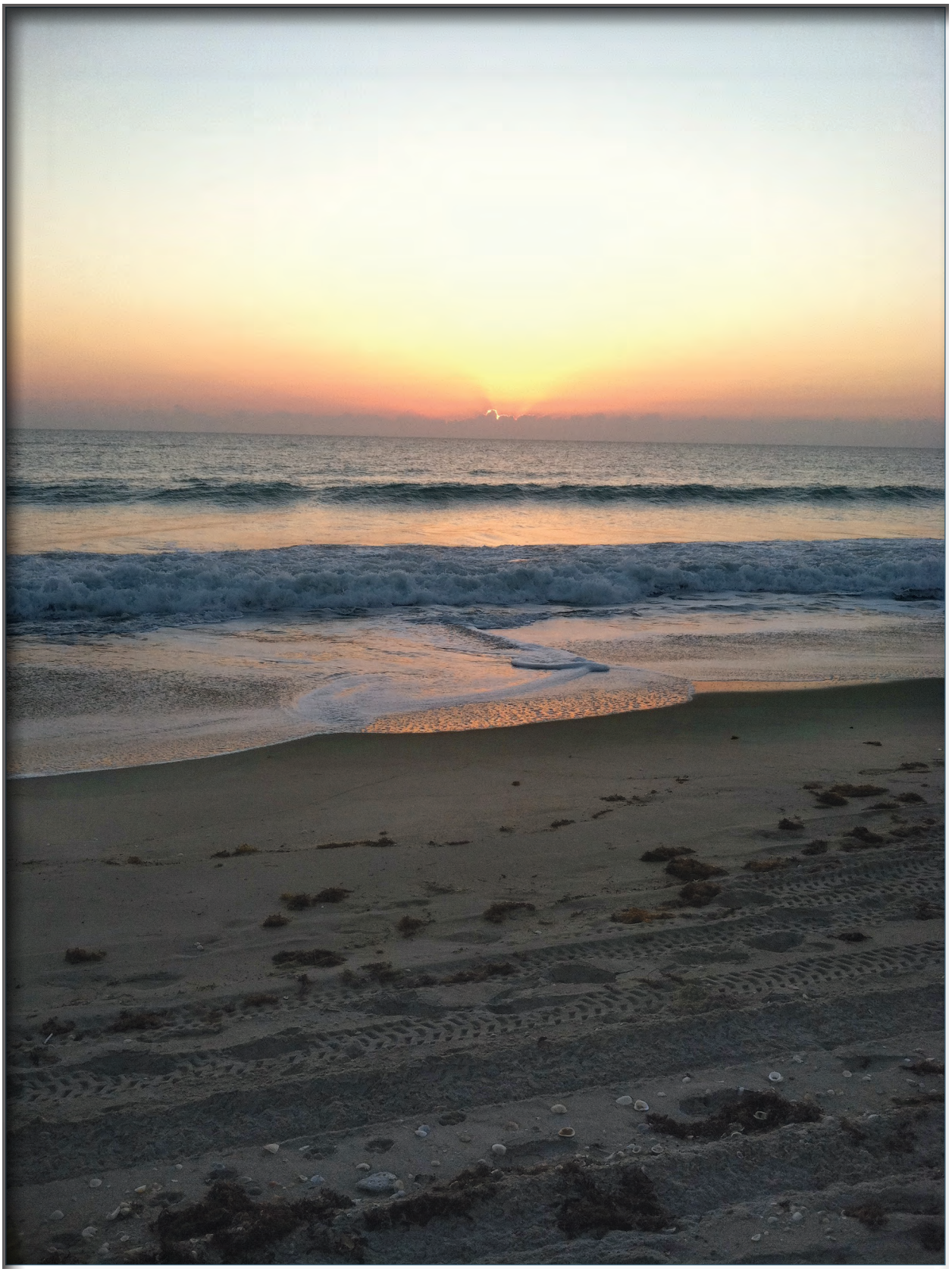
[2] Links to all cited Public Laws and *Federal Register* Notices are available at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Historical_Changes_to_CBRS.html*

Table 3. Summary of Historical Changes to the Coastal Barrier Resources System (continued)

Effective Date[1]	*Public Law*[2]	*Federal Register Notice*[2]	*Affected Unit(s)*	*Map Date*	*Additional Comments*
3/5/1998			P05, P05A, P10, P11, P11A, P18, P25, P32, P32P		The 11/12/1996 maps revised by Pub. L. 104-333 were invalidated by court order from the U.S. Federal District Court of DC.
10/21/1998	Pub. L. 105-277	64 FR 41940	P05, P05A, P10, P11, P11A, P18, P25, P32, P32P, FL-35, FL-35P, SC-03, M09	11/12/1996 and 10/21/1998	Pub. L. 105-277 reinstated the 11/12/1996, maps revised by Pub. L. 104-333 that were previously invalidated by court order and revised four additional units.
11/29/1999	Pub. L. 106-116	65 FR 17671	L03, NC-03P	10/18/1999	
12/6/1999	Pub. L. 106-128	65 FR 17671	DE-03P	12/6/1999	
12/9/1999	Pub. L. 106-167				Pub. L. 106-167 redesignated the Coastal Barrier Resources System as the John H. Chafee Coastal Barrier Resources System.
10/19/2000	Pub. L. 106-332	66 FR 10735	NC-01	10/19/2000	
10/27/2000	Pub. L. 106-360	66 FR 10734	P19, P19P	10/27/2000	
11/13/2000	Pub. L. 106-514				The 2000 Coastal Barrier Reauthorization Act (CBRRA) mandated a digital mapping pilot project, covering no more than 75 units and no fewer than 50 units, to determine the feasibility and cost of creating digital maps for the entire CBRS.
2/20/2003	Pub. L. 108-7	68 FR 38087	VA-59P, VA-60, VA-60P	2/20/2003	
12/1/2003	Pub. L. 108-138	72 FR 54278	T07, T07P	12/1/2003	
10/18/2004	Pub. L. 108-339	72 FR 54278	NC-07P	10/18/2004	
10/30/2004	Pub. L. 108-380	72 FR 54278	P25	10/30/2004	
5/25/2006	Pub. L. 109-226				The 2006 CBRRA directed the Service to finalize the pilot project and to prepare digital maps for the rest of the CBRS, including recommendations for expansion.
10/16/2006	Pub. L. 109-354	72 FR 54278	GA-06P	10/16/2006	
10/16/2006	Pub. L. 109-355	72 FR 54278	FL-95P, FL-96	10/16/2006	
10/15/2008	Pub. L. 110-419	74 FR 15743	FL-64P	10/15/2008	
4/17/2014		79 FR 21787	69 CBRS units in Delaware, North Carolina, South Carolina, Florida, and Texas. See *Federal Register* for full list of affected units.	12/6/2013	Changes made administratively under Section 3 of Pub. L. 101-591 went into effect. This section allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces. Unit SC-01 was also modified to reflect a voluntary addition in accordance with Section 4(d) of the CBRA as amended by Section 3 of Pub. L. 106-514.
12/18/2014	Pub. L. 113-253		L07, L08, L09, RI-04P, RI-05P, RI-06, RI-07, FL-70, FL-70P, SC-01, SC-03	12/18/2014	
5/4/2015		80 FR 25314	182 CBRS units in Maine, Maryland, New Jersey, New York, North Carolina, and Virginia. See *Federal Register* for full list of affected units	8/1/2014	Changes made administratively under Section 3 of Pub. L. 101-591 went into effect. This section allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces
2/29/2016	Pub. L. 114-128		P15, P15P, P16, P16P, FL-63P	2/29/2016	
3/14/2016		81 FR 13407	247 CBRS units in Alabama, Florida, Georgia, Louisiana, Michigan, Minnesota, Mississippi, New York (Great Lakes region), Ohio, and Wisconsin. See *Federal Register* for full list of affected units.	1/11/2016	Changes made administratively under Section 3 of Pub. L. 101-591 went into effect. This section allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

[1] The date in the Effective Date column is the date of the Pub. L., or the date of the *Federal Register* notice (in the cases where the Pub. L. is blank).

[2] Links to all cited Public Laws and *Federal Register* Notices are available at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Historical_Changes_to_CBRS.html*



Archie Carr National Wildlife Refuge sunrise. (Credit: Keenan Adams, USFWS)

APPENDIX C: Pilot Project Unit Summaries and Final Recommended Maps

Section 3(c)(1) of the 2006 Coastal Barrier Resources Reauthorization Act (CBRRA) requires that this final report contain the final recommended digital maps created under the Digital Mapping Pilot Project (pilot project). Section 3(c)(4) of the 2006 CBRRA requires that this report contain a summary and update of the findings of the initial pilot project report required under Section 6(d) of the 2000 CBRRA, which included the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps.

This appendix contains the final recommended maps for 65 pilot project units as well as a summary of the recommended changes for each of the units. The pilot project maps depict 56 existing John H. Chafee Coastal Barrier Resources System (CBRS) units, eight new units comprised of areas recommended for reclassification from System Unit to Otherwise Protected Area (OPA) status or vice versa, and one recommended new OPA comprised entirely of areas currently not within the CBRS. Chapter 5 of this report summarizes the results of the pilot project and the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps, including (1) the types of changes to the CBRS boundaries on the pilot project maps; (2) the changes to the pilot project maps that do not affect the CBRS boundaries; and (3) the final recommended acreage, shoreline, and structure changes. Chapter 4 and Appendix E contain a summary of changes to the pilot project maps as a result of the public comments received.

Unit Summaries

The unit summaries in this appendix describe the final recommended changes to the unit boundaries, the associated acreage and shoreline mile changes, and the number of structures recommended for addition to and removal from the CBRS.

The unit summaries in this appendix contain the following information for each of the pilot project units.

- **Type of Unit:** Indicates whether the CBRS area is a System Unit or an OPA.
- **Location of Unit:** Provides the general location of the CBRS unit.
- **Congressional District**: Provides the Congressional District(s) that the CBRS unit is located within.
- **Date of Final Recommended Map(s):** Provides the date of the final recommended map(s) for the CBRS unit. The Service's final recommended pilot project maps are either dated November 20, 2013, or March 18, 2016.
- **Number of Maps:** Provides the number of final recommended maps depicting the CBRS unit. This number may differ from the number of maps that currently depict the existing unit due to repaneling (as described in Chapter 5) and recommended additions to the CBRS.
- **Base Map Imagery Source(s) and Date(s):** Provides the source(s) and date(s) of the underlying aerial imagery used as the base map for the CBRS unit.
- **Establishment of Unit:** Provides the public law number that first established the CBRS unit and the date on which that law was enacted (except in the case of recommended new units). For recommended new units, this section describes the current CBRS status of the area within the unit and the Service's assessment as to whether the area qualifies for inclusion within a System Unit or OPA.
- **Historical Changes to Unit:** Provides a history of changes (if any) to the CBRS unit.
- **Public Comments:** Provides information regarding the 2009 public comment period and where to find a summary of the comments received and the Service's responses.
- **Changes between Proposed and Final Recommended Boundaries:** Describes the changes between the proposed CBRS unit boundaries depicted on the maps included in the initial pilot project report and the final recommended boundaries depicted on the maps included in this appendix. Minor modifications are made to the boundaries of most units in the pilot project. These modifications include the following:
  - better alignment of the boundaries with parcel data;
  - smoothing and simplification of the boundaries (i.e., removing unnecessary detail and refining the boundaries);
  - fitting the boundaries to updated base map imagery (e.g., to better follow roads, wetland/fastland interfaces, vegetative breaks, and shorelines);
  - making the lateral boundaries of the units perpendicular to the shoreline;
  - adjustments to better follow the Service's pilot project protocol on channel mapping (described in Chapter 4 of this report); and
  - adjustments to better follow the Service's updated pilot project protocol on shoreline and development feature buffering (described in Chapter 4 of this report).

- **Final Recommended Changes to Unit/Final Recommended Unit:** Describes the changes that are recommended to the CBRS unit. For recommended new units, this section describes the areas that are recommended for inclusion within the unit.
- **Acreage, Shoreline, and Structures Table:** Provides acreage and shoreline mile changes, and the number of structures recommended for addition to and removal from the CBRS unit.

Final Recommended Maps

The maps contained in this appendix are reduced versions of the final recommended pilot project maps. Because the maps presented in this report are reduced in size by approximately 70 percent, the legibility of the maps is significantly reduced. The final recommended maps can be accessed and downloaded from the Service's website at: *http://www.fws.gov/cbra*.

Each map covers roughly the same area as one 7.5-minute USGS topographic quadrangle map and is produced at a scale of 1 to 24,000. All maps are referenced to the North American Datum of 1983 and use the Universal Transverse Mercator projection, Zones 15 through 18. Additional information about the projection and coordinate system is available below the legend on each map.

The existing and final recommended boundaries are delineated on the maps in this appendix as follows:

- **Existing Boundary:** The existing boundary is shown as a solid red line for System Units and a dashed black and red line for OPAs.
- **Final Recommended Boundary:** The final recommended boundary is shown as a solid purple line for System Units and a dashed black and purple line for OPAs.

Where the solid boundary of a System Unit and the dashed boundary of an OPA are coincident, only the System Unit boundary is shown on the map. Where the existing boundary and the final recommended boundary are coincident, only the final recommended boundary is shown on the map.

Table 4. Page Number of Each Unit Summary and Corresponding Final Recommended Map in this Appendix

Unit	*County/Parish*	*Unit Summary Page #*	*Final Recommended Map(s) Page #*
Delaware			
DE-07*	Sussex	C-4, C-5	C-9
DE-07P	Sussex	C-6, C-7	C-9
H01	Sussex	C-8	C-9
North Carolina			
NC-01	Currituck, Dare	C-10, C-11	C-13
NC-01P*	Currituck	C-12	C-13
NC-05P	Carteret	C-14	C-15
NC-06*	Onslow	C-16, C-17	C-24, C-25
NC-06P	Onslow, Carteret	C-18, C-19	C-24, C-25
L05	Onslow	C-20, C-21	C-25, C-26
L06	Onslow	C-22, C-23	C-26, C-27
South Carolina			
M02	Georgetown	C-28	C-30
M03	Georgetown	C-29	C-30
Florida			
FL-01*	Nassau	C-31	C-33
FL-01P	Nassau	C-32	C-33
P04A	St. Johns	C-34, C-35	C-39
P05	St. Johns	C-36, C-37	C-39
P05P	St. Johns	C-38	C-39
P08	Volusia	C-40, C-41	C-43
P08P*	Volusia	C-42	C-43
FL-13P	Brevard	C-44	C-48
P09A	Brevard	C-45, C-46	C-48
P09AP*	Brevard	C-47	C-48
P10A	Indian River, St. Lucie	C-49, C-50	C-53
FL-14P	St. Lucie	C-51, C-52	C-53
P11	St. Lucie	C-54, C-55	C-57, C-58
P11P*	St. Lucie	C-56	C-57
FL-15	Palm Beach	C-59	C-63
FL-16P	Palm Beach	C-60, C-61	C-63
FL-17P	Palm Beach	C-62	C-63
FL-18P	Palm Beach	C-64	C-65
FL-19P	Broward	C-66	C-67
FL-20P	Broward	C-68, C-69	C-71
Florida (continued)			
P14A	Broward	C-70	C-71
FL-39	Monroe	C-72	C-74
FL-40	Monroe	C-73	C-74
FL-43	Monroe	C-75	C-78
FL-44	Monroe	C-76	C-78
FL-45	Monroe	C-77	C-78
FL-46	Monroe	C-79	C-80
P17A	Lee	C-81	C-85
FL-67	Lee	C-82, C-83	C-85
FL-67P*	Lee	C-84	C-85
P21	Charlotte	C-86, C-87	C-90
P21P	Charlotte	C-88, C-89	C-90
P22	Sarasota	C-91, C-92	C-93
FL-72P	Sarasota	C-94	C-95
FL-73P	Manatee	C-96	C-100
FL-78	Manatee	C-97, C-98	C-100
FL-82	Manatee	C-99	C-100
FL-80P	Manatee	C-101	C-104
FL-81	Hillsborough	C-102	C-104
FL-81P	Hillsborough	C-103	C-104
FL-83	Hillsborough	C-105	C-106
FL-85P	Pinellas	C-107	C-108
P26	Dixie	C-109	C-110
FL-89	Franklin	C-111, C112	C-113
FL-93*	Bay	C-114	C-118
FL-93P	Bay	C-115, C-116	C-118
FL-94	Walton	C-117	C-118
Louisiana			
LA-01	St. Bernard	C-119	C-120
LA-02	St. Bernard	C-121	C-122
S04	Lafourche	C-123	C-125
S05	Terrebonne, Lafourche	C-124	C-125, C-126, C-127
S06	Terrebonne	C-128, C-129	C-130, C-131, C-132
S07	Terrebonne, St. Mary	C-133, C-134	C-135, C-136, C-137, C-138

*Recommended new or reclassified Unit.

John H. Chafee Coastal Barrier Resources System Unit DE-07, Delaware Seashore, Delaware

Summary of Final Recommended Changes

Type of Unit: Recommended new System Unit

Location of Unit: North of Bethany Beach, in Sussex County, Delaware

Congressional District: At Large

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit DE-07 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: Most of the area recommended for inclusion within new System Unit DE-07 is currently within existing Otherwise Protected Area (OPA) Unit DE-07P, which was established by the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). The remainder of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

The U.S. Fish and Wildlife Service's (Service) review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the Coastal Barrier Resources Act (CBRA) definition of an OPA). However, all areas within recommended new Unit DE-07 either qualified as undeveloped coastal barrier at the time they were first included within the CBRS, or for those areas newly added to the CBRS, currently qualify, for inclusion within a System Unit.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit DE-07. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the boundary of the unit is modified to remove from the CBRS about 45 structures in the area within and south of the South Shore Marina community. This area is proposed for reclassification from OPA Unit DE-07P to new System Unit DE-07 on the draft map dated June 12, 2006; however, the Service's assessment indicates that these private properties are appropriate for removal from Unit DE-07P. The boundary of the unit is also modified to include minor portions (an island and an eroding peninsula) of the Delaware Seashore State Park within Unit DE-07 where it is impractical from a mapping perspective to delineate them as OPA.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new System Unit DE-07. Included within this new unit are the following areas: large areas of associated aquatic habitat in Rehoboth Bay and Indian River Bay (primarily open water); privately held lands and associated aquatic habitat on the coastal barrier that are outside the Delaware Seashore State Park boundary and currently within OPA Unit DE-07P; associated aquatic habitat adjacent to the Fresh Pond area of the State Park; and the entirety of Beach Cove. Minor portions of the State Park are included within System Unit DE-07 in cases where it is impractical from a mapping perspective to delineate them as OPA.

There are several developed areas within this new unit that are reclassified from an existing OPA to System Unit including: The Chancellery subdivision and a few other privately owned lots located immediately north of the State Park; Zacharias Cove subdivision; and Wharton's Cove subdivision. The Service's assessment indicates that these areas met the CBRA criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) at the time they were originally included within the CBRS and therefore are not appropriate for removal.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit DE-07, Delaware Seashore, Delaware (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastand Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	194	0	194		0
Removed from the CBRS	0	0	0		0
Reclassified Area	5,164	51	5,113	0.0	
Final Recommended Unit	5,358	51	5,307	0.1	
Net Change	5,358	51	5,307	0.1	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit DE-07P, Delaware Seashore, Delaware

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: North Bethany Beach, in Sussex County, Delaware

Congressional District: At Large

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit DE-07P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit DE-07P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the boundary of Unit DE-07P (via notice published in the *Federal Register* (79 FR 21787) on April 17, 2014) to account for shoreline erosion at the tip of Cedar Neck. This modification was made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit DE-07P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. The boundary of the unit is also modified to include within OPA Unit DE-07P minor portions of private property where it is impractical to delineate them as System Unit. Similarly, minor portions of the Delaware Seashore State Park are included within System Unit DE-07 where it is impractical to delineate them as OPA. A boundary is also added along the shoreline of the excluded area between Units DE-07P and H01, which closes it off at the shoreline and adds nearshore waters to Unit DE-07P.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit DE-07P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit DE-07P to remove from the CBRS numerous private properties and associated structures, including: five structures within and west of Rehoboth Indian Beach development; about 45 structures within and south of the South Shore Marina community; about 37 structures within Breakwater Beach subdivision; and one structure within Cotton Patch Hills subdivision.

The boundary of the unit is also modified to align with the boundary of Delaware Seashore State Park and to add to the CBRS the State Park's acquisition of the Fresh Pond area. The addition of the Fresh Pond area of the State Park includes a Delmarva Power electrical facility, but because the only prohibition within OPAs is on Federal flood insurance, it will not be affected by its inclusion within the unit. Minor portions of the State Park are included within adjacent System Unit DE-07 where it is impractical to delineate them as OPA. Similarly, minor portions of private property are included within Unit DE-07P where it is impractical to delineate them as System Unit.

Areas that are not within the State Park and are currently within OPA Unit DE-07P, including the open water areas and associated aquatic habitat in Rehoboth Bay and Indian River Bay, and the privately held lands and associated aquatic habitat on the coastal barrier that were undeveloped at the time the unit was established, are recommended for reclassification to System Unit DE-07. The Service's review found no documentation indicating that these areas are held for conservation and/or recreation (in accordance with the Coastal Barrier Resources Act definition of an OPA); however, they do meet the criteria for a System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit DE-07P, Delaware Seashore, Delaware (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	7,400	866	6,534	6.8	N/A
Added to the CBRS	699	408	291		1
Removed from the CBRS	78	38	40		88
Reclassified Area	(5,164)	(51)	(5,113)	0.0	
Final Recommended Unit	2,857	1,185	1,672	7.0	
Net Change	(4,543)	319	(4,862)	0.2	(87)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit H01, North Bethany Beach, Delaware

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Bethany Beach, in Sussex County, Delaware

Congressional District: At Large

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit H01 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit H01.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the southwestern boundary of Unit H01 to remove from the Coastal Barrier Resources System (CBRS) an area that was incorrectly identified as wetlands in 1982.

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit H01 (via notice published in the *Federal Register* (79 FR 21787) on April 17, 2014) to account for erosion and channel migration of an unnamed stream. This modification was made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit H01. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit H01, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit H01 to remove from the CBRS development that was on-the-ground in 1982 as intended by Pub. L. 97-348 (one structure on a parcel south of Cotton Patch Hills subdivision and ten structures in the Bayberry Dunes subdivision). The boundary of the unit is also modified to add to the CBRS associated aquatic habitat in the northwest corner of the unit and follow a portion of the Unit DE-07P boundary, which coincides with the Delaware Seashore State Park boundary.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

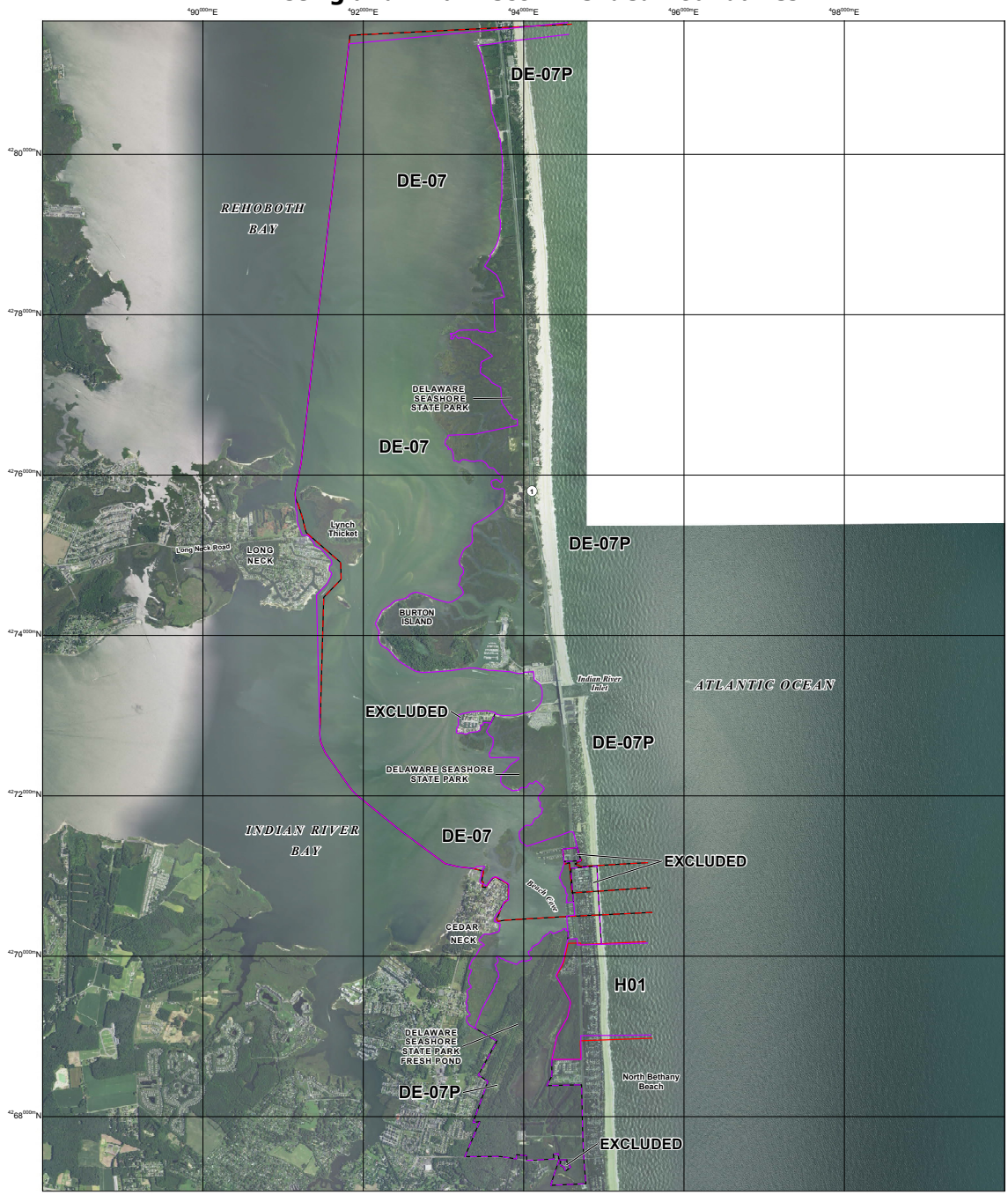
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	171	125	46	0.7	
Added to the CBRS	4	1	3		0
Removed from the CBRS	5	5	0		11
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	170	121	49	0.7	
Net Change	(1)	(4)	3	0.0	(11)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Delaware Seashore Unit DE-07/DE-07P
North Bethany Beach Unit H01

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{38}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 18 North

Pilot Project Draft Map 1 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit NC-01, Pine Island Bay, North Carolina

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Duck, in Currituck and Dare Counties, North Carolina

Congressional District: 3

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit NC-01 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit NC-01 (under this Act the unit was established as Otherwise Protected Area (OPA) Unit NC-01P).

Historical Changes to Unit: Pub. L. 102-440 (enacted on October 23, 1992) modified the boundary of Unit NC-01P to include within the Coastal Barrier Resources System (CBRS) only areas owned by the National Audubon Society (a private conservation organization) and reclassified this unit from Unit NC-01P to Unit NC-01.

Pub. L. 106-332 (enacted on October 19, 2000) further modified the boundary of Unit NC-01 to align with the National Audubon Society's Pine Island Sanctuary (now known as Donal C. O'Brien, Jr. Sanctuary and Audubon Center) property boundary and to add associated aquatic habitat.

The U.S. Fish and Wildlife Service (Service) modified the boundary of Unit NC-01 along the shoreline of the excluded area (via notice published in the *Federal Register* (80 FR 25314) on May 4, 2015) to better follow the shoreline as depicted on an updated base map. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit NC-01. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit NC-01. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. A county-owned water plant was inadvertently included within a proposed addition to the CBRS on the draft map dated June 12, 2006. The minor modification of the boundary of Unit NC-01 to better align with parcel data results in the removal of this plant from the area recommended for addition to the CBRS. In addition, an area within Audubon's Pine Island Sanctuary and Center (including existing structures and future development as indicated on Audubon's master plan) is now recommended for reclassification from System Unit NC-01 to OPA Unit NC-01P. The remainder of the Sanctuary will remain within System Unit NC-01.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit NC-01, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit NC-01 to better align with the boundary of the Audubon's Pine Island Sanctuary and Center, which results in some small additions and removals. In addition, an area within the Sanctuary (including existing structures and future development as indicated on Audubon's master plan) is reclassified from System Unit NC-01 to OPA Unit NC-01P. The remainder of the Sanctuary will remain within System Unit NC-01.

The properties in Pine Island Reserve subdivision were owned by Audubon when the area was added to the CBRS and, therefore, are not recommended for removal. This area was later sold by Audubon into private ownership and developed.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit NC-01, Pine Island Bay, North Carolina (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	7,174	193	6,981	0.4	
Added to the CBRS	15	10	5		0
Removed from the CBRS	2	2	0		0
Reclassified Area	(39)	(20)	(19)	0.0	
Final Recommended Unit	7,148	181	6,967	0.4	
Net Change	(26)	(12)	(14)	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit NC-01P, Pine Island Bay, North Carolina

Summary of Final Recommended Changes

Type of Unit: Recommended new Otherwise Protected Area (OPA)

Location of Unit: North of Duck, in Currituck County, North Carolina

Congressional District: 3

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit NC-01P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014

Establishment of Unit: Almost all of the area recommended for inclusion within new OPA Unit NC-01P is currently within existing System Unit NC-01, which was established by the Coastal Barrier Improvement Act (CBIA) (Pub. L. 101-591 enacted on November 16, 1990). A minor portion of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

Recommended new Unit NC-01P meets the Coastal Barrier Resources Act (CBRA) criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) and is consistent with the CBRA definition of an OPA, which is an area "established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (Section 12 of the CBIA). The area recommended for inclusion within this new unit is maintained for conservation and/or recreation purposes by the National Audubon Society (a private conservation organization).

Public Comments: The U.S. Fish and Wildlife Service (Service) held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit NC-01P because it is a recommended new unit that did not exist at the time of the comment period. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: During the preparation of the final recommended maps for the pilot project, the Service found that the three structures in the small excluded area for System Unit NC-01 are now owned by the National Audubon Society. Following coordination with Audubon, an area within Audubon's Donal C. O'Brien, Jr. Sanctuary and Audubon Center at Pine Island (including existing structures and future development as indicated on Audubon's master plan) is reclassified from System Unit NC-01 to OPA Unit NC-01P. The existing excluded area (including three structures) is now recommended for addition to OPA Unit NC-01P. The remainder of the Sanctuary will remain within System Unit NC-01. If the final recommended map for Units NC-01 and NC-01P is adopted through legislation enacted by Congress, Audubon will be eligible for Federal flood insurance for the structures within the OPA that are used in a manner consistent with the purpose for which the area is protected.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new OPA Unit NC-01P. Included within this new unit are areas owned by the National Audubon Society that are part of the Donal C. O'Brien, Jr. Sanctuary and Audubon Center at Pine Island (including three structures currently within a small excluded area of Unit NC-01, other existing structures, and future development as indicated on Audubon's master plan).

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

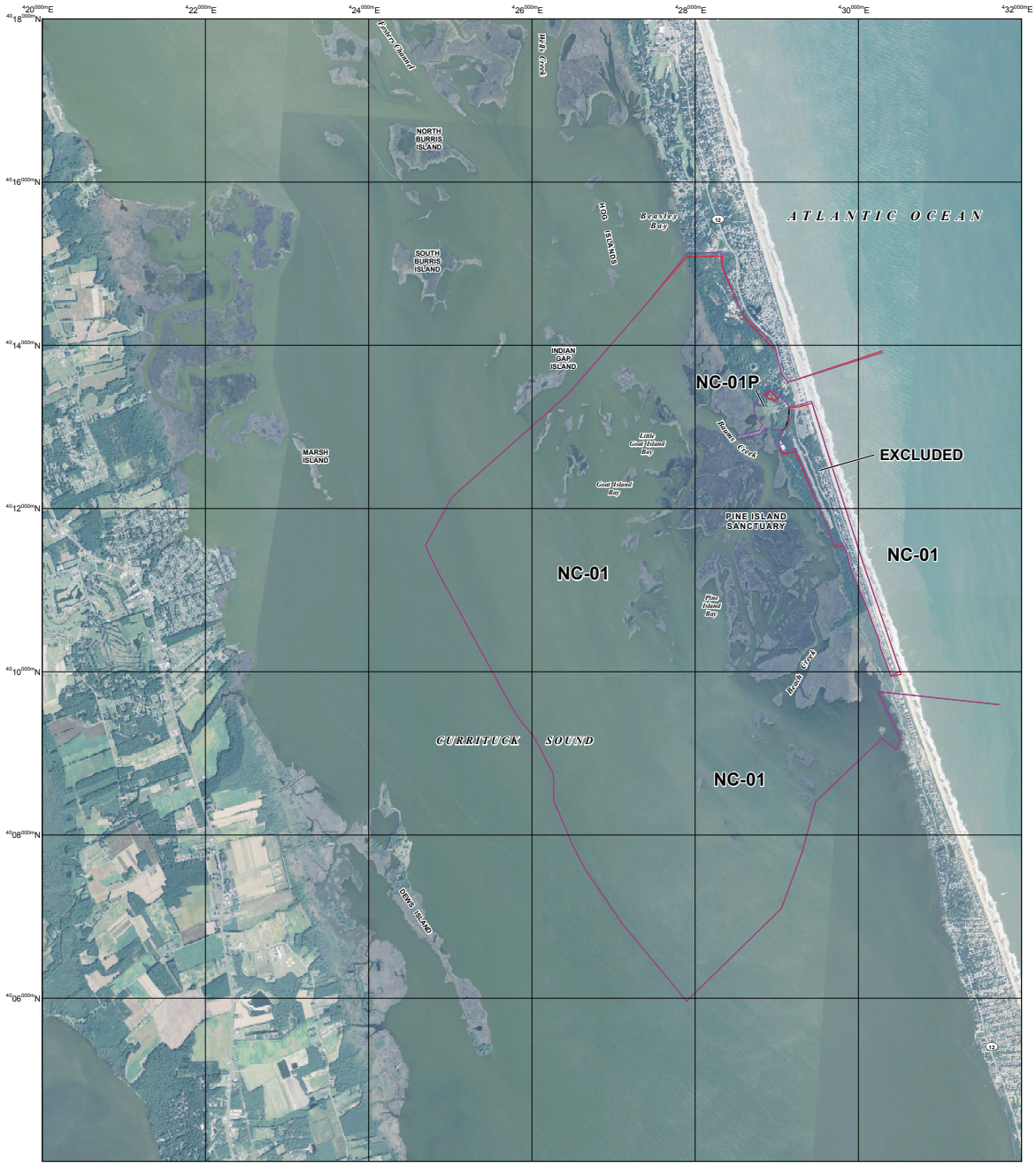
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	2	2	0		3
Removed from the CBRS	0	0	0		0
Reclassified Area	39	20	19	0.0	
Final Recommended Unit	41	22	19	0.0	
Net Change	41	22	19	0.0	3

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Pine Island Bay Unit NC-01/NC-01P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2014

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 18 North

Pilot Project Draft Map 2 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit NC-05P, Roosevelt Natural Area, North Carolina

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: West of Atlantic Beach, in Carteret County, North Carolina

Congressional District: 3

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit NC-05P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit NC-05P.

Historical Changes to Unit: Pub. L. 102-440 (enacted on October 23, 1992) modified the boundary of Unit NC-05P to include within the CBRS only areas owned by the State of North Carolina.

The U.S. Fish and Wildlife Service (Service) modified the northern boundary of Unit NC-05P (via notice published in the *Federal Register* (80 FR 25314) on May 4, 2015) to account for erosion along the shoreline of Bogue Sound. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit NC-05P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit NC-05P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit NC-05P to align with the boundaries of Theodore Roosevelt Natural Area and North Carolina Aquarium at Pine Knoll Shores, both of which are owned by the State of North Carolina, and to extend the unit approximately one mile off-shore into Bogue Sound.

The Service's final recommended map dated March 18, 2016, depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

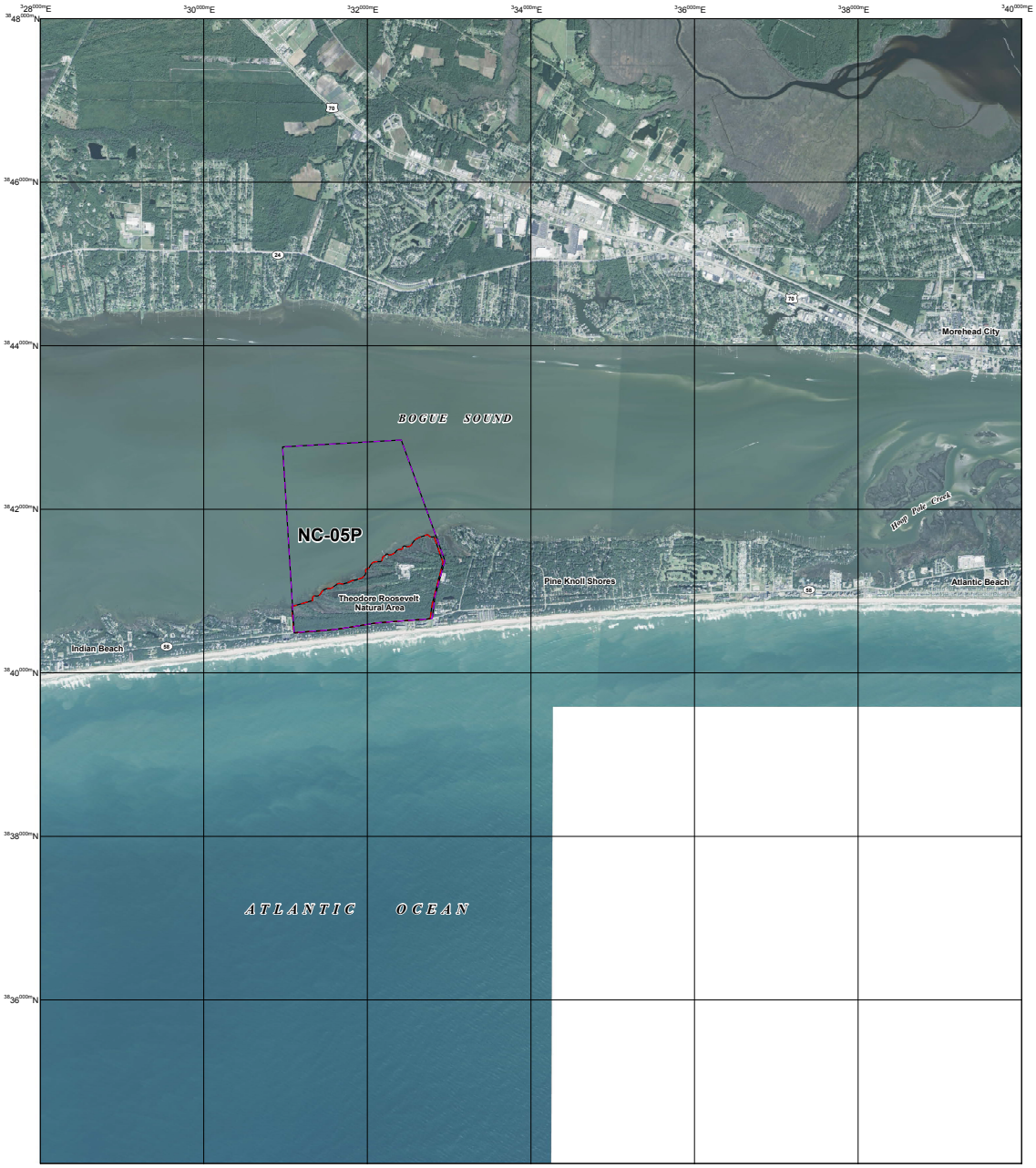
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	295	182	113	0.0	
Added to the CBRS	650	3	647		0
Removed from the CBRS	1	1	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	944	184	760	0.0	
Net Change	649	2	647	0.0	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Roosevelt Natural Area Unit NC-05P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

Existing System Unit Boundary

Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number

Final Recommended System Unit Boundary

Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number

Approximate State Boundary

$^{38}54^{000m}$N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2014

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 18 North

Pilot Project Draft Map 3 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit NC-06, Hammocks Beach, North Carolina

Summary of Final Recommended Changes

Type of Unit: Recommended new System Unit

Location of Unit: East of Jacksonville, in Onslow County, North Carolina

Congressional District: 3

Date of Final Recommended Maps: March 18, 2016

Number of Maps: Unit NC-06 is depicted on two maps.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014

Establishment of Unit: The majority of the area recommended for inclusion within new System Unit NC-06 is currently within existing Otherwise Protected Area (OPA) Unit NC-06P, which was established by the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). The remainder of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

The U.S. Fish and Wildlife Service's (Service) review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the Coastal Barrier Resources Act (CBRA) definition of an OPA). However, all areas within recommended new Unit NC-06 either met at the time they were first included within the CBRS, or for those areas newly added to the CBRS, currently meet, the CBRA criteria for a System Unit.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit NC-06. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, modifications are made to the boundary of Unit NC-06 along the coincident boundaries with Units NC-06P and L05 to account for geomorphic change around Bear Island and Bear Inlet. Small areas of associated aquatic habitat are added to the unit along the mouth of Queen Creek and near the Highway 24 bridge over the White Oak River. An area behind Emerald Isle (from the eastern side of Main Channel to the Highway 58 bridge over Bogue Sound) was proposed for addition to the eastern part of Unit NC-06 on the draft map dated June 12, 2006. The eastern boundary of the unit is modified so that this area is no longer included within the area recommended for addition to the CBRS. This boundary modification is based on an updated protocol for the addition of associated aquatic habitat behind a developed barrier to the CBRS (see Issue 14 in Chapter 4 of the Service's 2016 *Final Report to Congress*).

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new System Unit NC-06. Included within this new unit are the following areas: the dynamic undeveloped spits located at the eastern end of Bear Island and the western end of Emerald Isle; associated aquatic habitat and small undeveloped islands located landward of Bear Island; and the entire width of Bogue Inlet, Main Channel, and the Intracoastal Waterway. Minor portions of Hammocks Beach State Park are included within Unit NC-06 in cases where it was impractical from a mapping perspective to delineate them as OPA.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit NC-06, Hammocks Beach, North Carolina (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	1,219	11	1,208		0
Removed from the CBRS	0	0	0		0
Reclassified Area	5,417	170	5,247	0.0	
Final Recommended Unit	6,636	181	6,455	1.4	
Net Change	6,636	181	6,455	1.4	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit NC-06P, Hammocks Beach, North Carolina

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: East of Jacksonville, in Onslow and Carteret Counties, North Carolina

Congressional District: 3

Date of Final Recommended Maps: March 18, 2016

Number of Maps: Unit NC-06P is depicted on two maps.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit NC-06P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the northern lateral boundary of Unit NC-06P (via notice published in the *Federal Register* (80 FR 25314) on May 4, 2015) to reflect natural changes that have occurred to Bear Island and Bogue Inlet. A portion of the southern lateral boundary of the unit was modified to reflect the current location of Sanders Creek. The location of the shoals in Bear Inlet has been dynamic, and so has the location of the Bear Inlet channel. Additionally, the southern lateral boundary of the unit is coincident with Unit L05. The boundary in this area was simply generalized, and the geomorphic features of the inlet at the time were not used to determine the placement of the boundary. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit NC-06P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, modifications are made to the boundary of Unit NC-06P along the coincident boundaries with Units NC-06 and L05 to account for geomorphic change around Bear Island and Bear Inlet.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit NC-06P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended maps dated March 18, 2016, modify the boundary of Unit NC-06P to create three discrete segments of the unit, including two areas of Hammocks Beach State Park that were already included within Unit NC-06P, and to add to the CBRS a portion of Hammocks Beach State Park on the mainland that was not already within the unit.

The following areas currently within OPA Unit NC-06P are recommended for reclassification to recommended new System Unit NC-06: private undeveloped parcels and associated aquatic habitat that are outside of Hammocks Beach State Park. The Service's review found no documentation indicating that these areas are held for conservation and/or recreation (in accordance with the Coastal Barrier Resources Act definition of an OPA); however, they do qualify for inclusion as a System Unit.

Minor portions of private property or open water not held for conservation and/or recreation are included within Unit NC-06P where it is impractical to delineate them as System Unit. Similarly, minor portions of Hammocks Beach State Park, including the dynamic undeveloped spit located at the eastern end of Bear Island, are included within System Unit NC-06 where it is impractical to delineate them as OPA.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit NC-06P, Hammocks Beach, North Carolina (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	6,545	940	5,605	4.2	
Added to the CBRS	35	31	4		5
Removed from the CBRS	0	0	0		0
Reclassified Area	(5,418)	(170)	(5,248)	0.0	
Final Recommended Unit	1,162	801	361	3.2	
Net Change	(5,383)	(139)	(5,244)	(1.0)	5

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit L05, Onslow Beach Complex, North Carolina

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Southeast of Jacksonville, in Onslow County, North Carolina

Congressional District: 3

Date of Final Recommended Maps: March 18, 2016 (northern segment of Unit L05) and November 20, 2013 (southern segment of Unit L05)

Number of Maps: Unit L05 is depicted on two maps.

Base Map Imagery Sources and Dates: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014 (northern segment of unit); State of North Carolina, 2010, and U.S. Department of Agriculture, National Agriculture Imagery Program, 2012 (southern segment of unit)

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit L05.

Historical Changes to Unit: The boundary of Unit L05 was transferred and fitted to an updated base map through the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). No modifications were made to the boundary of the unit at that time.

The U.S. Fish and Wildlife Service (Service) modified the southern lateral boundary of the southern segment of Unit L05 (via notice published in the *Federal Register* (80 FR 25314) on May 4, 2015) to follow the center of New River Inlet up the New River channel. The boundary of the unit was also modified due to channel migration along Wards Channel through to its junction with New River. In the northern segment of the unit, the northern lateral boundary was modified to follow the center of Shacklefoot Channel and Sanders Creek through to its junction with Bear Inlet. The location of the shoals in Bear Inlet has been dynamic, and so has the location of the Bear Inlet channel. Additionally, the northern lateral boundary of the unit is coincident with Unit NC-06P. The boundary in this area was simply generalized, and the geomorphic features of the inlet at the time were not used to determine the placement of the boundary. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit L05. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit L05. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, modifications are made to the boundary of Unit L05 along the coincident boundaries with Units NC-06 and NC-06P to account for geomorphic change around Bear Island and Bear Inlet. Modifications are also made along the landward boundary of the unit to include additional areas of associated aquatic habitat located northwestward of the Intracoastal Waterway.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit L05, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended maps dated November 20, 2013, and March 18, 2016, modify the boundary of Unit L05 to add to the CBRS associated aquatic habitat located on both sides of the Intracoastal Waterway and undeveloped spoil islands.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

Additional Comments: The date of the final recommended map for the southern segment of this unit, November 20, 2013, differs from the map date for most of the units in the pilot project. This is because adjacent Unit L06 was the subject of legislation (H.R. 187) during the 113th Congress, and the Service's final recommended maps for that unit (one of which also contains a portion of Unit L05) were transmitted to Congress on April 8, 2014, as part of testimony for a hearing before the House Natural Resources Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs.

The existing CBRS boundary for Unit L05 depicted on the final recommended map dated November 20, 2013, has been superseded by the boundary depicted on a revised map dated August 1, 2014, to reflect changes that have occurred as a result of natural forces. Please see the map dated August 1, 2014 on the Service's website at: www.fws.gov/cbra for information regarding the current location of the boundary of Unit L05.

John H. Chafee Coastal Barrier Resources System Unit L05, Onslow Beach Complex, North Carolina (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	3,010	545	2,465	10.4	
Added to the CBRS	3,502	75	3,427		0
Removed from the CBRS	0	0	0		0
Reclassified Area	1	0	1	0.0	
Final Recommended Unit	6,513	620	5,893	10.5	
Net Change	3,503	75	3,428	0.1	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit L06, Topsail, North Carolina

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Jacksonville, in Onslow County, North Carolina

Congressional District: 3

Date of Final Recommended Maps: November 20, 2013

Number of Maps: Unit L06 is depicted on two maps.

Base Map Imagery Sources and Dates: State of North Carolina, 2010, and U.S. Department of Agriculture, National Agriculture Imagery Program, 2012

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit L06.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit L06 to include new areas within the Coastal Barrier Resources System (CBRS).

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit L06 (via notice published in the *Federal Register* (80 FR 25314) on May 4, 2015) to reflect natural changes that occurred in the configuration of the marsh, wetland/fastland interface, and the location of New River Inlet. Due to the dynamic nature of the New River Inlet and the adjacent barrier island to the northeast of the unit, the boundary through the inlet was modified and generalized to account for conditions at the time and the potential for future change. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John. H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit L06. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the boundary of the unit is modified to include additional areas of associated aquatic habitat located landward of the Intracoastal Waterway, and to include the entire width of the Intracoastal Waterway within the CBRS. The boundary of the northern excluded area is modified to better follow the break-in-development at the time this portion of the unit was established, and to better follow the current location of the shoreline, which has eroded significantly.

In the course of reviewing the existing boundary of Unit L06, it was determined that the Service had incorrectly depicted the existing southern lateral boundary of the unit on the draft map for the pilot project dated June 12, 2006. The existing boundary is actually located approximately 75 feet further southwest than is shown on that map. Because the Service recommends no change to the boundary of Unit L06 in that location, the final recommended boundary has been adjusted by 75 feet southwest to the actual location of the existing boundary. No structures are affected by this correction to the placement of the existing boundary for Unit L06.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit L06, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended maps dated November 20, 2013, modify the boundary of Unit L06 to remove several private properties from the CBRS, including: about 41 structures along Waterway Drive in the vicinity of Alligator Bay; about 30 structures at the northern end of North Topsail Beach (which are now included within the northern excluded area); five structures along Shell Drive in the vicinity of Chadwick Bay; and two structures on the mainland in the vicinity of Turkey Creek.

The boundary of Unit L06 is also modified to add to the CBRS areas of associated aquatic habitat and the entire width of the Intracoastal Waterway. Small areas of wetlands and undeveloped areas of fastland are recommended for addition to the CBRS along both excluded areas.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

Additional Comments: The date of the final recommended maps for this unit, November 20, 2013, differs from the map date for most of the units in the pilot project. This is

John H. Chafee Coastal Barrier Resources System Unit L06, Topsail, North Carolina (continued)

because Unit L06 was the subject of legislation (H.R. 187) during the 113th Congress, and the Service's final recommended maps for this unit were transmitted to Congress on April 8, 2014, as part of testimony for a hearing before the House Natural Resources Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs.

The existing CBRS boundary for Unit L06 depicted on the final recommended map dated November 20, 2013, has been superseded by the boundary depicted on a revised map dated August 1, 2014, to reflect changes that have occurred as a result of natural forces. Please see the map dated August 1, 2014, on the Service's website at: *www.fws.gov/cbra* for information regarding the current location of the boundary of Unit L06.

Acreage, Shoreline, and Structures:

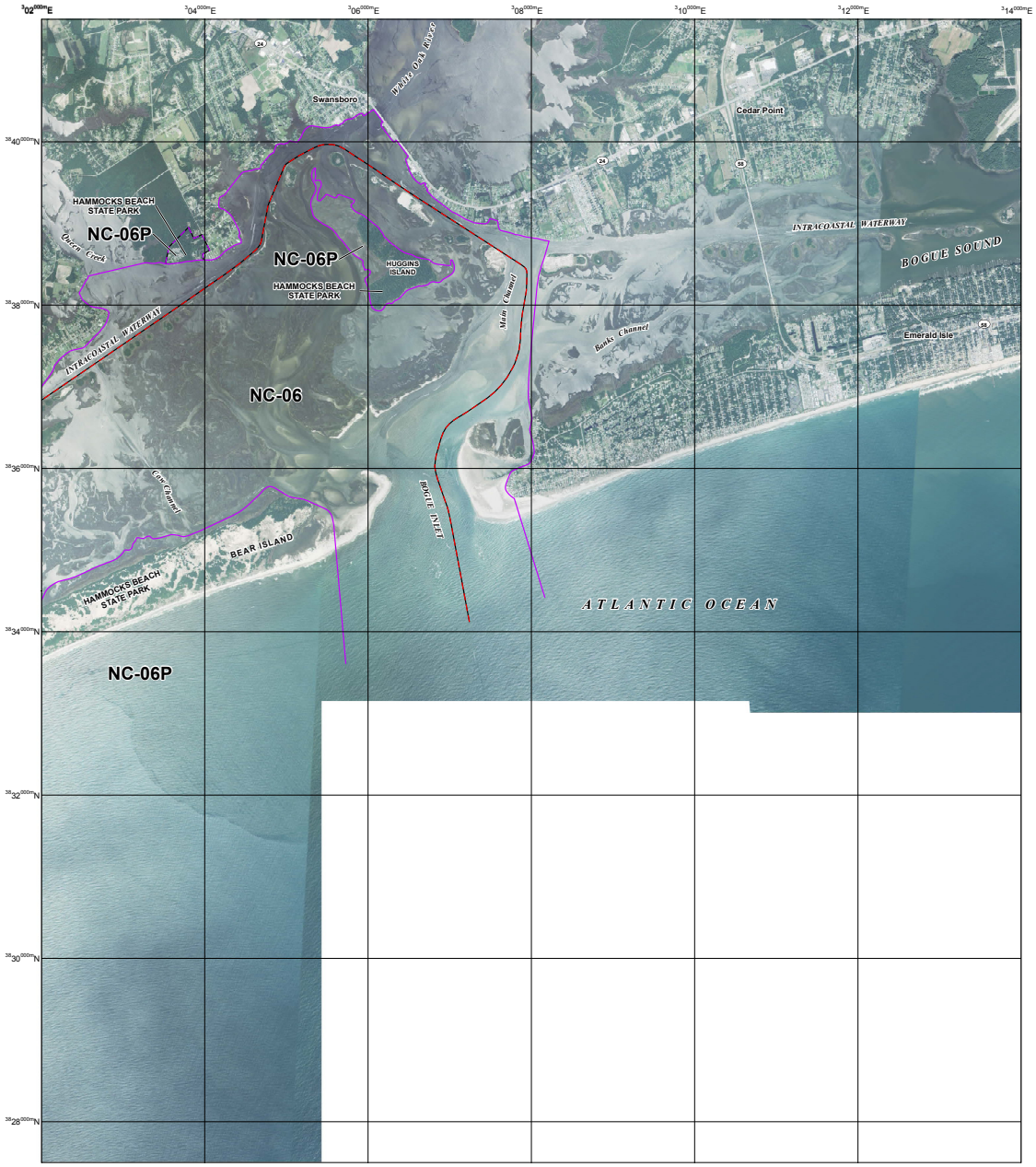
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	5,785	801	4,984	6.8	
Added to the CBRS	169	4	165		0
Removed from the CBRS	89	64	25		78
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	5,865	741	5,124	6.6	
Net Change	80	(60)	140	(0.2)	(78)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Hammocks Beach Unit NC-06/NC-06P (1 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

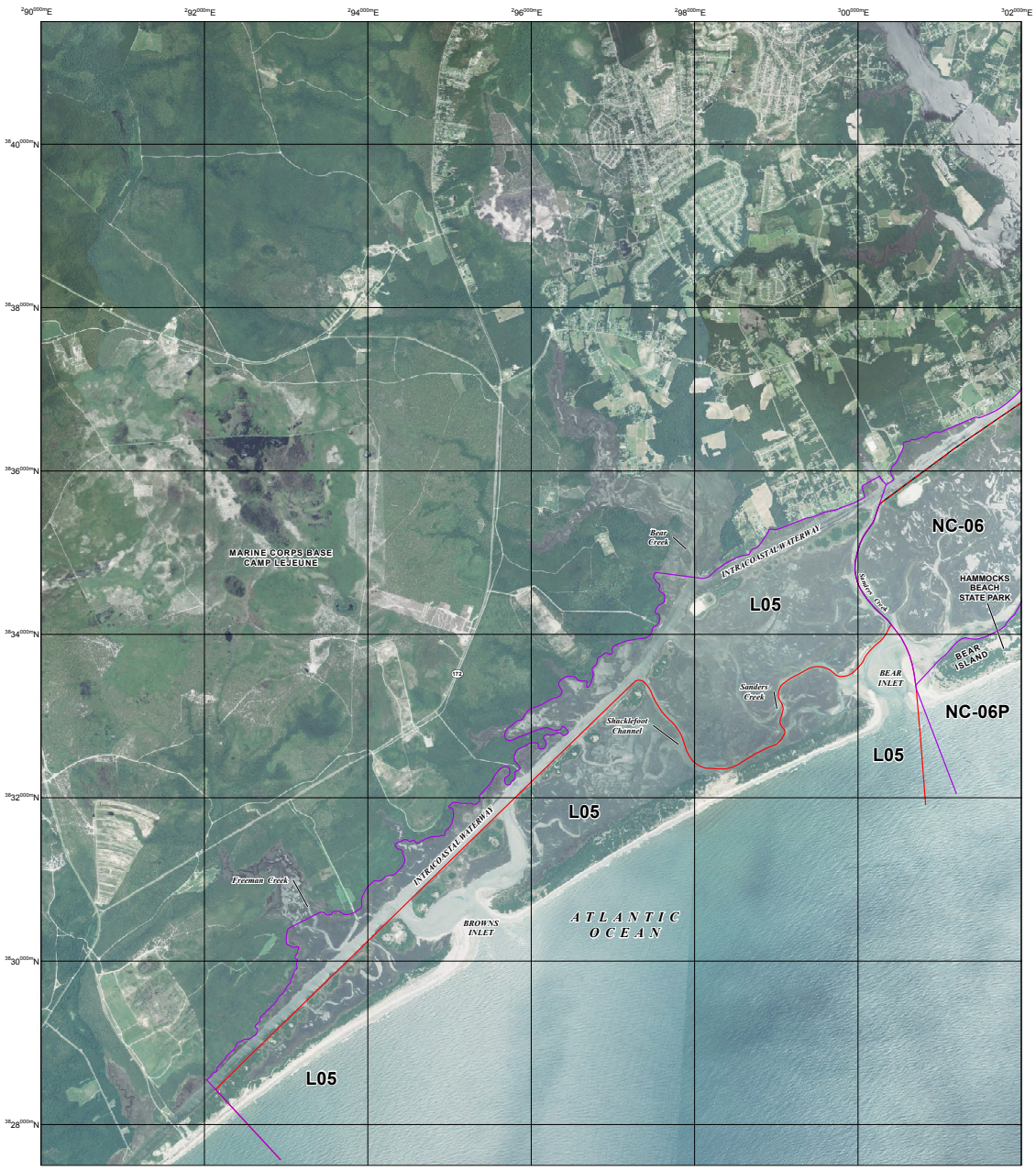
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 18 North

Pilot Project Draft Map 4 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Hammocks Beach Unit NC-06/NC-06P (2 of 2)
Onslow Beach Complex L05 (1 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{35}54^{000m}$N 2000-meter Universal Transverse Mercator grid values

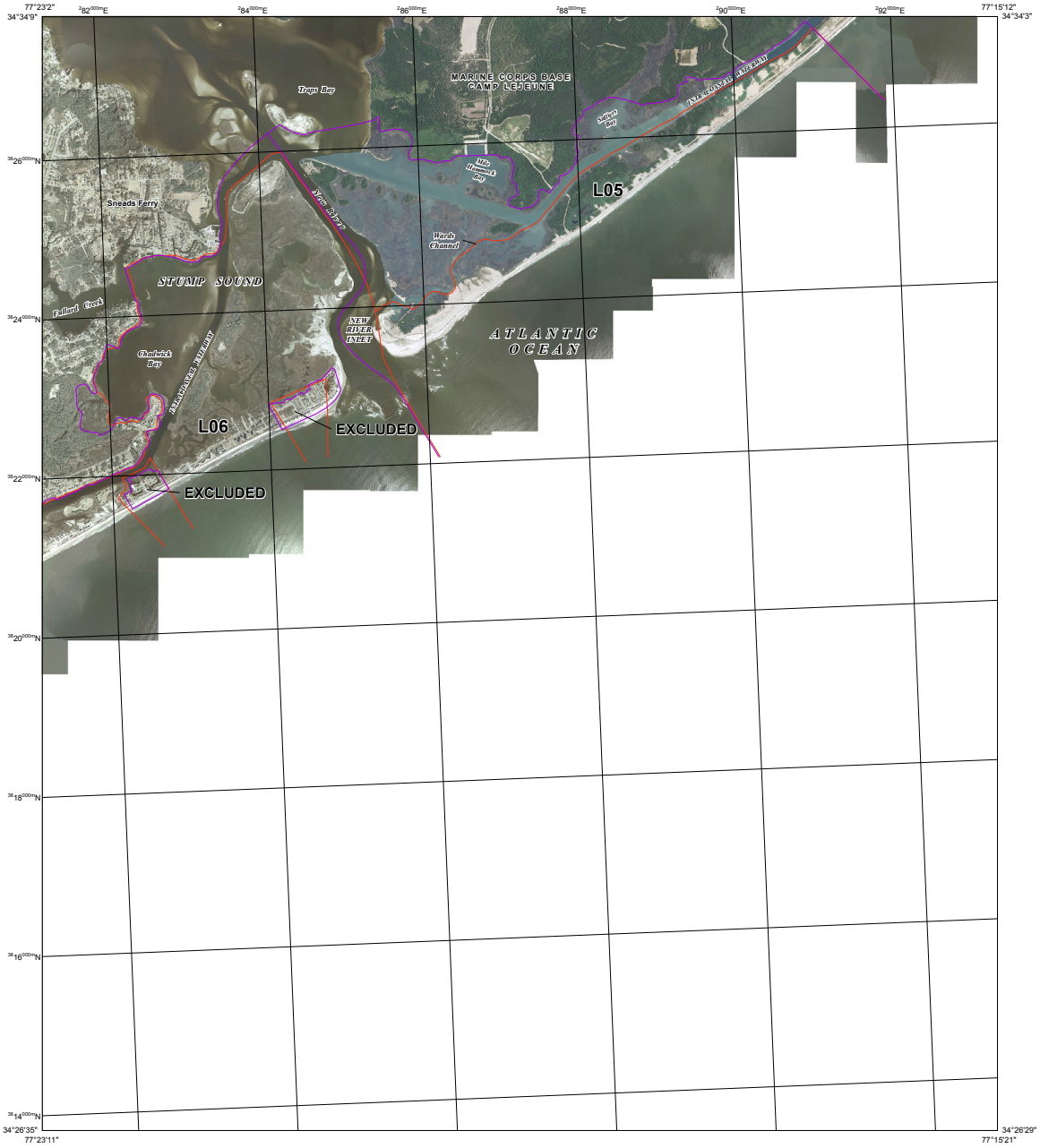
Imagery Date(s): 2014

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 18 North

Pilot Project Draft Map 5 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Onslow Beach Complex L05 (2 of 2)
Topsail Unit L06 (1 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show the Service's final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Pub. L. 109-226).

*The "Existing Boundary" shown on this map was digitized to approximately represent the location of the center of the roughly 80-100 foot thick controlling boundaries shown on the current official CBRS map for the area. The "Existing Boundary" has not been fit to the new underlying base map imagery, and should not be relied on as the official CBRS boundaries for this area. The official CBRS map for this area is available for viewing and download at www.fws.gov/cbra.

1:24,000

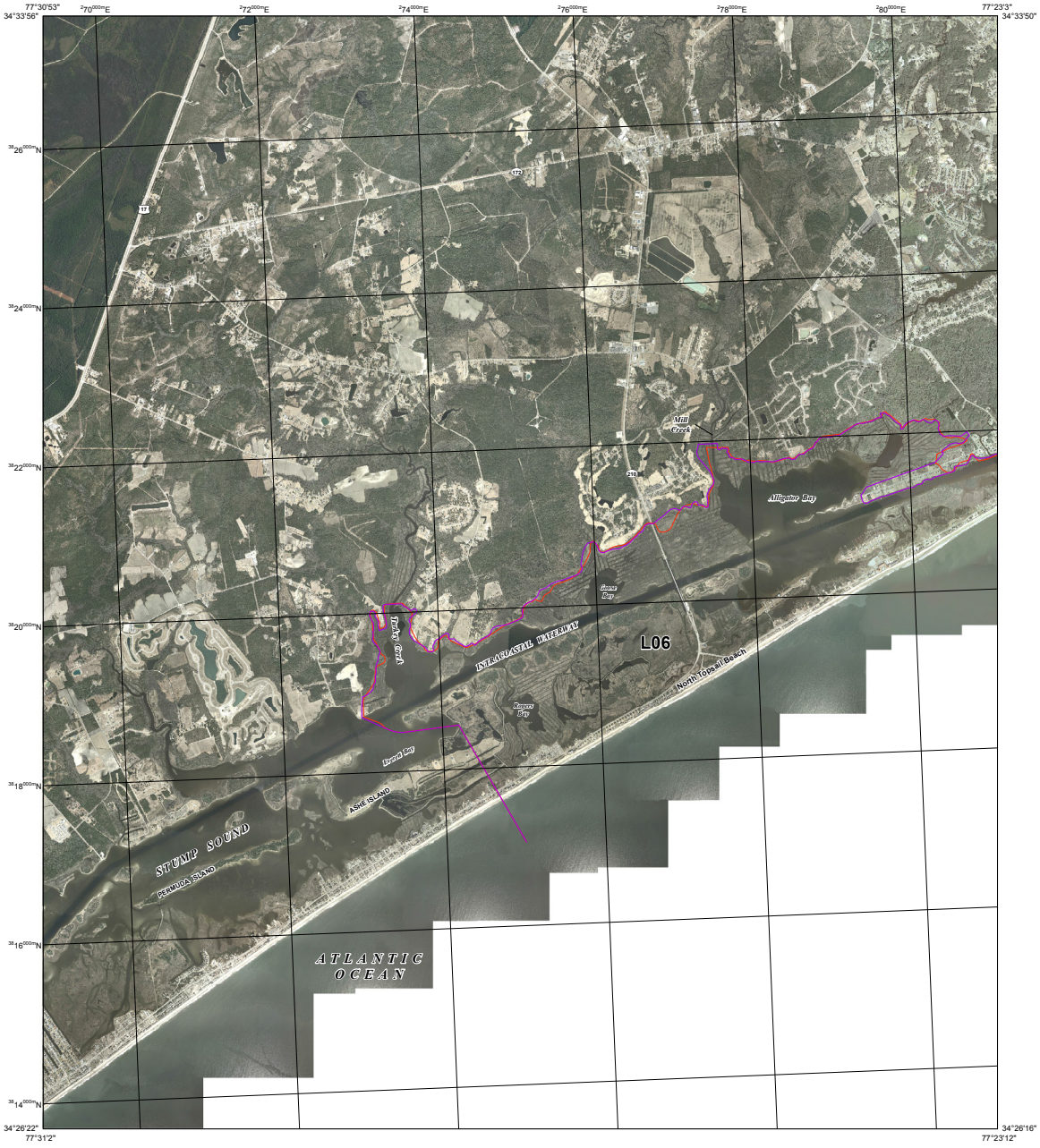
0 0.25 0.5 1 1.5 2 Miles
0 1,000 2,000 4,000 6,000 8,000 Feet
0 0.25 0.5 1 1.5 2 Kilometers

Final Recommended System Unit Boundary
Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
Existing System Unit Boundary (approximate)*
Existing OPA Boundary (approximate)*

^{3854000m}N 2000- meter Universal Transverse Mercator grid values, Zone 18 North
90°45'0" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
Imagery Date(s): 2010 and 2012
Imagery Source(s): State of North Carolina and United States Department of Agriculture National Agriculture Imagery Program
Coordinate System: North American Datum 1983 North Carolina Statewide Mapping System Lambert Conformal Conic Projection

November 20, 2013

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Topsail Unit L06 (2 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show the Service's final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Pub. L. 109-226).

*The "Existing Boundary" shown on this map was digitized to approximately represent the location of the center of the roughly 80-100 foot thick controlling boundaries shown on the current official CBRS map for the area. The "Existing Boundary" has not been fit to the new underlying base map imagery, and should not be relied on as the official CBRS boundaries for this area. The official CBRS map for this area is available for viewing and download at www.fws.gov/cbra.

N

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

Final Recommended System Unit Boundary

Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number

Existing System Unit Boundary (approximate)*

Existing OPA Boundary (approximate)*

^{3654000m}N 2000- meter Universal Transverse Mercator grid values, Zone 18 North

90°45'0" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

Imagery Date(s): 2010 and 2012

Imagery Source(s): State of North Carolina and United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 North Carolina Statewide Mapping System Lambert Conformal Conic Projection

November 20, 2013

John H. Chafee Coastal Barrier Resources System Unit M02, Litchfield Beach, South Carolina

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Northeast of Georgetown, in Georgetown County, South Carolina

Congressional District: 7

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit M02 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit M02.

Historical Changes to Unit: The boundary of Unit M02 was transferred and fitted to an updated base map through the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). No modifications were made to the boundary of the unit at that time.

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit M02 (via notice published in the *Federal Register* (79 FR 21787) on April 17, 2014) to account for channel migration along Clubhouse Creek, wetlands loss, and the accretion of the Litchfield Beach sand spit and associated shoals. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit M02. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary is moved back to its original 1982 position to avoid adding four private properties (including two houses constructed in 1999 and 2000 that did not appear on the 1999 underlying aerial imagery used for the draft map dated June 12, 2006).

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit M02, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit M02 to include portions of Clubhouse Creek channel in the unit and to add to the CBRS associated aquatic habitat between the coastal barrier and the mainland.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	110	28	82	1.2	
Added to the CBRS	331	0	331		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	441	28	413	1.2	
Net Change	331	0	331	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit M03, Pawleys Inlet, South Carolina

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: East of Georgetown, in Georgetown County, South Carolina

Congressional District: 7

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit M03 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit M03.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit M03 to add to the Coastal Barrier Resources System (CBRS) associated aquatic habitat.

The U.S. Fish and Wildlife Service (Service) modified the boundary of Unit M03 (via notice published in the *Federal Register* (79 FR 21787) on April 17, 2014) to include emergent marsh, account for channel migration at the north end of the unit, and reflect natural changes to the wetland/fastland interface on the landward side of the unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit M03. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary of the unit is adjusted to the south by approximately 20 feet to place it in the same location as the original 1982 boundary; the landward boundary is substantially revised to better follow the wetland/fastland interface and to add to the CBRS wetland areas; and, the southern boundary is modified to follow the west side of Beach Bridge Road, adding a small area of undeveloped uplands.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit M03, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit M03 to include the entire width of the channel of a stream between Pawleys Island and the mainland, to add to the CBRS wetland areas, and to follow more precisely the wetland/fastland interface on the landward side of the unit. The boundary of the unit is also modified to align with the southern property parcel line of a large undeveloped parcel that is already mostly within the unit. This change puts the entire property (including a small area of fastland) within the CBRS.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

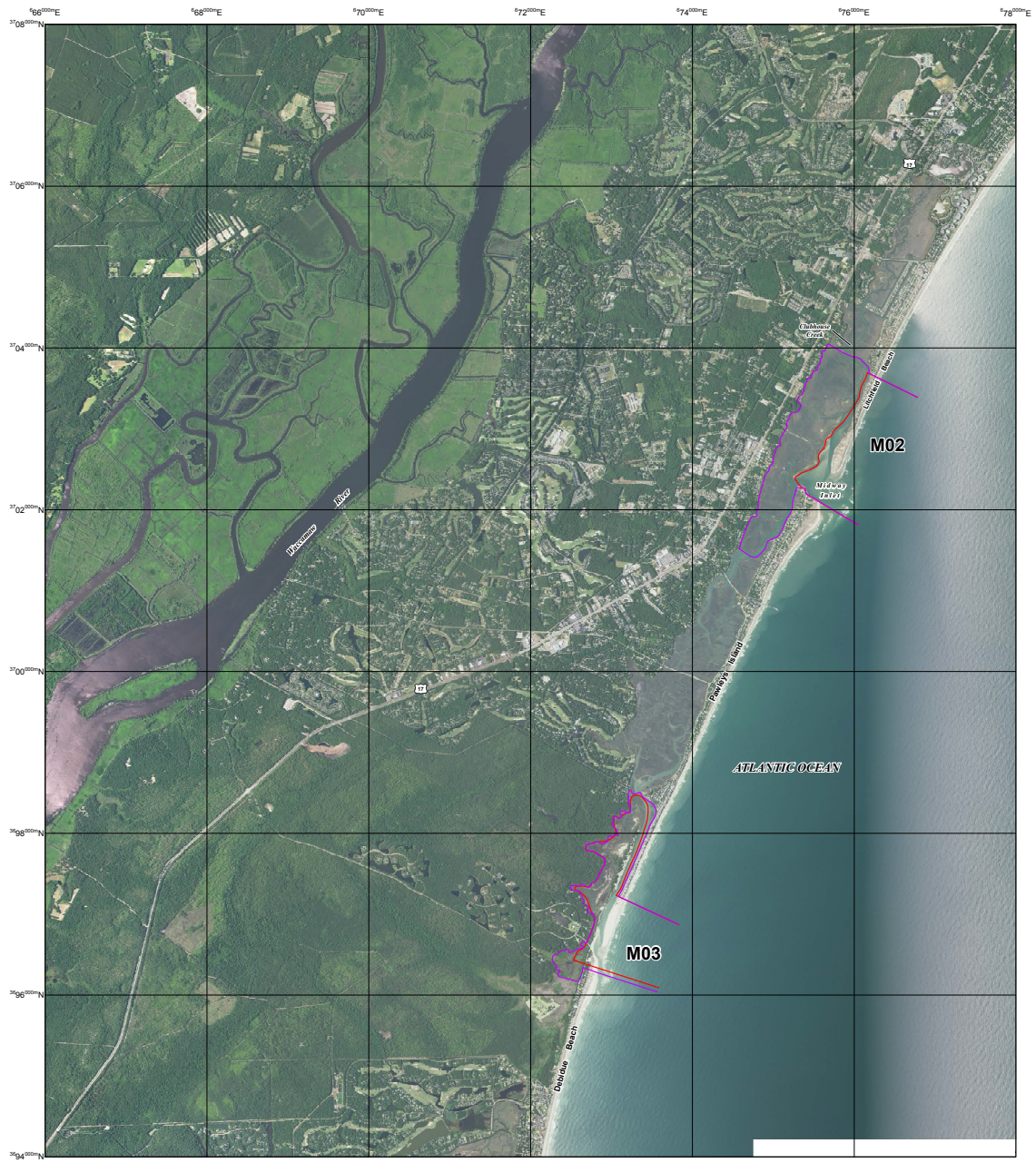
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	183	10	173	0.6	
Added to the CBRS	48	3	45		0
Removed from the CBRS	1	0	1		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	230	13	217	0.6	
Net Change	47	3	44	0.0	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Litchfield Beach Unit M02
Pawleys Inlet Unit M03

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles
0 1,000 2,000 4,000 6,000 8,000 Feet
0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- ^{3654000m}N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2015
Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program
Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 8 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-01, Fort Clinch, Florida

Summary of Final Recommended Changes

Type of Unit: Recommended new System Unit

Location of Unit: Northeast of Jacksonville on the Atlantic Coast, in Nassau County, Florida

Congressional District: 4

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-01 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: Approximately half of the area recommended for inclusion within new System Unit FL-01 is currently within existing Otherwise Protected Area (OPA) Unit FL-01P, which was established by the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). The remainder of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

The U. S. Fish and Wildlife Service's (Service) review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the Coastal Barrier Resources Act (CBRA) definition of an OPA). However, all areas within recommended new Unit FL-01 either qualified at the time they were first included within the CBRS, or for those areas newly added to the CBRS, currently qualify for inclusion within a System Unit.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-01. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-01. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the western boundary of the unit is modified to add wetlands on the west side of Egans Creek, which are part of the associated aquatic habitat.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new System Unit FL-01. Included within this new unit are the wetlands along Egans Creek from the North 14th Street Extension to State Highway A1A (Atlantic Avenue).

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	248	4	244		0
Removed from the CBRS	0	0	0		0
Reclassified Area	222	2	220	0.0	
Final Recommended Unit	470	6	464	0.0	
Net Change	470	6	464	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-01P, Fort Clinch, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: Northeast of Jacksonville on the Atlantic Coast, in Nassau County, Florida

Congressional District: 4

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-01P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-01P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-01P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act (CBRA) to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to FL-01P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-01P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-01P to align with the boundaries of Fort Clinch State Park and Dee Dee Bartels Nature Center and Fishing Pier (managed by Nassau County) and to add to the CBRS the portions of these conservation and/or recreation areas that are not already within the unit. The boundary of the unit is also modified on the north side to extend further into the Atlantic Ocean to clarify that the entire barrier spit and jetty are included within the OPA.

The wetlands along Egans Creek that are not within the State Park and are currently within OPA Unit FL-01P are recommended for reclassification to System Unit FL-01. The Service's review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the CBRA definition of an OPA); however, it does qualify for inclusion within a System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,750	1,058	692	1.9	
Added to the CBRS	187	145	42		0
Removed from the CBRS	0	0	0		0
Reclassified Area	(222)	(2)	(220)	0.0	
Final Recommended Unit	1,715	1,201	514	1.9	
Net Change	(35)	143	(178)	0.0	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Fort Clinch Unit FL-01/FL-01P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 9 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P04A, Usina Beach, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of St. Augustine on the Atlantic Coast, in St. Johns County, Florida

Congressional District: 4*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P04A is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P04A.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the northern boundary of Unit P04A to remove an area that was developed in 1982, and adjusted the landward boundary to add associated aquatic habitat to the unit.

Pub. L. 105-277 (enacted on October 21, 1998) modified the boundary of adjacent System Unit P05. Unit P04A is depicted on the same map as Unit P05, but the boundary of Unit P04A was not modified at that time.

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit P04A (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes that occurred in the configuration of the wetland/fastland interface. The northern portion of the boundary was modified to account for channel migration along Robinson Creek. In addition, the name of the unit was changed from "Usinas Beach" to "Usina Beach" to correct a spelling error. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P04A. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the boundary of the unit is modified to add to the CBRS the undeveloped northern tip of Camachee Island (aka Comatchie Island) and wetlands on the northern side of the unit near Usina Beach (east of the Tolomato River). The boundary of the unit is also modified in order to remove several small areas of fastland that were thought to be wetlands and therefore were inadvertently proposed for addition to the CBRS on the draft map dated June 12, 2006 (a minor area of wetlands is also removed as a result).

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P04A, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P04A to remove from the CBRS two condominium buildings in the Las Palmas on the Intracoastal community and fastland located near the Fort Mosé Historic State Park Visitor Center. These areas are recommended for removal because the wetland/fastland interface that the boundary was intended to follow along portions of the landward boundary of the unit was not depicted correctly on the base map used for the October 24, 1990, CBRS map which first added those areas to Unit P04A.

The boundary of the unit is also modified to add to the CBRS on the northern side of the unit wetlands near Usina Beach (east of the Tolomato River) and the entire width of the Tolomato River, Robinson Creek, and several unnamed streams.

Portions of Fort Mosé Historic State Park are located within Unit P04A. Because sufficient information regarding the dates of acquisition was not available for this conservation and/or recreation area at the time the draft map was prepared, none of the State Park lands within the unit are recommended for reclassification as an OPA. The portion of the State Park area within Unit P04A as depicted on the final recommended map is about 30 acres (mostly wetlands), and has been within the CBRS since 1990.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

John H. Chafee Coastal Barrier Resources System Unit P04A, Usina Beach, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	669	46	623	0.4	
Added to the CBRS	61	5	56		0
Removed from the CBRS	5	3	2		2
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	725	48	677	0.4	
Net Change	56	2	54	0.0	(2)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P05, Conch Island, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: East of St. Augustine on the Atlantic Coast, in St. Johns County, Florida

Congressional District: 4*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P05 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P05.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P05 to add to the Coastal Barrier Resources System (CBRS) undeveloped coastal barrier and associated aquatic habitat.

Pub. L. 104-333 (enacted on November 12, 1996) modified the northern boundary of Unit P05 to remove from the CBRS certain private properties. The maps revised by this law were later invalidated by a court order on March 5, 1998 (Coastal Alliance v. Babbitt, Civil Action No. 97-1344 (D. D.C.)).

Pub. L. 105-277 (enacted on October 21, 1998) reinstated the maps revised by Pub. L. 104-333 (including the map for Unit P05) that were previously invalidated by court order.

The U.S. Fish and Wildlife Service (Service) modified the northern boundary of Unit P05 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) along the eastern shoreline of the Tolomato River, north of Vilano Point, to account for natural changes that occurred in the configuration of the shoreline. The landward boundary of the unit and a portion of the coincident boundary between Units P05 and P05P were modified to reflect natural changes that occurred in the configuration of the wetland/fastland interface. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.*

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P05. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P05, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P05 to remove from the CBRS nine private properties (including six structures) in the Porpoise Point subdivision. The properties (comprising about five acres) are recommended for removal because the CBRS boundary changes adopted by Pub. L. 105-277 for Unit P05 were intended to remove these particular properties from the CBRS. However, this law did not remove from the CBRS Lots 7 to 13, Block 8.

The boundary of the unit is also modified to add to the CBRS wetlands around the Vilano Boat Ramp parking lot; the entire width of the Matanzas River channel down to the Bridge of the Lions; and the entire width of the Salt Run channel. The boundary is modified to remove from the CBRS an area within the Ponce de Leon's Fountain of Youth Archaeological Park.

The final recommended map reclassifies the southern portion of Conch Island from System Unit P05 to Otherwise Protected Area Unit P05P because that area was held for conservation and/or recreation as Anastasia State Park at the time Unit P05 was established. Although the northern portion of Conch Island is also part of Anastasia State Park, it was not acquired until after the unit was established and therefore will remain within the CBRS as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

John H. Chafee Coastal Barrier Resources System Unit P05, Conch Island, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,974	573	1,401	2.6	
Added to the CBRS	259	5	254		0
Removed from the CBRS	9	2	7		7
Reclassified Area	(408)	(226)	(182)	0.0	
Final Recommended Unit	1,816	350	1,466	1.6	
Net Change	(158)	(223)	65	(1.0)	(7)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P05P, Conch Island, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: East of St. Augustine on the Atlantic Coast, in St. Johns County, Florida

Congressional District: 4*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P05P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit P05P.

Historical Changes to Unit: Pub. L. 105-277 (enacted on October 21, 1998) modified the boundary of adjacent System Unit P05. Unit P05P is depicted on the same map as Unit P05, but the boundary of Unit P05 was not modified at that time.

The U.S. Fish and Wildlife Service (Service) modified the coincident boundary between Units P05 and P05P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes that occurred in the configuration of the wetland/fastland interface. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P05P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P05P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P05P to align with the boundary of Anastasia State Park as it existed in 1982 when the adjacent System Unit P05 was established.

The final recommended map reclassifies the southern portion of Conch Island from System Unit P05 to OPA Unit P05P because that area was held for conservation and/or recreation as Anastasia State Park at the time Unit P05 was established. Although the northern portion of Conch Island is also part of Anastasia State Park, it was not acquired until after the unit was established and therefore will remain within the CBRS as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

Acreage, Shoreline, and Structures:

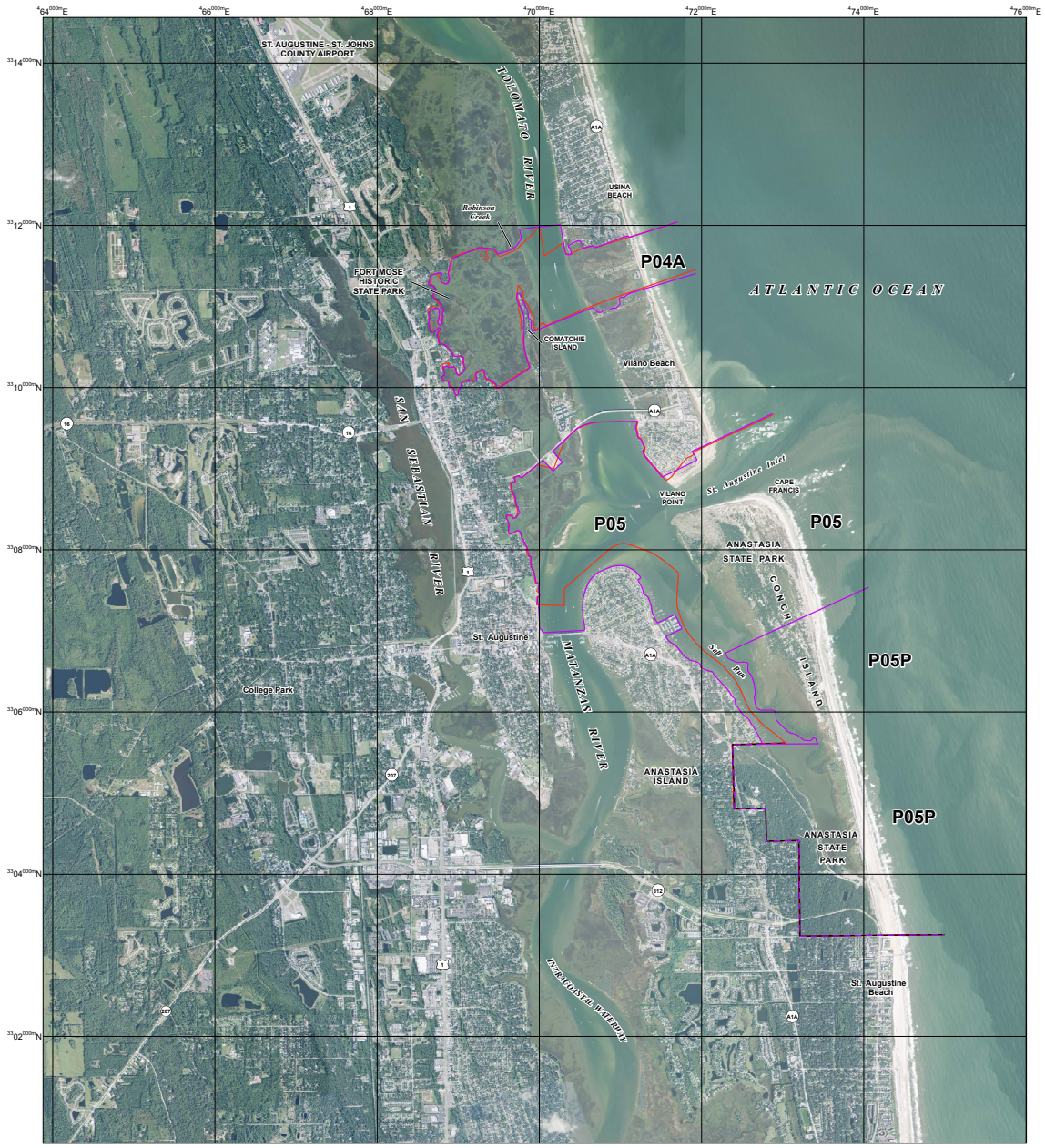
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	699	569	130	1.6	
Added to the CBRS	0	0	0		0
Removed from the CBRS	3	3	0		1
Reclassified Area	408	226	182	0.0	
Final Recommended Unit	1,104	792	312	2.6	
Net Change	405	223	182	1.0	(1)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Usina Beach Unit P04A
Conch Island Unit P05/P05P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{35}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 10 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P08, Ponce Inlet, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of St. Augustine on the Atlantic Coast, in Volusia County, Florida

Congressional District: 6

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P08 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P08.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P08 to add to the Coastal Barrier Resources System (CBRS) associated aquatic habitat.

The U.S. Fish and Wildlife Service (Service) modified the southeastern boundary of Unit P08 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to include the sand sharing system as visible on an updated base map. A portion of the western boundary was modified to reflect natural changes that occurred in the configuration of the shoreline along Leon Cut. The northwestern portion of the boundary was modified to follow the center of the Spruce Creek channel. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P08. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary of the unit near Lighthouse Point Park is adjusted to match the existing boundary, which was placed off-shore to exclude the dock structures associated with a large marina. The boundary is modified to add to Unit P08 minor portions of Lighthouse Point Park where it is impractical to delineate them as Otherwise Protected Area (OPA). Similarly, minor portions of a private parcel are included within OPA Unit P08P where it is impractical to delineate them as System Unit.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P08, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P08 to remove from the CBRS seven private properties (including three structures) along South Peninsula Drive near Lighthouse Point Park and a private property (including one warehouse structure) located on Dixie Freeway south of New Smyrna Beach Municipal Airport. The boundary of the unit is also modified to add to the CBRS wetlands in several locations along the landward boundary of the unit; to add to the CBRS undeveloped fastland on the north side of Lighthouse Point Park; and to include within the CBRS the entire width of channel waterways.

Lighthouse Point Park and Smyrna Dunes Park, both managed by Volusia County, were held for conservation and/or recreation in 1982 when the area was added to the CBRS. These Parks are, therefore, recommended for reclassification from System Unit P08 to new OPA Unit P08P. Doris Leeper Spruce Creek Preserve is also included within Unit P08; however, the Preserve is not recommended for reclassification as an OPA because it was created after the unit was established.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit P08, Ponce Inlet, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	4,213	656	3,557	1.9	
Added to the CBRS	144	7	137		0
Removed from the CBRS	12	4	8		6
Reclassified Area	(293)	(224)	(69)	0.0	
Final Recommended Unit	4,052	435	3,617	0.8	
Net Change	(161)	(221)	60	(1.1)	(6)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P08P, Ponce Inlet, Florida

Summary of Final Recommended Changes

Type of Unit: Recommended new Otherwise Protected Area (OPA)

Location of Unit: South of St. Augustine on the Atlantic Coast, in Volusia County, Florida

Congressional District: 6

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P08P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: Almost all of the area recommended for inclusion within new OPA Unit P08P is currently within existing System Unit P08, which was established by the Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982). A minor portion of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

Recommended new Unit P08P meets the CBRA criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) and is consistent with the CBRA definition of an OPA, which is an area "established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (Section 12 of the Coastal Barrier Improvement Act; Pub. L. 101-591). Most of the area recommended for inclusion within this new unit is maintained for conservation and/or recreation purposes by Volusia County.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P08P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P08P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the boundary of the unit is modified to reclassify two small parcels from System Unit P08 to OPA Unit P08P. One parcel has been vested to Volusia County, and the County plans to include it in Lighthouse Point Park. The other parcel is included within the OPA because it is impractical from a mapping perspective to delineate it as System Unit.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new Unit P08P. Included within this new unit are Smyrna Dunes and Lighthouse Point Park, both managed by Volusia County. However, minor portions of Lighthouse Point Park are included within System Unit P08 in cases where it is impractical from a mapping perspective to delineate them as OPA (i.e., small islands or other features that are too small to carve out from the surrounding aquatic habitat). Similarly, minor portions of a parcel that are not conserved are included within Unit P08P where it is impractical from a mapping perspective to delineate them as System Unit.

Unit P08P includes an approximately three acre parcel within Smyrna Dunes Park that is owned by Volusia County and is leased to the U.S. Air Force for purposes other than conservation and/or recreation. However, this parcel is included within Unit P08P because it is impractical from a mapping perspective to delineate it as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	293	224	69	0.0	
Final Recommended Unit	293	224	69	1.1	
Net Change	293	224	69	1.1	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Ponce Inlet Unit P08/P08P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{32}54^{000m}$N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 11 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-13P, Spessard Holland Park, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: South of Palm Bay on the Atlantic Coast, in Brevard County, Florida

Congressional District: 8

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-13P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-13P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-13P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-13P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-13P to remove from the CBRS 11 private properties (including ten structures) in the Rivers Edge subdivision. The boundary of the unit is also modified to align with Oak Street and the boundaries of the following conservation and/or recreation areas owned by Brevard County: Flutie Athletic Complex, Spessard Holland North Beach Park, Spessard Holland South Beach Park, and Spessard Holland Golf Course.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	201	155	46	0.8	
Added to the CBRS	2	2	0		0
Removed from the CBRS	4	4	0		10
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	199	153	46	0.8	
Net Change	(2)	(2)	0	0.0	(10)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P09A, Coconut Point, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Vero Beach on the Atlantic Coast, in Brevard County, Florida

Congressional District: 8

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P09A is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P09A.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P09A to add to the Coastal Barrier Resources System (CBRS) undeveloped coastal barrier and associated aquatic habitat.

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit P09A (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes that occurred in the configuration of the shoreline of Indian River. In addition, the boundaries of the two excluded areas were modified to reflect natural changes that occurred in the shoreline of the Indian River and the Atlantic Ocean. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P09A. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P09A. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the southern boundary of the unit is modified to account for the accreting sand spit of an island in the Indian River.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P09A, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the northern boundary of Unit P09A to remove from the CBRS nine structures in the Averill Farms subdivision. The boundary of the southern excluded area is shifted to align with development that was on-the-ground in 1982 when the surrounding area was originally included within the CBRS. The shift results in the removal from the CBRS of four condominium buildings in The Cove at South Beaches Condominium community and one structure in the Atlantic Shores subdivision, and the addition to the CBRS of undeveloped fastland (currently managed by Brevard County for conservation). The southern boundary of Unit P09A is also shifted to align with the development that was on-the-ground in 1982 when the area was originally included within the CBRS. This shift results in the removal from the CBRS of 12 structures in Riverside Landing of South Brevard subdivision and two structures in New Melbourne Beach subdivision. The southern boundary of the unit is modified to account for the accreting sand spit of an island in the Indian River.

The portions of Coconut Point Park (managed by Brevard County) that are currently within System Unit P09A are recommended for reclassification to Otherwise Protected Area (OPA) Unit P09AP. There are numerous other conservation and/or recreation areas located within Unit P09A, but only Coconut Point Park was held for conservation and/or recreation when the area was originally included within the CBRS.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit P09A, Coconut Point, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	3,214	304	2,910	2.0	
Added to the CBRS	54	8	46		0
Removed from the CBRS	15	11	4		28
Reclassified Area	(29)	(27)	(2)	0.0	
Final Recommended Unit	3,224	274	2,950	1.8	
Net Change	10	(30)	40	(0.2)	(28)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P09AP, Coconut Point, Florida

Summary of Final Recommended Changes

Type of Unit: Recommended new Otherwise Protected Area (OPA)

Location of Unit: North of Vero Beach on the Atlantic Coast, in Brevard County, Florida

Congressional District: 8

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P09AP is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: Approximately half of the area recommended for inclusion within new OPA Unit P09AP is currently within existing System Unit P09A, which was established by the Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982). The remainder of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

Recommended new Unit P09AP meets the CBRA criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) and is consistent with the CBRA definition of an OPA, which is an area "established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (Section 12 of the Coastal Barrier Improvement Act; Pub. L. 101-591). The area recommended for inclusion within this new unit is maintained for conservation and/or recreation purposes by Brevard County and the U.S. Fish and Wildlife Service (Service).

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P09AP. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new OPA Unit P09AP. Included within this new unit are Coconut Point Park, managed by Brevard County, and lands near Coconut Point Park that are owned and managed by the Service as part of the Archie Carr National Wildlife Refuge.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	58	54	4		1[4]
Removed from the CBRS	0	0	0		0
Reclassified Area	29	27	2	0.0	
Final Recommended Unit	87	81	6	0.7	
Net Change	87	81	6	0.7	1

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

4 According to the refuge manager, this structure is a former private residence now owned by Archie Carr National Wildlife Refuge.

Existing and Final Recommended Boundaries

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Spessard Holland Park Unit FL-13P
Coconut Point Unit P09A/P09AP

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 12 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P10A, Blue Hole, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Southeast of Vero Beach on the Atlantic Coast, in Indian River and St. Lucie Counties, Florida

Congressional Districts: 8 and 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P10A is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P10A.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P10A to add to the Coastal Barrier Resources System (CBRS) undeveloped coastal barrier and associated aquatic habitat and remove from the CBRS a small area that was developed in 1982.

The U.S. Fish and Wildlife Service (Service) modified the southwestern portion of the landward boundary of Unit P10A (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes that have occurred in the configuration of the shoreline of an unnamed channel. The western portion of the landward boundary of the unit was modified to reflect natural changes that occurred in the configuration of the wetland/fastland interface. The eastern and western excluded area boundaries were modified to reflect natural changes that occurred in the configuration of the shoreline of the Atlantic Ocean and Blue Hole Creek. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John. H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P10A. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the landward boundary of Unit P10A is modified to more consistently follow several vegetative breaks that are visible on the updated base map imagery, and to add areas of wetlands. Portions of the southern landward boundary are adjusted around existing large marinas that are not currently within the CBRS and are no longer recommended for addition to the CBRS as originally proposed on the draft map dated June 12, 2006. Fort Pierce Inlet, an area of associated aquatic habitat around the Port of Fort Pierce (located south of the North Beach Causeway), and areas of associated aquatic habitat surrounding portions of Fort Pierce Inlet State Park are no longer recommended for addition or reclassification to Unit P10A as originally proposed on the 2006 draft map. These areas are either included within the final recommended boundary of adjacent Otherwise Protected Area (OPA) Unit FL-14P or are not recommended for addition to the CBRS.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P10A, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of the excluded area within Unit P10A to follow more precisely the 1982 break-in-development and remove from the CBRS three condominium buildings and three garage structures that are part of the Ocean Harbour Condominium Complex. The northern boundary of the unit is modified to remove portions of five private properties (including two structures) in the Genesea subdivision and six private properties (including four structures) in the Oyster Bay subdivision.

The final recommended map also adds portions of associated aquatic habitat (including areas within the Indian River Aquatic Preserve) to Unit P10A. Some of the associated aquatic habitat is currently located within Unit FL-14P and is recommended for reclassification from an existing OPA to System Unit status because Florida State Aquatic Preserves and Outstanding Florida Waters do not meet the CBRA definition of an OPA.

There are numerous conservation and/or recreation areas currently located within Unit P10A, but none of them were held for conservation and/or recreation when the area was originally included within the CBRS. Therefore, these areas are not recommended for reclassification from System Unit to OPA status. The modifications to the boundary of Unit P10A along the excluded

John H. Chafee Coastal Barrier Resources System Unit P10A, Blue Hole, Florida (continued)

area and the landward side of the unit result in the inclusion of additional minor portions of several conserved areas to the unit because it is impractical from a mapping perspective to delineate them as OPA. Similarly, minor portions of some wetlands that are not conserved are included within adjacent Unit FL-14P where it is impractical to delineate them as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	5,725	840	4,885	3.9	
Added to the CBRS	1,408	20	1,388		0
Removed from the CBRS	14	11	3		13
Reclassified Area	519	26	493	0.0	
Final Recommended Unit	7,638	875	6,763	3.9	
Net Change	1,913	35	1,878	0.0	(13)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-14P, Pepper Beach, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: East of Ft. Pierce on the Atlantic Coast, in St. Lucie County, Florida

Congressional District: 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-14P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-14P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the boundary of Unit FL-14P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) along Fort Pierce Cut to reflect natural changes that occurred in the configuration of the shoreline. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John. H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-14P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The area within existing Unit FL-14P is a complex patchwork of State- and county-owned parks and preserves as well as wetland areas that do not have clear ownership information. Additionally, land ownership in the area has changed since the draft map dated June 12, 2006, was prepared. The Service used information submitted during the public comment period and other State and county sources to review the conservation and/or recreation areas within Unit FL-14P and determine the recommended location for the boundary of the unit.

An outcome of this review is the addition of North Causeway Island Park and portions of Little Jim Bridge Park, State Highway A1A (North Causeway Drive), and the channel on the north and east side of Kings Island Preserve to Unit FL-14P. Also, Fort Pierce Inlet, an area of associated aquatic habitat around the Port of Fort Pierce (located south of State Highway A1A), and areas of associated aquatic habitat surrounding portions of Fort Pierce Inlet State Park are no longer recommended for addition or reclassification to Unit P10A as originally proposed on the 2006 draft map. These areas are either included within the final recommended boundary of adjacent Unit FL-14P or are not recommended for addition to the CBRS. A boundary is added along the shoreline of the two excluded areas in Unit FL-14P, which closes them off at the shoreline and adds the nearshore waters to the unit.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-14P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-14P to remove from the CBRS two structures at the end of Oak Street in the Fort Pierce Shores subdivision, one building (comprised of five residences) in the Coastal Coves subdivision, and a fire station on the north side of Pepper Park.

The boundary of the unit is also modified to generally align with the boundaries of Fort Pierce Inlet State Park, Wildcat Cove Preserve (owned by St. Lucie County), and Pepper Park (managed by St. Lucie County) and to add to the CBRS the portions of these conservation and/or recreation areas that are not already within the CBRS. Kings Island Preserve (owned by St. Lucie County), North Causeway Island Park, portions of Little Jim Bridge Park, and portions of State Highway A1A (North Causeway Drive) are also added to Unit FL-14P. Other conservation and/or recreation areas that are currently within (and recommended to remain within) Unit FL-14P are Coon Island Park and Stan Blum Boat Ramp (both managed by St. Lucie County).

A minor portion of undeveloped private property (less than two acres) in the vicinity of Kings Island Preserve is included within the OPA because it is impractical from a mapping perspective to delineate it as System Unit. The parcel is mostly narrow and follows the shoreline around a cove.

The final recommended map reclassifies some portions of State- and privately-owned associated aquatic habitat (including spoil islands, open water, and wetlands) within the Indian River Aquatic Preserve from OPA Unit FL-14P to System Unit P10A because Florida

John H. Chafee Coastal Barrier Resources System Unit FL-14P, Pepper Beach, Florida (continued)

State Aquatic Preserves and Outstanding Florida Waters do not meet the Coastal Barrier Resources Act definition of an OPA. Associated aquatic habitat around Fort Pierce Inlet State Park and Wildcat Cove Preserve (also within the Indian River Aquatic Preserve) is not recommended for reclassification where it is impractical to delineate it as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

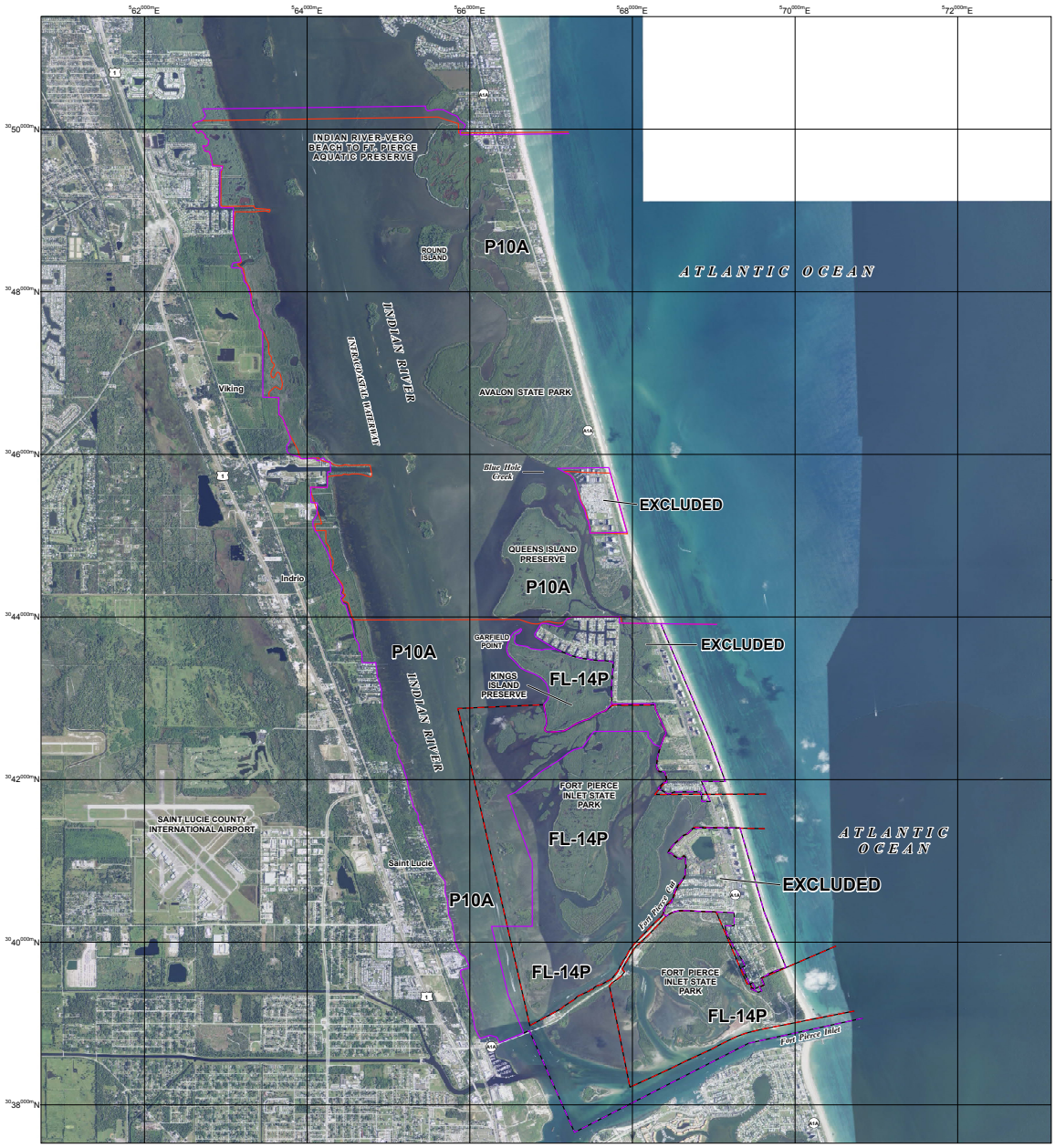
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	2,620	270	2,350	0.7	
Added to the CBRS	803	69	734		3
Removed from the CBRS	4	3	1		4
Reclassified Area	(519)	(26)	(493)	0.0	
Final Recommended Unit	2,900	310	2,590	3.3	
Net Change	280	40	240	2.6	(1)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Blue Hole Unit P10A
Pepper Beach Unit FL-14P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles
0 1,000 2,000 4,000 6,000 8,000 Feet
0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 80°54'000"N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013
Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program
Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 13 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P11, Hutchinson Island, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: East of Port St. Lucie on the Atlantic Coast, in St. Lucie County, Florida

Congressional District: 18

Date of Final Recommended Maps: March 18, 2016

Number of Maps: Unit P11 is depicted on two maps.

Base Map Imagery Source and Dates: Florida Department of Transportation, 2012 and 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P11.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the southern boundary of Unit P11 (via notice published in the *Federal Register* (48 FR 17406) on April 22, 1983) to include within the Coastal Barrier Resources System (CBRS) additional wetlands. This modification was made in accordance with Section 4(c)(1) of Pub. L. 97-348, which allowed minor and technical boundary modifications as necessary to clarify the boundaries of the units.

The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P11 to add to the CBRS undeveloped coastal barrier and associated aquatic habitat and remove a small area that was developed in 1982.

Pub. L. 104-333 (enacted on November 12, 1996) modified the northern boundary of the southernmost excluded area of Unit P11 to remove from the CBRS certain private properties. The maps revised by this law were later invalidated by a court order on March 5, 1998 (Coastal Alliance v. Babbitt, Civil Action No. 97-1344 (D. D.C.)).

Pub. L. 105-277 (enacted on October 12, 1998) reinstated the maps revised by Pub. L. 104-333 (including the map for Unit P11) that were previously invalidated by court order.

The Service modified the eastern boundaries of the two excluded areas of Unit P11 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes that occurred in the configuration of the shoreline of the Atlantic Ocean. The landward boundary of the unit and western boundary of the northern excluded area were modified to reflect natural changes that occurred in the configuration of the shoreline of Indian River. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P11. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the boundary of the middle excluded area is modified to add to the CBRS mangroves and wetlands owned by Dune Walk by the Ocean Condominiums and St. Lucie County. The southern boundary of the unit is modified to maintain within the CBRS the undeveloped coastal barrier south of the Island Village Condominiums property (rather than be removed from the CBRS as originally proposed on the draft map dated June 12, 2006). The Service's assessment indicates that this area met the CBRA criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) at the time it was first included within the CBRS and therefore is not appropriate for removal.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P11, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended maps dated March 18, 2016, modify the boundary of Unit P11 to remove from the CBRS one condominium building in Dune Walk by the Ocean community, five condominium buildings in Ocean Bay Villas community, one condominium building in Sand Dollar Villas community, eight condominium buildings in the Island Village Condominiums community, several maintenance buildings on the Island Dunes Country Club property, and three county-owned structures located near the Ocean Bay Villas Condominiums. In addition, a portion of the Island Dunes Oceanside Condominiums property and a private property nearby are removed from the unit.

The boundary of the unit is also modified to add to the CBRS fastland on the northern end of the southernmost excluded area and near the causeway to Nettles Island and to add associated aquatic habitat in Jennings Cove east of Hook Point, near the nuclear power plant, near Dune Walk by the Ocean Condominiums, near the causeway to Nettles Island, and in the channel between Nettles and Hutchinson Islands.

John H. Chafee Coastal Barrier Resources System Unit P11, Hutchinson Island, Florida (continued)

Frederick Douglass Memorial Park that is owned by St. Lucie County and is currently within System Unit P11 is recommended for reclassification to Otherwise Protected Area Unit P11P. There are numerous other conservation and/or recreation areas located within Unit P11, but only Frederick Douglass Memorial Park was held for conservation and/or recreation when the area was included within the CBRS.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	16,155	661	15,494	9.8	
Added to the CBRS	60	7	53		0
Removed from the CBRS	19	17	2		19
Reclassified Area	(17)	(12)	(5)	0.0	
Final Recommended Unit	16,179	639	15,540	9.6	
Net Change	24	(22)	46	(0.2)	(19)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P11P, Hutchinson Island, Florida

Summary of Final Recommended Changes

Type of Unit: Recommended new Otherwise Protected Area (OPA)

Location of Unit: East of Port St. Lucie on the Atlantic Coast, in St. Lucie County, Florida

Congressional District: 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P11P is depicted on one map.

Base Map Imagery Source and Date: Florida Department of Transportation, 2012

Establishment of Unit: All of the area recommended for inclusion within new OPA Unit P11P is currently within existing System Unit P11, which was established by the Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982).

Recommended new Unit P11P meets the CBRA criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) and is consistent with the CBRA definition of an OPA, which is an area "established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (Section 12 of the Coastal Barrier Improvement Act; Pub. L. 101-591). The area recommended for inclusion within this new unit is maintained for conservation and/or recreation purposes by St. Lucie County.

Public Comments: The U.S. Fish and Wildlife Service (Service) held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P11P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P11P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new OPA Unit P11P. Included within this new unit is Frederick Douglass Memorial Park, which is owned by St. Lucie County.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

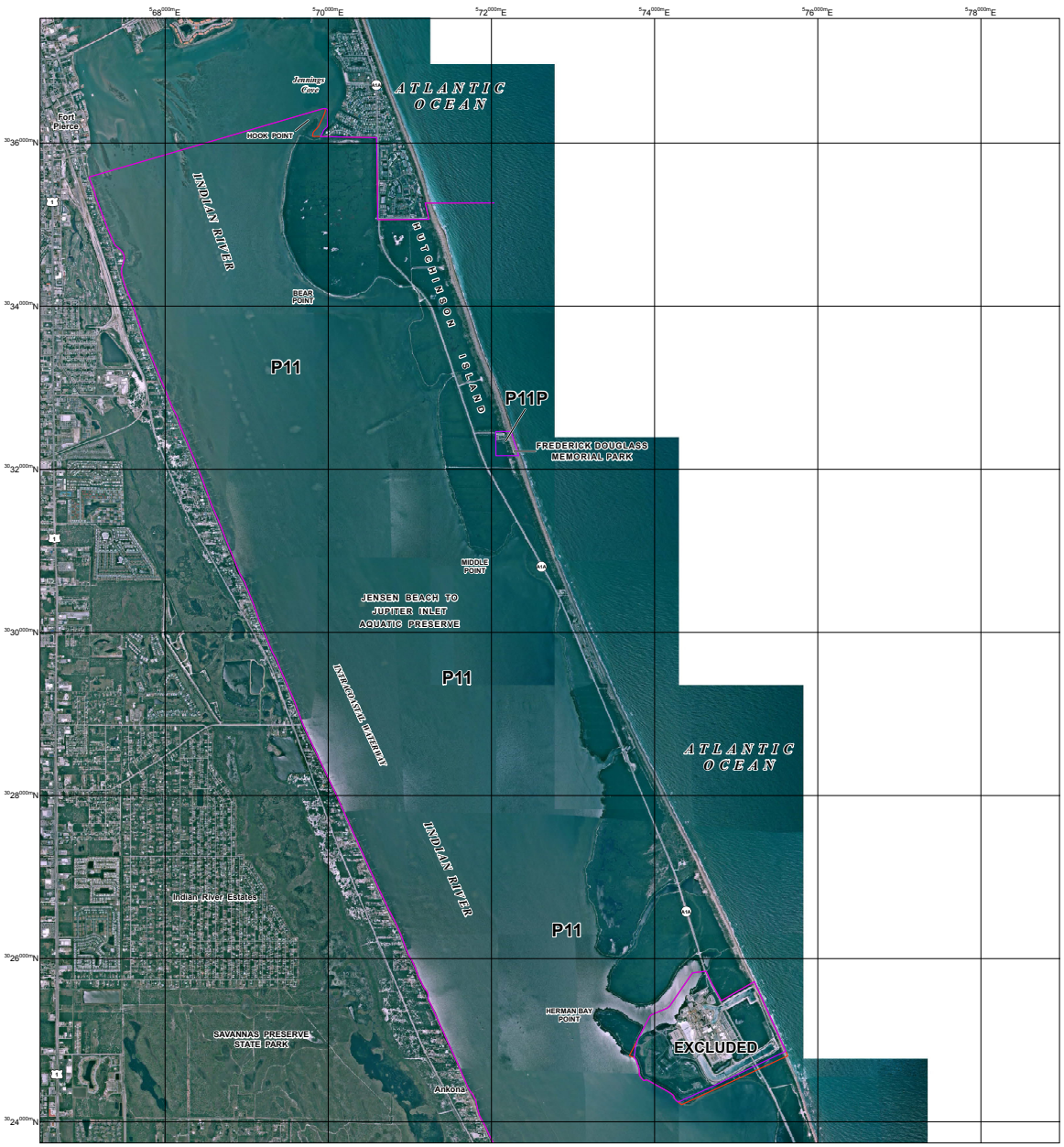
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	17	12	5	0.0	
Final Recommended Unit	17	12	5	0.2	
Net Change	17	12	5	0.2	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Hutchinson Island Unit P11/P11P (1 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 36°000'N 2000-meter Universal Transverse Mercator grid values

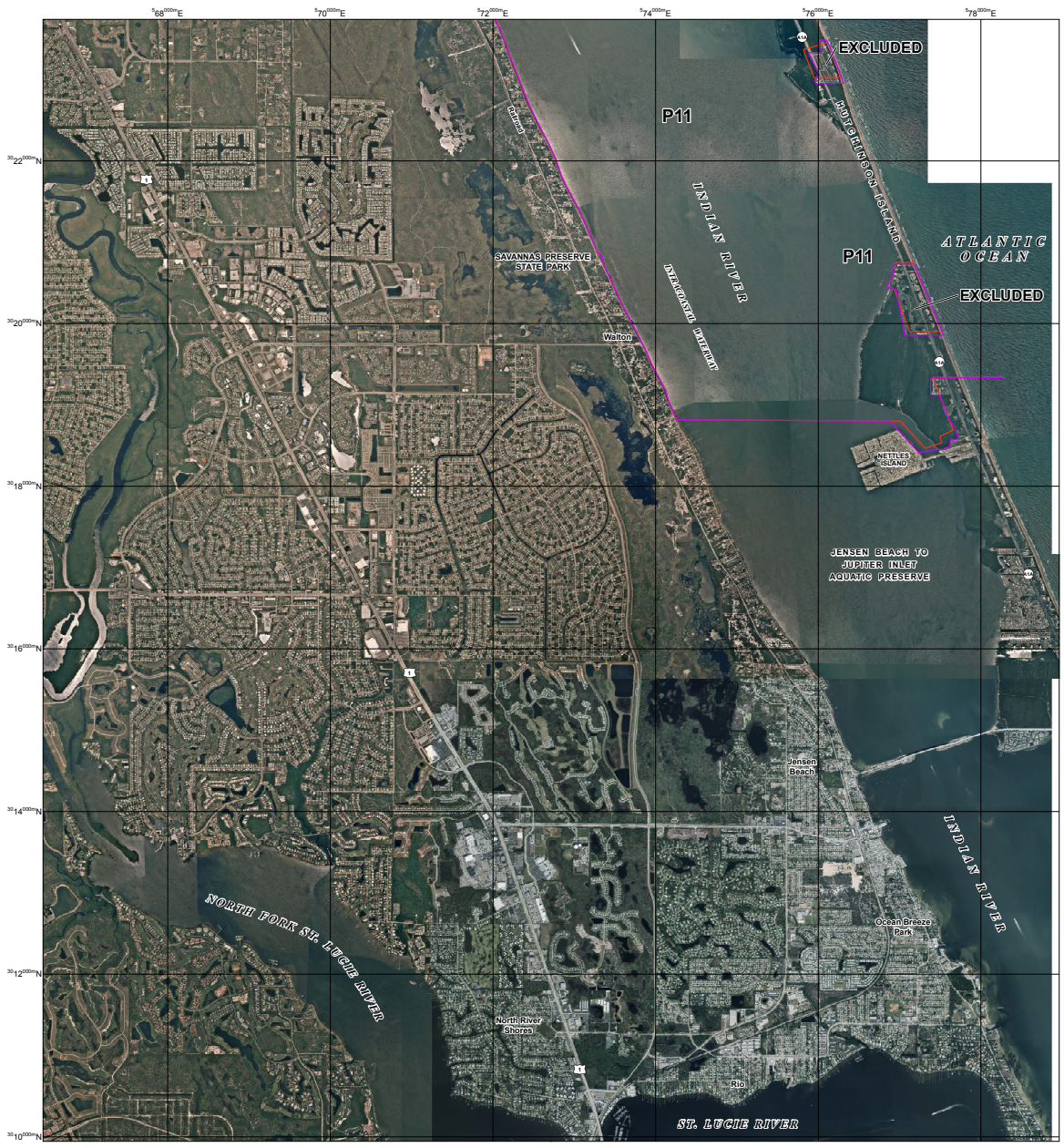
Imagery Date(s): 2012

Imagery Source(s): Florida Department of Transportation

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 14 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Hutchinson Island Unit P11 (2 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 36°54'000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2012, 2013

Imagery Source(s): Florida Department of Transportation

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 15 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-15, Blowing Rocks, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of West Palm Beach on the Atlantic Coast, in Martin County, Florida

Congressional District: 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-15 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-15.

Historical Changes to Unit: Pub. L. 103-461 (enacted on November 2, 1994) modified the northern and southern boundaries of Unit FL-15 to include within the Coastal Barrier Resources System (CBRS) only areas that were undeveloped at the time of their inclusion within the CBRS.

The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-15 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the CBRS at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-15. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-15. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the southern boundary of Unit FL-15 to remove from the CBRS two private properties (including three structures) in the Blowing Rocks subdivision and some associated aquatic habitat in Jupiter Sound. The northern boundary of the unit is also modified to add to the CBRS associated aquatic habitat in Jupiter Sound and the portions of the area owned by The Nature Conservancy that are not already within the unit.

Most of the area currently within Unit FL-15 is the Blowing Rocks Preserve, owned by The Nature Conservancy, a private conservation organization. The Nature Conservancy's property is not recommended for reclassification to an Otherwise Protected Area, although it was held for conservation when Unit FL-15 was established. There is evidence in the Service's records that, in 1990, this privately owned conservation area was deliberately included by Congress within the CBRS as a System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	217	98	119	1.0	
Added to the CBRS	8	2	6		0
Removed from the CBRS	16	2	14		3
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	209	98	111	0.9	
Net Change	(8)	0	(8)	(0.1)	(3)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-16P, Jupiter Beach, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: North of West Palm Beach on the Atlantic Coast, in Palm Beach County, Florida

Congressional District: 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-16P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-16P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the western boundary of Unit FL-16P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes that occurred in the configuration of the shoreline of an unnamed channel near Jupiter Beach Park. A portion of the northern boundary was modified to reflect natural changes that occurred in the configuration of the shoreline of Jupiter Inlet. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-16P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-16P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. The boundary of the unit is also modified to add to the CBRS a parcel that was purchased by Palm Beach County for conservation and/or recreation purposes in 2008 and is now part of DuBois Park. The landward boundary of the unit in the vicinity of the Palm Beach Ridge by the Sea property is modified to follow the shoreline (like the existing CBRS boundary) instead of the parcel boundary. With this change, minor portions of associated aquatic habitat that are not within Jupiter Beach Park are maintained within Unit FL-16P (rather than be removed from the CBRS as originally proposed on the June 12, 2006 draft map).

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-16P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-16P to align with the boundaries of DuBois Park and Jupiter Beach Park, both owned by Palm Beach County, and to add to the CBRS the portions of these Parks which are not already within the unit. In addition, the northern boundary is modified to more consistently follow the center of the Loxahatchee River and the channel on the south side of the DuBois Park peninsula.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit FL-16P, Jupiter Beach, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	51	34	17	0.3	
Added to the CBRS	17	7	10		2
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	68	41	27	0.4	
Net Change	17	7	10	0.1	2

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-17P, Carlin, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: North of West Palm Beach on the Atlantic Coast, in Palm Beach County, Florida

Congressional Districts: 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-17P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-17P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-17P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-17P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-17P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-17P to remove from the CBRS the following properties that are partially within the OPA: Park Plaza Apartments Condominiums; Jupiter Bay East Condominiums; and Bella Vista on the Park Condominiums. This boundary modification removes three structures on the Park Plaza Apartments Condominiums property.

The boundary of the unit is also modified to align with the boundary of Carlin Park, managed by Palm Beach County, and to add to the CBRS the portions of the Park which are not already within the unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

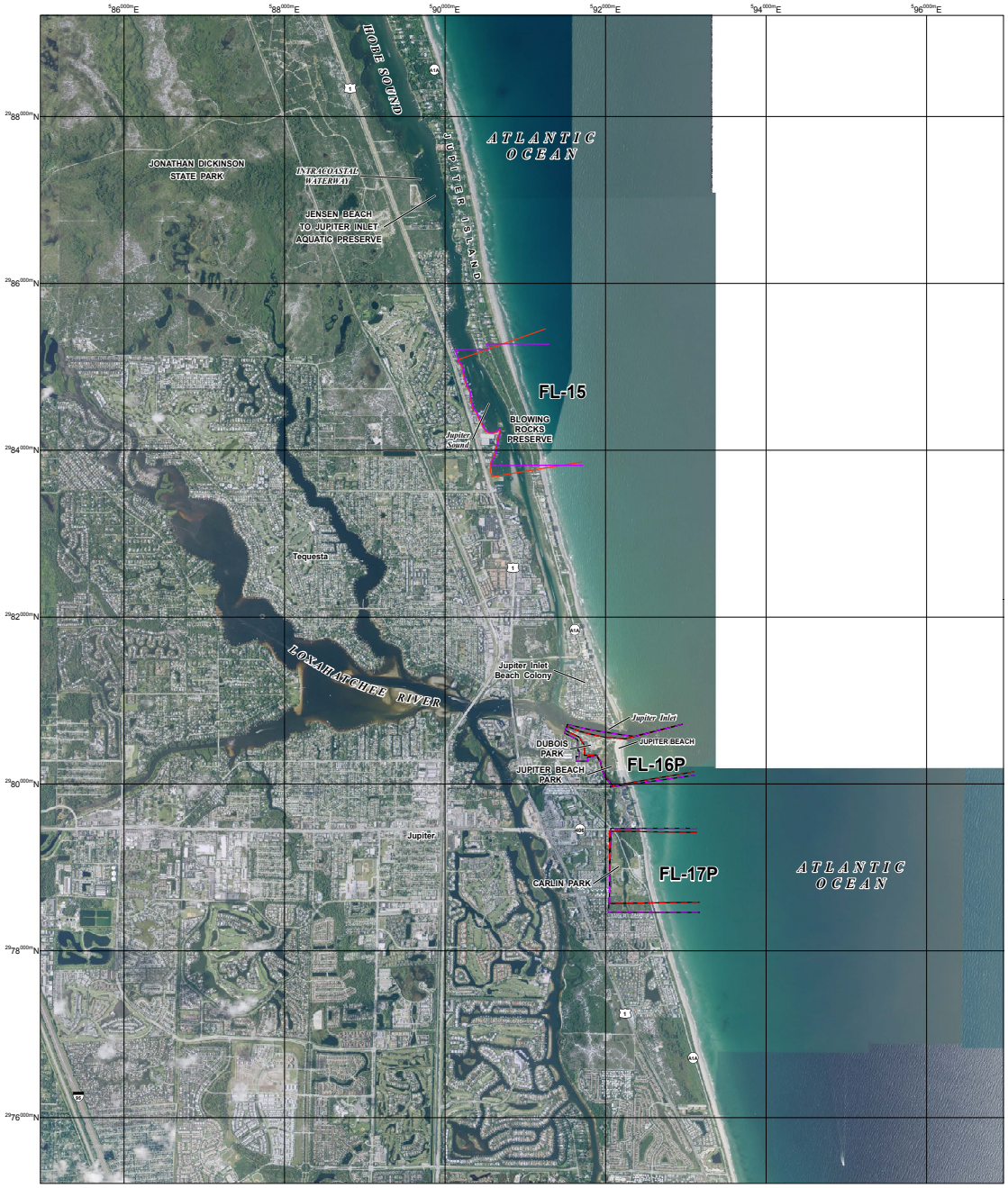
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	100	88	12	0.5	
Added to the CBRS	18	17	1		0
Removed from the CBRS	1	1	0		3
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	117	104	13	0.6	
Net Change	17	16	1	0.1	(3)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Blowing Rocks Unit FL-15
Jupiter Beach Unit FL-16P
Carlin Unit FL-17P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3854000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 16 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-18P, MacArthur Beach, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: East of North Palm Beach on the Atlantic Coast, in Palm Beach County, Florida

Congressional District: 18

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-18P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-18P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-18P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-18P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-18P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-18P to align with the boundary of John D. MacArthur Beach State Park and to remove from the CBRS three condominium buildings and one associated structure in the Greathouse Condominium community; five lots in Old Port Village subdivision; and a portion of St. Paul of the Cross Catholic Church property.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

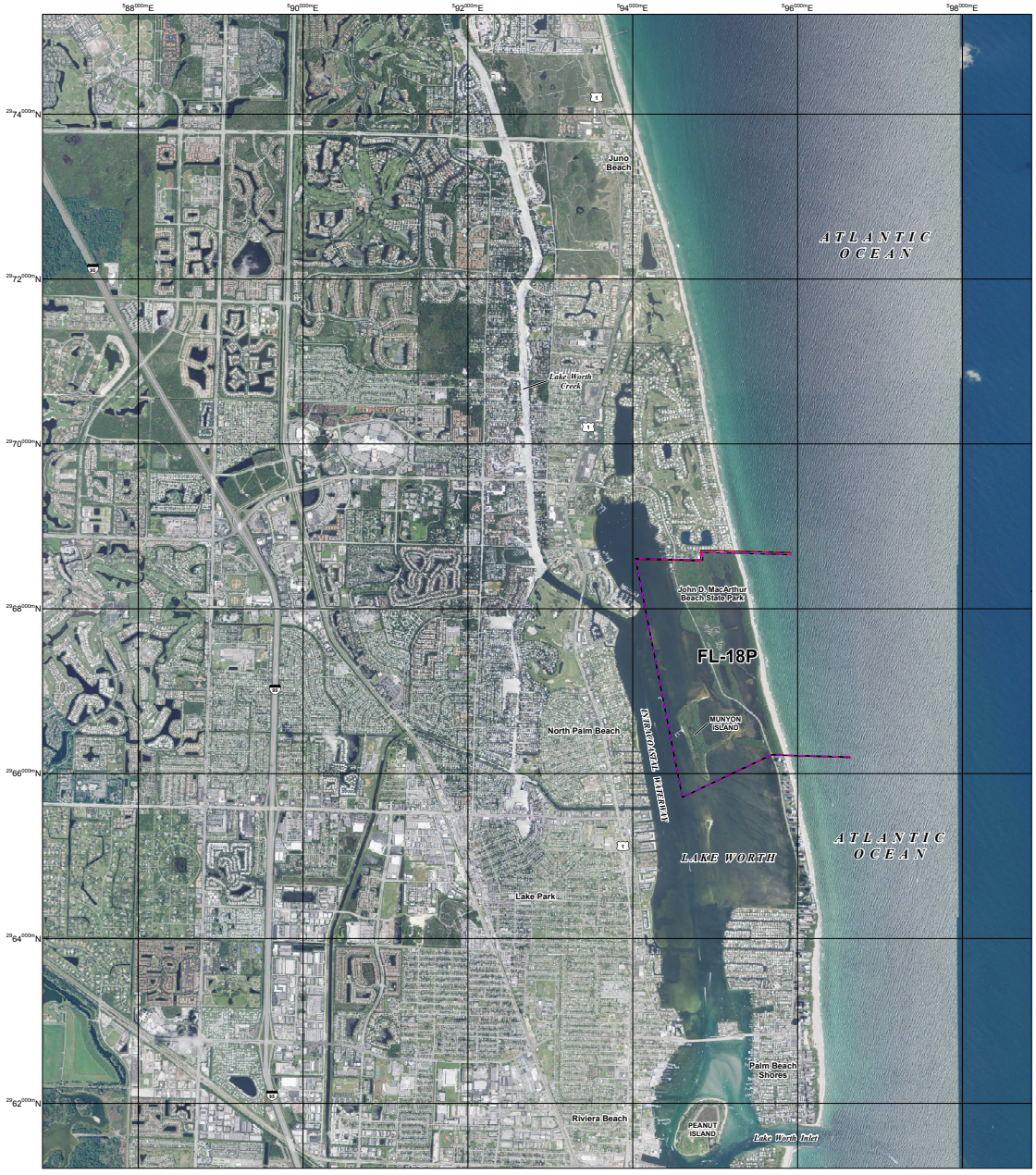
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	844	156	688	1.6	
Added to the CBRS	2	1	1		0
Removed from the CBRS	5	3	2		4
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	841	154	687	1.6	
Net Change	(3)	(2)	(1)	0.0	(4)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

MacArthur Beach Unit FL-18P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 17 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-19P, Birch Park, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: South of Fort Lauderdale on the Atlantic Coast, in Broward County, Florida

Congressional District: 22

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-19P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-19P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-19P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-19P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-19P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, approximately ten acres of beach property, managed by the City of Fort Lauderdale as a public beach and used for recreational purposes, will not be reclassified to new System Unit FL-19 as originally proposed on the draft map dated June 12, 2006. This property is currently within (and recommended to remain within) OPA Unit FL-19P. Because proposed new Unit FL-19 only contained this public beach, that proposed new unit no longer exists.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-19P to align with the boundary of Hugh Taylor Birch State Park and to add to the CBRS the portions of the State Park which are not already within the unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

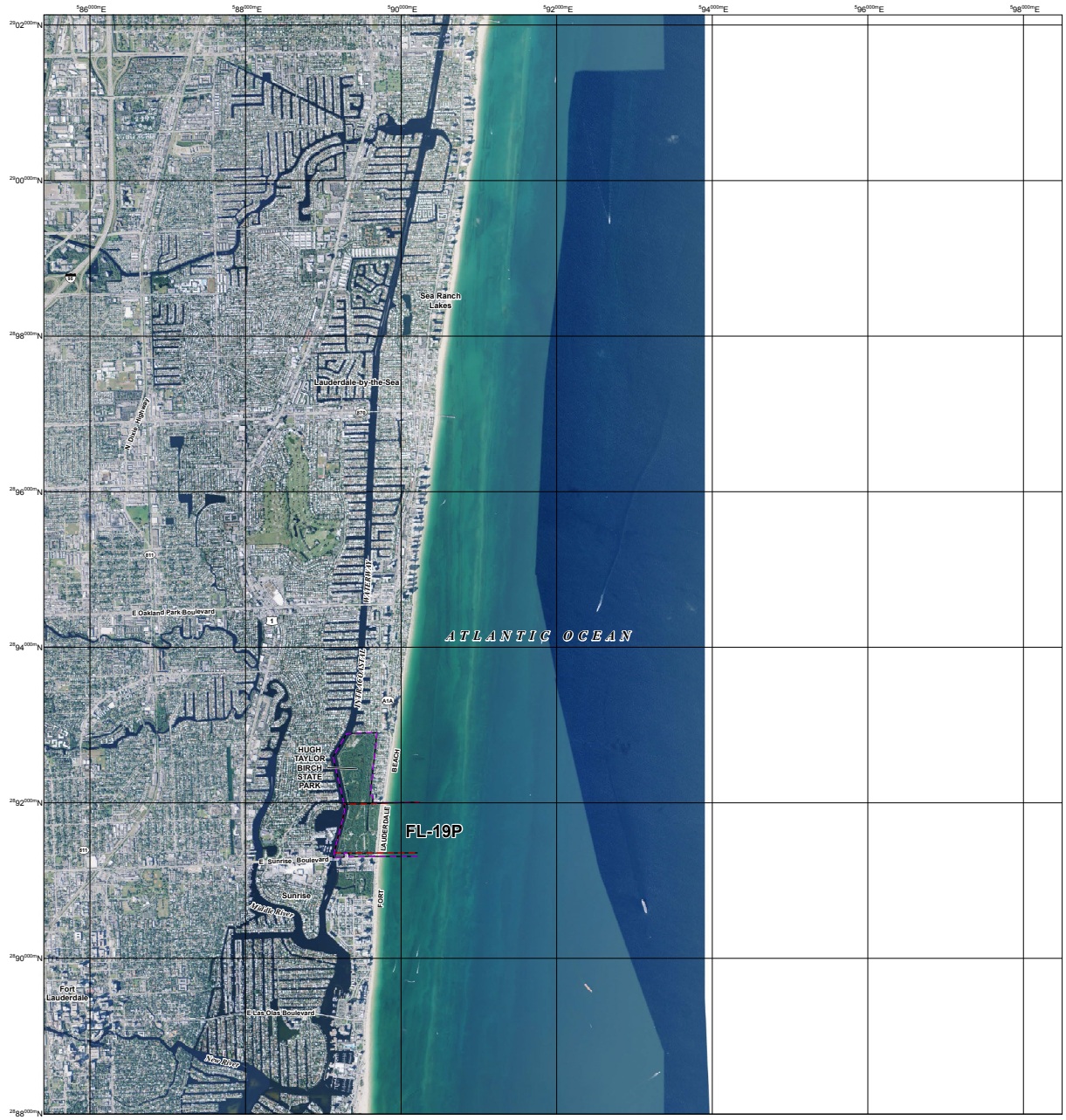
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	84	67	17	0.4	
Added to the CBRS	106	52	54		4
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	190	119	71	0.4	
Net Change	106	52	54	0.0	4

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Birch Park Unit FL-19P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 18 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-20P, Lloyd Beach, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: Southeast of Ft. Lauderdale on the Atlantic Coast, in Broward County, Florida

Congressional District: 23

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-20P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-20P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-20P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act (CBRA) to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-20P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-20P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary is modified to maintain within the OPA a small area of beach that is part of the John U. Lloyd Beach State Park (rather than be removed from the CBRS as originally proposed on the June 12, 2006 draft map). The northern boundary is also extended to the center of the inlet at Lake Mabel.

The southern boundary of Unit FL-20P is modified to maintain within the CBRS a property containing a marina, fishing pier, and beach park owned by the City of Dania Beach (rather than be removed from the CBRS as originally proposed on the draft map dated June 12, 2006). During the preparation of the final recommended maps for the pilot project, the Service found that this property is held for conservation and/or recreational purposes and therefore meets the CBRA definition of an OPA. With this modification, a small private undeveloped parcel north of the Dania Beach property also remains within Unit FL-20P because it is an inholding surrounded by conservation and/or recreation areas.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-20P to remove from the CBRS a U.S. Coast Guard parcel, a parcel owned by a private university, and an area subleased to the U.S. Navy. The boundary of the unit is also modified along the north to extend to the center of the inlet at Lake Mabel and along the west and south to more consistently follow the center of the Intracoastal Waterway and Whiskey Creek, respectively.

The conservation and/or recreation areas that are currently within (and recommended to remain within) Unit FL-20P are: John U. Lloyd Beach State Park; a small parcel held for conservation and owned by the City of Hollywood; property held for recreation and owned by the City of Dania Beach; and a private inholding.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit FL-20P, Lloyd Beach, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	396	227	169	2.6	
Added to the CBRS	16	0	16		0
Removed from the CBRS	36	22	14		16
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	376	205	171	2.7	
Net Change	(20)	(22)	2	0.1	(16)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System P14A, North Beach, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Southeast of Ft. Lauderdale on the Atlantic Coast, in Broward County, Florida

Congressional District: 23

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P14A is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P14A.

Historical Changes to Unit: The boundary of Unit P14A was transferred and fitted to an updated base map through the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). No modifications were made to the boundary of the unit at that time.

The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit P14A (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the CBRA to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P14A. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P14A. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P14A to align with property parcel data and to include within the CBRS the entire width of the Intracoastal Waterway.

Hollywood North Beach Park, managed by Broward County, is located within Unit P14A, but is not recommended for reclassification as an Otherwise Protected Area because the Park was created in 1986 after Unit P14A was established.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

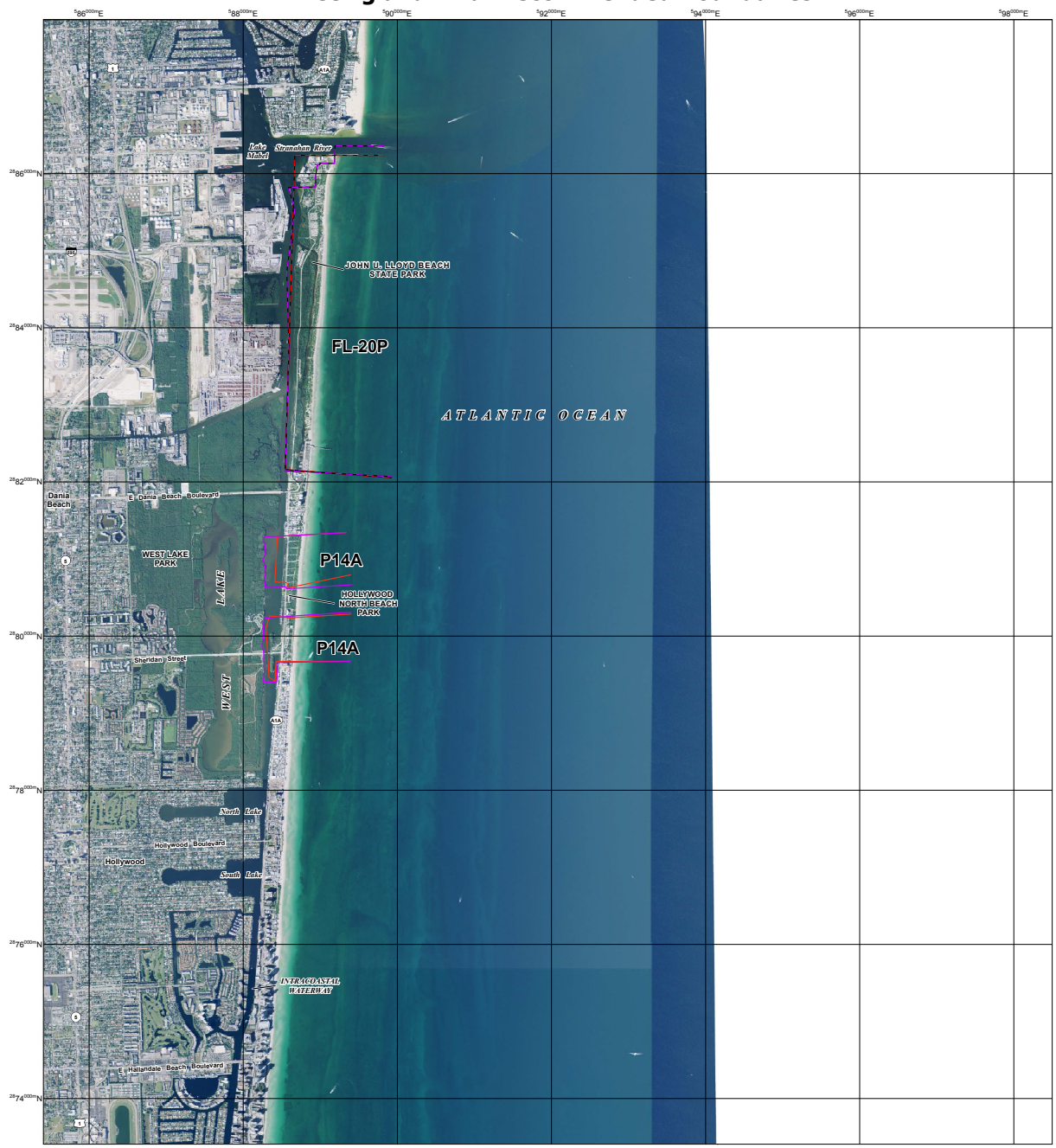
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	110	71	39	0.8	
Added to the CBRS	40	3	37		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	150	74	76	0.8	
Net Change	40	3	37	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Lloyd Beach Unit FL-20P
North Beach Unit P14A

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 19 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-39, Tavernier Key, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Key Largo in the Florida Keys, in Monroe County, Florida

Congressional District: 26

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-39 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-39.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the eastern boundary of Unit FL-39 (via notice published in the *Federal Register* (58 FR 60288) on November 15, 1993) to more accurately follow the wetland/fastland interface. This modification was made in accordance with Section 4(e) of Pub. L. 101-591, which allowed minor and technical boundary modifications as necessary to clarify the boundaries of the units.

The Service modified the northeastern boundary of Unit FL-39 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for emergent mangroves along Plantation Key. A boundary segment was added to the northern and southern lateral boundaries to clarify that Tavernier Key is located within the unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John. H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-39. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. Additionally, the northern boundary of the northern segment of the unit is modified to include within the CBRS the entire width of the Intracoastal Waterway. The boundary is also modified to add to the CBRS mangroves and a pond to the northern segment of the unit and a small undeveloped mangrove island to the southern segment of the unit.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-39, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-39 to add to the CBRS associated aquatic habitat (including mangroves in and around Community Harbor) and the entire width of the Intracoastal Waterway.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,210	6	1,204	0.8	
Added to the CBRS	143	0	143		0
Removed from the CBRS	1	0	1		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,352	6	1,346	0.8	
Net Change	142	0	142	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-40, Snake Creek, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Key Largo in the Florida Keys, in Monroe County, Florida

Congressional District: 26

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-40 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-40.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the boundary of adjacent System Unit FL-39 (via notice published in the *Federal Register* (58 FR 60288) on November 15, 1993). Unit FL-40 is depicted on the same map as Unit FL-39, but the boundary of Unit FL-40 was not modified at that time.

The Service transferred and fitted to an updated base map the boundary of Unit FL-40 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-40. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-40. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary of the northern segment of the unit is modified to include within the CBRS the entire width of the Intracoastal Waterway. The western boundary of the southern segment is modified to include within the CBRS all of Snake Creek channel and an area of associated aquatic habitat.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-40 to add to the CBRS undeveloped coastal barrier and associated aquatic habitat on the north side of U.S. Highway 1, which would add a second segment to the unit. The boundary of the unit is also modified to add smaller undeveloped areas south of U.S. Highway 1.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

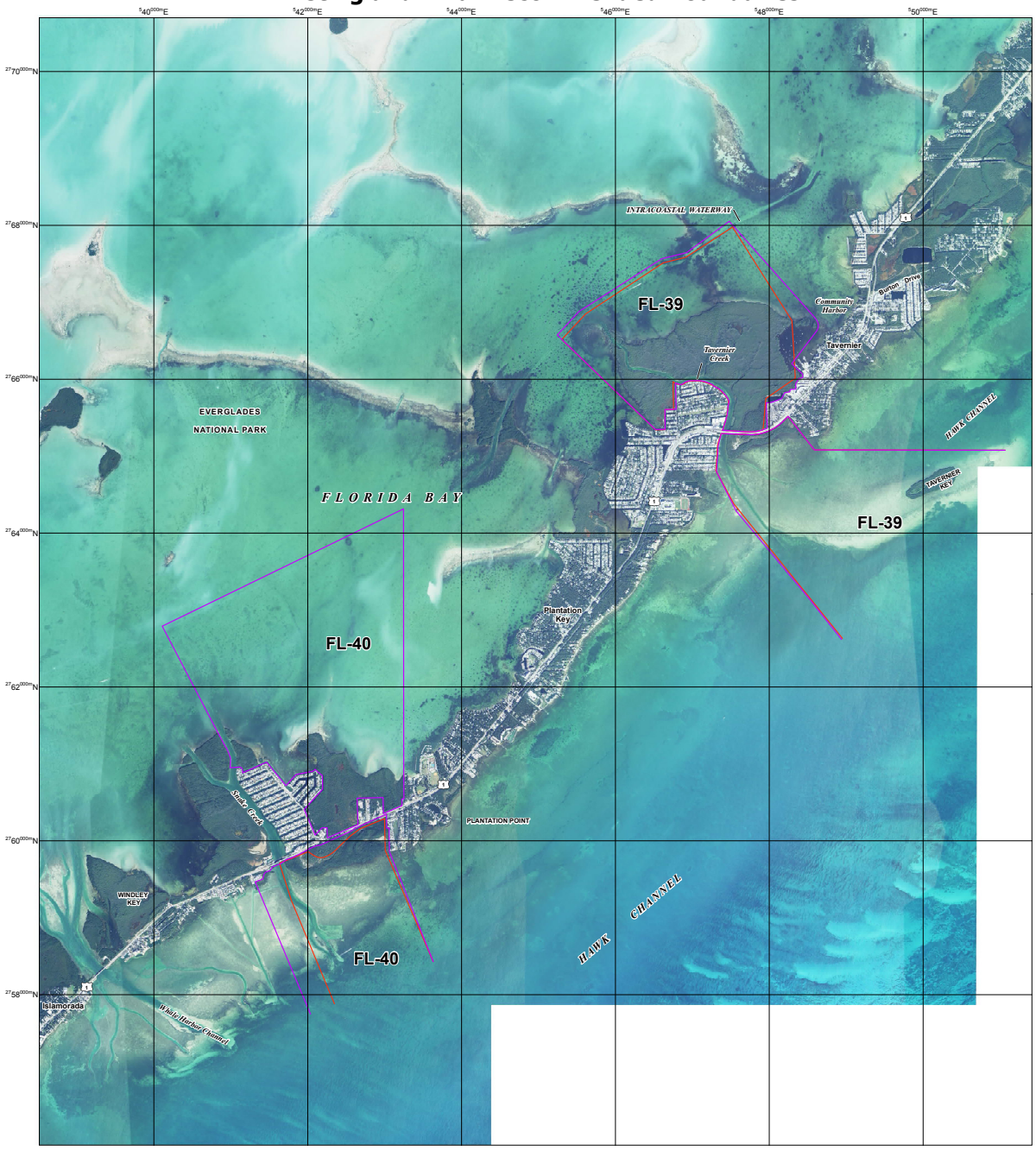
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	110	10	100	0.9	
Added to the CBRS	2,041	6	2,035		4
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	2,151	16	2,135	1.1	
Net Change	2,041	6	2,035	0.2	4

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Tavernier Key Unit FL-39
Snake Creek Unit FL-40

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}$N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 20 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-43, Channel Key, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Key Largo in the Florida Keys, in Monroe County, Florida

Congressional District: 26

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-43 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-43.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-43 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to FL-43. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.*

Changes between Proposed and Final Recommended Boundaries: There are no changes between the proposed boundary of Unit FL-43 depicted on the draft map dated June 12, 2006, and the final recommended boundary of the unit depicted on the map dated March 18, 2016.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, makes no changes to the boundary of Unit FL-43.

The Service's final recommended map will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,187	0	1,187	0.9	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,187	0	1,187	0.9	
Net Change	0	0	0	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-44, Toms Harbor Keys, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Key Largo in the Florida Keys, in Monroe County, Florida

Congressional District: 26

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-44 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-44.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit FL-44 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes in the configuration of the mangroves and shoreline along Toms Harbor. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-44. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-44. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the western boundary of the unit is modified to add to the CBRS an area of wetlands and mangroves.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-44, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-44 to add to the CBRS undeveloped coastal barrier and associated aquatic habitat on Grassy Key south of U.S. Highway 1, the entire width of Duck Key Channel, and portions of Toms Harbor.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	363	0	363	1.0	
Added to the CBRS	194	3	191		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	557	3	554	1.1	
Net Change	194	3	191	0.1	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-45, Deer/Long Point Keys, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Key West in the Florida Keys, in Monroe County, Florida

Congressional District: 26

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-45 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-45.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-45 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John. H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-45. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. Additionally, the eastern and western boundaries of the unit are modified to add to the CBRS wetlands and mangroves. A medical examiner's office and fire training facility owned by Monroe County, and an electrical relay facility owned by the Florida Keys Electric Cooperative Association, are located within an area that was proposed for addition to Unit FL-45 on the draft map dated June 12, 2006. The boundary of Unit FL-45 is modified to exclude these facilities from the area recommended for addition to the CBRS.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-45 to add to the CBRS areas of undeveloped coastal barrier and associated aquatic habitat (primarily east of Little Crawl Key). Within this addition, three areas of existing development are excluded from the CBRS.

Curry Hammock State Park is located within Unit FL-45, but is not recommended for reclassification to an Otherwise Protected Area because the State Park was acquired by the State of Florida after Unit FL-45 was established.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

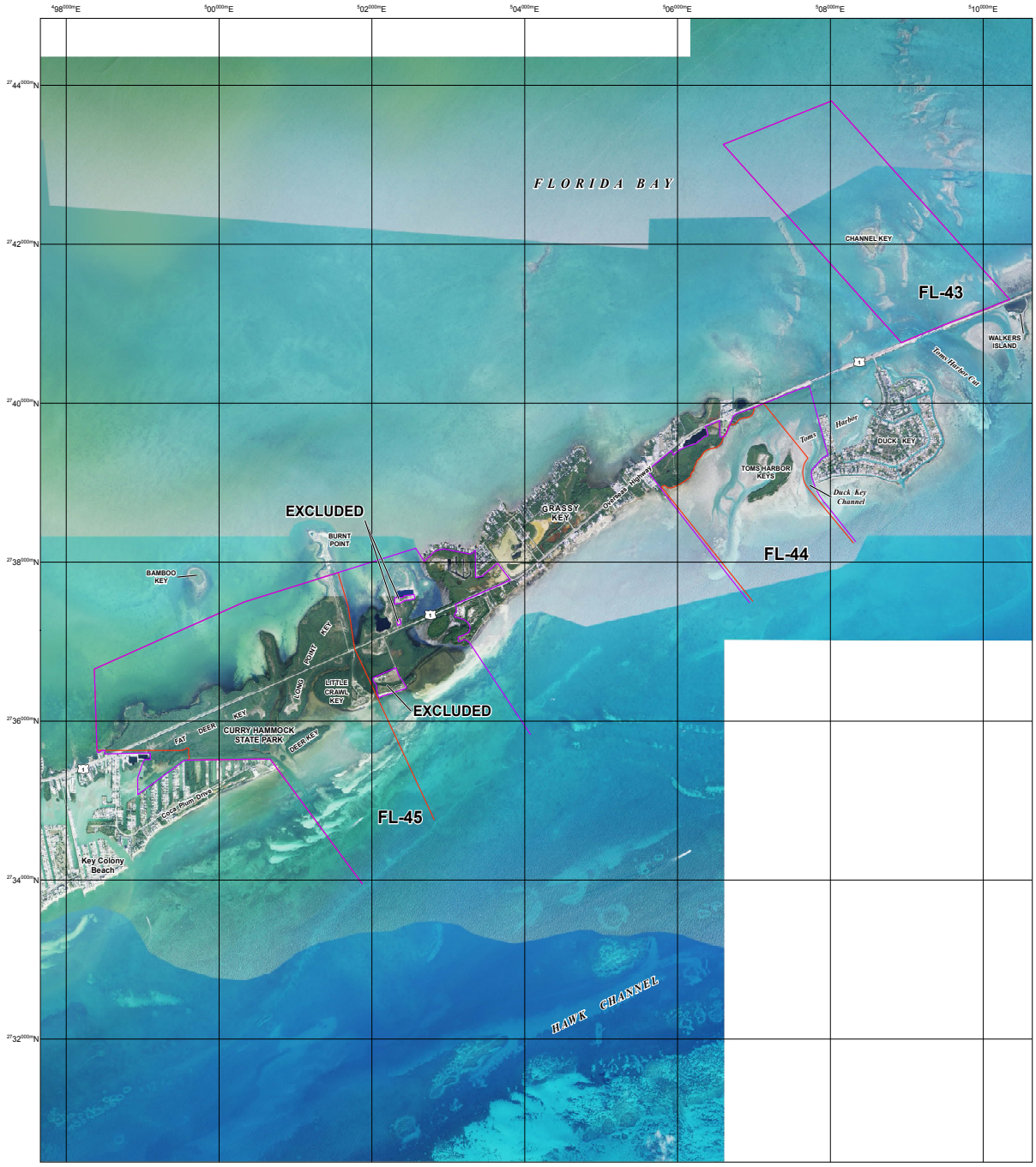
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,344	343	1,001	1.4	
Added to the CBRS	591	141	450		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,935	484	1,451	2.1	
Net Change	591	141	450	0.7	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Channel Key Unit FL-43
Toms Harbor Keys Unit FL-44
Deer/Long Point Keys Unit FL-45

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 21 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-46, Boot Key, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Key West in the Florida Keys, in Monroe County, Florida

Congressional District: 26

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-46 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-46.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-46 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-46. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-46. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary of the unit is modified to add to the CBRS an area of mangroves and wetlands adjacent to U.S. Highway 1 and on the east side of Knight Key. The eastern boundary of the unit is modified to add areas of associated aquatic habitat and an undeveloped public beach owned by the City of Marathon. The northern boundary of the unit is also modified to remove a portion of a large commercial marina dock that was inadvertently proposed for addition to the CBRS on the draft map dated June 12, 2006, because it was not visible on the 1999 base map imagery (a small portion of this dock that has expanded into the existing portion of Unit FL-46 will remain within the CBRS).

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-46 to remove from the CBRS the Federally owned property with radio towers that is used by the Voice of America. This property is located on Vaca Key along Sister Creek. Associated aquatic habitat (including mangroves and wetlands adjacent to U.S. Highway 1 and on the east side of Knight Key) and an undeveloped coastal barrier (comprising less than an acre of public beach) are added to Unit FL-46, along with the entire width of Boot Key Harbor.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

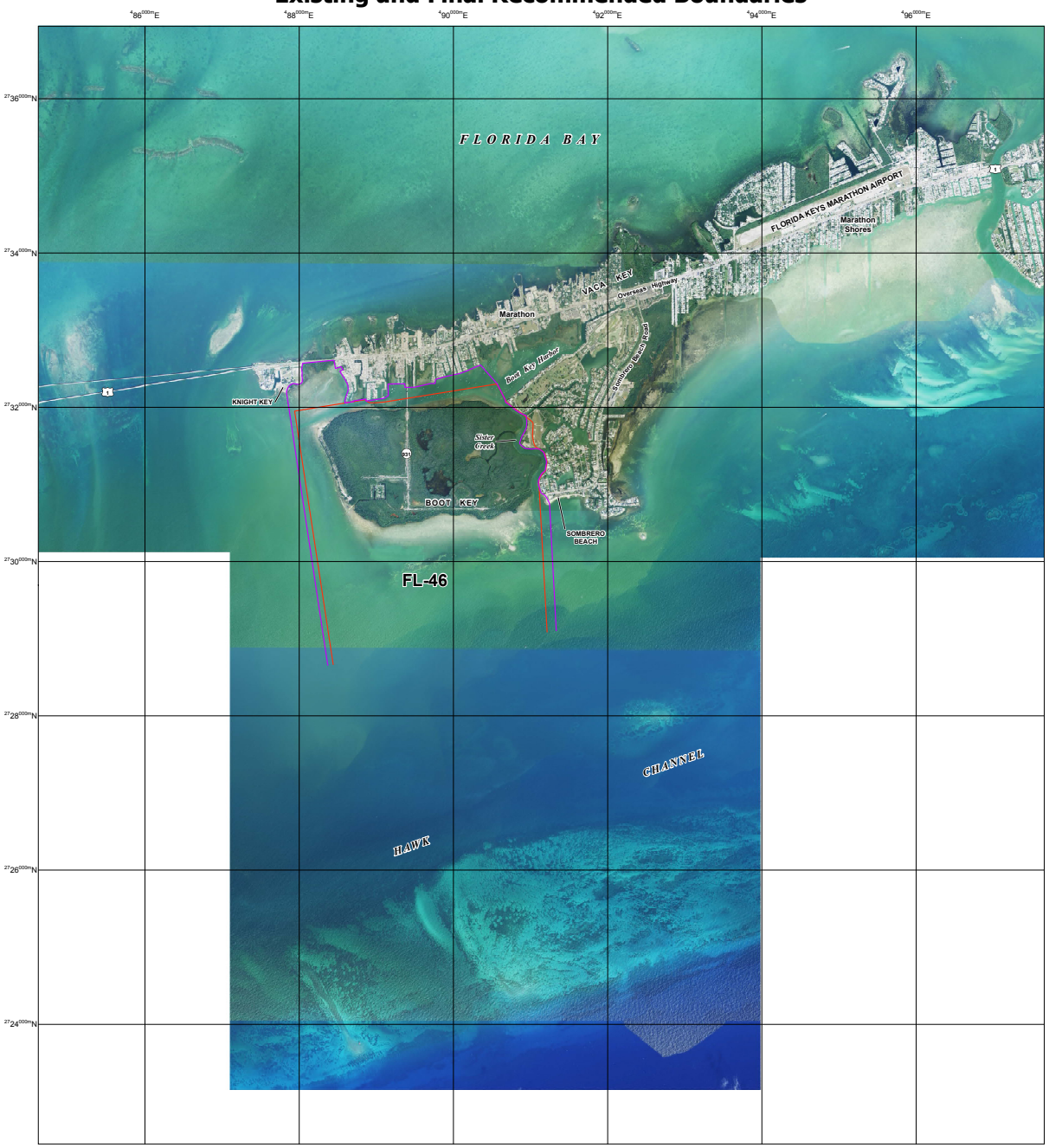
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,212	118	1,094	1.9	
Added to the CBRS	189	2	187		0
Removed from the CBRS	13	12	1		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,388	108	1,280	2.0	
Net Change	176	(10)	186	0.1	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Boot Key Unit FL-46

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3854000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 22 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P17A, Bowditch Point, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Naples on the Gulf Coast, in Lee County, Florida

Congressional District: 19

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P17A is depicted on one map.

Base Map Imagery Source and Date: Florida Department of Transportation, 2014

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P17A.

Historical Changes to Unit: The boundary of Unit P17A was transferred and fitted to an updated base map through the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). No modifications were made to the boundary of the unit at that time. Pub. L. 103-461 (enacted on November 2, 1994) modified the southern boundary of Unit P17A to include within the CBRS only areas that were undeveloped at the time the unit was established.

The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit P17A (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the CBRA to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time; however, the name of the unit was changed from "Bodwitch Point" to "Bowditch Point" to correctly identify the underlying barrier feature.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P17A. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P17A to include the entire barrier spit at the northern end of Estero Island (which has accreted into adjacent Unit FL-67) within the unit.

Bowditch Point Park, owned by Lee County, is located within Unit P17A, but is not recommended for reclassification as an Otherwise Protected Area because the Park was acquired by the County after Unit P17A was established.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	32	11	21	0.2	
Added to the CBRS	2	1	1		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	66	12	54	0.4	
Net Change	34	1	33	0.2	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-67, Bunche Beach, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Naples on the Gulf Coast, in Lee County, Florida

Congressional District: 19

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-67 is depicted on one map.

Base Map Imagery Source and Date: Florida Department of Transportation, 2014

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-67.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the northern boundary of Unit FL-67 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for natural changes that occurred in the configuration of an unnamed channel south of Big Shell Island. A portion of the western boundary of the unit was extended westward to account for the migration of the sand sharing system in San Carlos Bay. In addition, the name of this unit was changed from "Bunch Beach" to "Bunche Beach" to correct a spelling error. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-67. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the landward boundary of the unit along Shell Point Boulevard is modified to add a small area of mangroves that is mostly within Estero Bay Preserve State Park. Adjacent portions of the same State Park are already within Unit FL-67 (see Final Recommended Changes to Unit section below for additional information). The boundary of the unit near Little Shell Island in the Caloosahatchee River is modified to maintain an area of associated aquatic habitat within the CBRS, and the boundary along Punta Rassa north of the Sanibel Causeway is modified to add two small areas of mangroves and wetlands (one on north side of the development and the other on the south side at the Punta Rassa Boat Ramp).

The boundary of the excluded area is modified to remove a portion of a commercial marina that existed at the time the area was included within the CBRS. The coincident boundary between Unit FL-67 and recommended new Otherwise Protected Area (OPA) Unit FL-67P, located south of where County Road 867 (McGregor Boulevard) and County Road 869 (Summerlin Road) meet, is modified to add portions of Matlacha Pass National Wildlife Refuge (owned by the Service) to Unit FL-67P. This area was originally proposed for addition to System Unit FL-67 on the draft map dated June 12, 2006.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-67, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-67 to add to the CBRS: portions of undeveloped coastal barrier and wetlands along Punta Rassa, along the excluded area boundary around Connie Mack Island, and along the landward boundary of the unit (both north and south of County Road 867); privately owned undeveloped islands in the Caloosahatchee River; and the entire width of several channels. The final recommended map also modifies the boundary to remove from the CBRS the portions of a hotel located along Punta Rassa and a commercial marina located just east of Connie Mack Island both of which were in areas that were developed at the time they were included within Unit FL-67.

The coincident boundary with Unit P17A is modified to include the entire barrier spit at the northern end of Estero Island (which has accreted out of Unit P17A and into Unit FL-67) within Unit P17A.

There are three conservation and/or recreation areas located partially within Unit FL-67: the Estero Bay Preserve State Park; the San Carlos Bay – Bunche Beach Preserve (managed by Lee County); and a portion of the Matlacha Pass National Wildlife Refuge (owned by the Service).

A small portion of Estero Bay Preserve State Park was first acquired by the State of Florida prior to the establishment of Unit FL-67. Many additional areas were later added to the State Park. At the time the draft map was prepared, sufficient information regarding the dates of acquisition was not available for the State Park parcels within Unit FL-67. Therefore, none of the State Park lands are recommended for reclassification as an OPA.

John H. Chafee Coastal Barrier Resources System FL-67, Bunche Beach, Florida (continued)

Additionally, a minor portion of this State Park is added to Unit FL-67 by the final recommended boundary because it is impractical from a mapping perspective to delineate it as OPA. The portions of Matlacha Pass National Wildlife Refuge and San Carlos Bay – Bunche Beach Preserve (with one minor exception) that are currently within Unit FL-67 were acquired for conservation and/or recreation purposes after the unit was established. Therefore, these areas are not recommended for reclassification as an OPA.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	3,231	87	3,144	4.3	
Added to the CBRS	380	6	374		0
Removed from the CBRS	7	3	4		1
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	3,572	90	3,482	4.1	
Net Change	341	3	338	(0.2)	(1)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-67P, Bunche Beach, Florida

Summary of Final Recommended Changes

Type of Unit: Recommended new Otherwise Protected Area (OPA)

Location of Unit: North of Naples on the Gulf Coast, in Lee County, Florida

Congressional District: 19

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-67P is depicted on one map.

Base Map Imagery Source and Date: Florida Department of Transportation, 2014

Establishment of Unit: The area recommended for inclusion within new OPA Unit FL-67P is currently not within the Coastal Barrier Resources System (CBRS).

Recommended new Unit FL-67P meets the Coastal Barrier Resources Act (CBRA) criteria for an undeveloped coastal barrier (16 U.S.C. 3503(g)(1)) and is consistent with the CBRA definition of an OPA, which is an area "established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (Section 12 of the Coastal Barrier Improvement Act; Pub. L. 101-591). The majority of the area recommended for inclusion within this new unit is maintained for conservation and/or recreation purposes by Lee County and the U.S. Fish and Wildlife Service (Service). About four acres of an approximately five-acre parcel of undeveloped private property that is not held for conservation and/or recreation is included within the new OPA. About one acre of this private parcel is currently within System Unit FL-67.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-67P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-67P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the coincident boundary between recommended new OPA Unit FL-67P and Unit FL-67, located south of where County Road 867 (McGregor Boulevard) and County Road 869 (Summerlin Road) meet, is modified to add portions of Matlacha Pass National Wildlife Refuge and a privately owned parcel that is located between two conserved parcels to Unit FL-67P. This area was originally proposed for addition to System Unit FL-67 as depicted on the draft map dated June 12, 2006.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new OPA Unit FL-67P, comprised of two discrete segments. Included within this new unit are portions of the San Carlos Bay – Bunche Beach Preserve; portions of Matlacha Pass National Wildlife Refuge; and a privately owned parcel. This minor portion of private property is located near County Road 867 (McGregor Boulevard) between the Preserve and Refuge, and it is impractical from a mapping perspective to delineate it as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	179	1	178		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	179	1	178	0.0	
Net Change	179	1	178	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Bowditch Point Unit P17A
Bunche Beach Unit FL-67/FL-67P
Sanibel Island Complex P18P (1 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 36,000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2014

Imagery Source(s): Florida Department of Transportation

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 23 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P21, Bocilla Island, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Punta Gorda Beach on the Gulf Coast, in Charlotte County, Florida

Congressional District: 17

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P21 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P21.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P21 to add to the CBRS associated aquatic habitat, and created adjacent Otherwise Protected Area (OPA) Unit P21P.

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit P21 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for natural changes that occurred along the shoreline of Lemon Bay in the northern discrete segment of the unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. For a summary of the comments received and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P21. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the landward boundary of the southern segment of the unit is modified to remove from the CBRS two condominium buildings and one associated structure in the Hacienda Del Mar community. These structures are recommended for removal because the mangrove feature that the CBRS boundary was intended to follow was not depicted correctly on the base map used for the October 24, 1990, CBRS map. The landward boundaries of both the northern and southern discrete segments of the unit are also modified to add to the CBRS several areas of associated aquatic habitat.

Two islands (Buttonwood and Rookery) and the surrounding aquatic habitat located to the north of the Stump Pass Beach State Park are added to OPA Unit P21P. The islands and aquatic habitat, which are owned by the Lemon Bay Conservancy (a private conservation organization), were originally classified as System Unit P21 on the draft map dated June 12, 2006, because it was not known at that time that they met the CBRA definition of an OPA.

The boundary of Unit P21 is also modified along the Cedar Point Environmental Park shoreline, which results in the addition of minor portions of the Park to the unit because it is impractical from a mapping perspective to delineate them as OPA. Similarly, minor portions of some wetlands that are not in the Cedar Point Environmental Park are included within Unit P21P where it is impractical to delineate them as System Unit.

A boundary is added along the shoreline of the excluded area in the southern segment of Unit P21, which closes it off at the shoreline and adds the nearshore waters to the unit.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P21, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P21 to remove two condominium buildings and one associated structure in the Hacienda Del Mar community; the upland portions of six lots (including one structure) in the Eagle Preserve Estates subdivision; and the upland portion of one lot (including one structure) on Downing Street. The structures are recommended for removal because the mangrove features that the CBRS boundary was intended to follow were not depicted correctly on the base map used for the October 24, 1990, CBRS map.

In addition, the boundary of the unit is modified to align with property parcel data to follow more precisely the 1982 break-in-development and remove six lots (including two structures) and several dock lots in the Palm Island Estates and Hidden Cove Estates subdivisions.

The boundary of the southern segment of the unit is modified to add to the CBRS the associated aquatic habitat in Placida Harbor, resulting in the previously discrete middle and southern segments of the unit connecting to form one segment and in the creation of an excluded area on Little Gasparilla Island. The boundary of the northern segment of the unit is modified to add to the CBRS associated aquatic

John H. Chafee Coastal Barrier Resources System Unit P21, Bocilla Island, Florida (continued)

habitat in Lemon Bay from Stump Pass to Beach Road. The landward boundary of the unit is modified to add to the CBRS several areas of associated aquatic habitat.

Associated aquatic habitat in Lemon Bay on the east side of Whidden and Little Whidden Keys is currently in OPA Unit P21P and is recommended for reclassification to System Unit P21. The Service's review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the CBRA definition of an OPA); however, it does qualify for inclusion within a System Unit. Minor portions of Cedar Point Environmental Park are included within System Unit P21 where it is impractical to delineate them as OPA. Similarly, minor portions of some wetlands that are not in the Cedar Point Environmental Park are included within Unit P21P where it is impractical to delineate them as System Unit. Don Pedro Island State Park is located within Unit P21, but is not recommended for reclassification to an OPA because the State Park was acquired after Unit P21 was established.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	2,002	409	1,593	3.8	
Added to the CBRS	1,736	13	1,723		0
Removed from the CBRS	9	4	5		6
Reclassified Area	90	0	90	0.0	
Final Recommended Unit	3,819	418	3,401	3.7	
Net Change	1,817	9	1,808	(0.1)	(6)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit P21P, Bocilla Island, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: South of Punta Gorda Beach on the Gulf Coast, in Charlotte County, Florida

Congressional District: 17

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P21P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (CBIA) (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit P21P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit P21P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act (CBRA) to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P21P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P21P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the open water between the barrier and other islands in the Stump Pass Beach State Park (Manasota Key, Peterson Island, and Whidden Key) is modified to remain in OPA Unit P21P and not be reclassified to System Unit P21 as depicted on the draft map dated June 12, 2006. Although not part of the State Park, it is impractical to delineate the open water as System Unit. Two islands (Buttonwood and Rookery) and the surrounding aquatic habitat located to the north of the State Park are added to Unit P21P. The islands and aquatic habitat, which are owned by the Lemon Bay Conservancy (a private conservation organization), were originally classified as System Unit on the draft map dated June 12, 2006, because it was not known at that time that they met the CBRA definition of an OPA, which is defined as an area "established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (Section 12 of the CBIA).

The boundary of Unit P21P is also modified along the Cedar Point Environmental Park shoreline, which results in the inclusion of minor portions of the Park to System Unit P21 because it is impractical to delineate them as OPA. Similarly, minor portions of some wetlands that are not in the Cedar Point Environmental Park are included within Unit P21P where it is impractical to delineate them as System Unit.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P21P to add to the CBRS two islands (Buttonwood and Rookery) and the surrounding aquatic habitat. The boundary of the unit is also modified to add to the CBRS an area owned by Charlotte County and located on the eastern side of Lemon Bay known as Cedar Point Environmental Park. These additions meet the CBRA definition of an OPA. Minor portions of Cedar Point Environmental Park are included within System Unit P21 where it is impractical to delineate them as OPA. Similarly, minor portions of some wetlands that are not in the Cedar Point Environmental Park are included within Unit P21P where it is impractical to delineate them as System Unit.

The boundary of the unit is also modified to align it to the northern boundary of the Stump Pass Beach State Park on Manasota Key where it is adjacent to private properties, and the boundary at the southern end of Manasota Key is modified to account for the accretion of the island out of the OPA.

Associated aquatic habitat in Lemon Bay on the east side of Whidden and Little Whidden Keys is currently in OPA Unit P21P and is recommended for reclassification to System Unit P21. The Service's review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the CBRA definition of an OPA); however, it does qualify for inclusion within a System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit P21P, Bocilla Island, Florida (continued)

Acreage, Shoreline, and Structures:

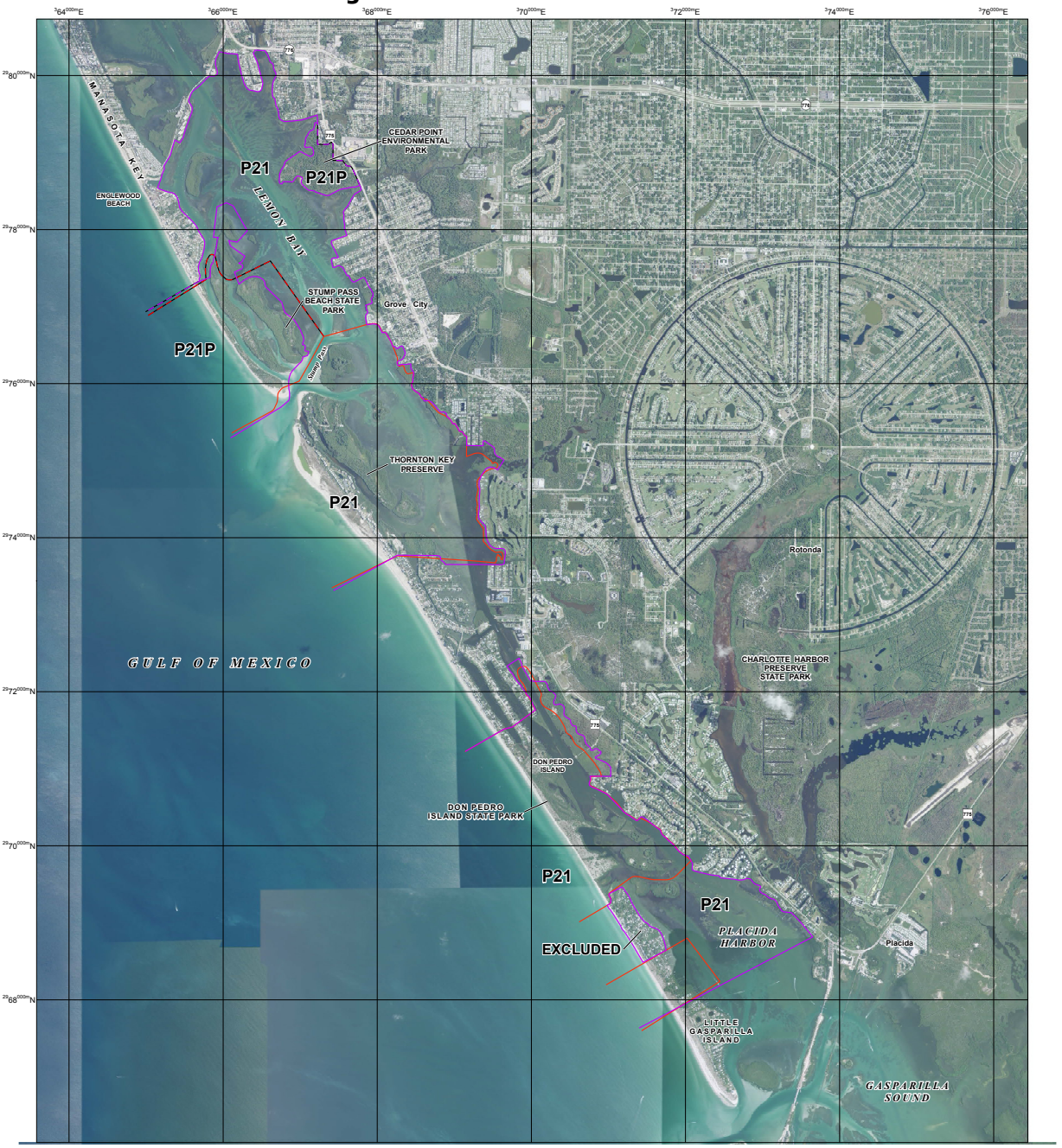
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	394	116	278	1.1	
Added to the CBRS	181	76	105		0
Removed from the CBRS	0	0	0		0
Reclassified Area	(90)	0	(90)	0.0	
Final Recommended Unit	485	192	293	1.2	
Net Change	91	76	15	0.1	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Bocilla Island Unit P21/P21P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 24 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P22, Casey Key, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Southeast of St. Petersburg on the Gulf Coast, in Sarasota County, Florida

Congressional District: 16, and 17*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P22 is depicted on one map.

Base Map Imagery Sources and Dates: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013, and Florida Department of Transportation, 2014

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P22.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit P22 to add to the Coastal Barrier Resources System (CBRS) wetlands.

The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit P22 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for natural changes that occurred in the configuration of the shoreline along Sarasota Keys. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P22. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P22. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the landward boundary of the unit is modified to add to the CBRS two small areas of mangroves (one on the north and the other on the south).

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit P22, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P22 to add to the CBRS several areas of mangroves and wetlands on the east side of Little Sarasota Bay. The boundary of the unit is modified along the north to include the entire width of the channel between Siesta Key and Bird Keys. This northern boundary is also adjusted to generally align with parcel data to better follow the 1982 break-in-development.

There are two Sarasota County conservation and/or recreation areas, Jim Neville Marine Preserve and Palmer Point Park, located within Unit P22. The Preserve and Park are not recommended for reclassification to an Otherwise Protected Area, although they were held for conservation when Unit P22 was established. There is evidence in the Service's records that, in 1982, it was known that these areas had been deeded to the County for open space and recreational and nature preserve purposes and yet they were deliberately included by Congress within the CBRS as System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

John H. Chafee Coastal Barrier Resources System Unit P22, Casey Key, Florida (continued)

Acreage, Shoreline, and Structures:

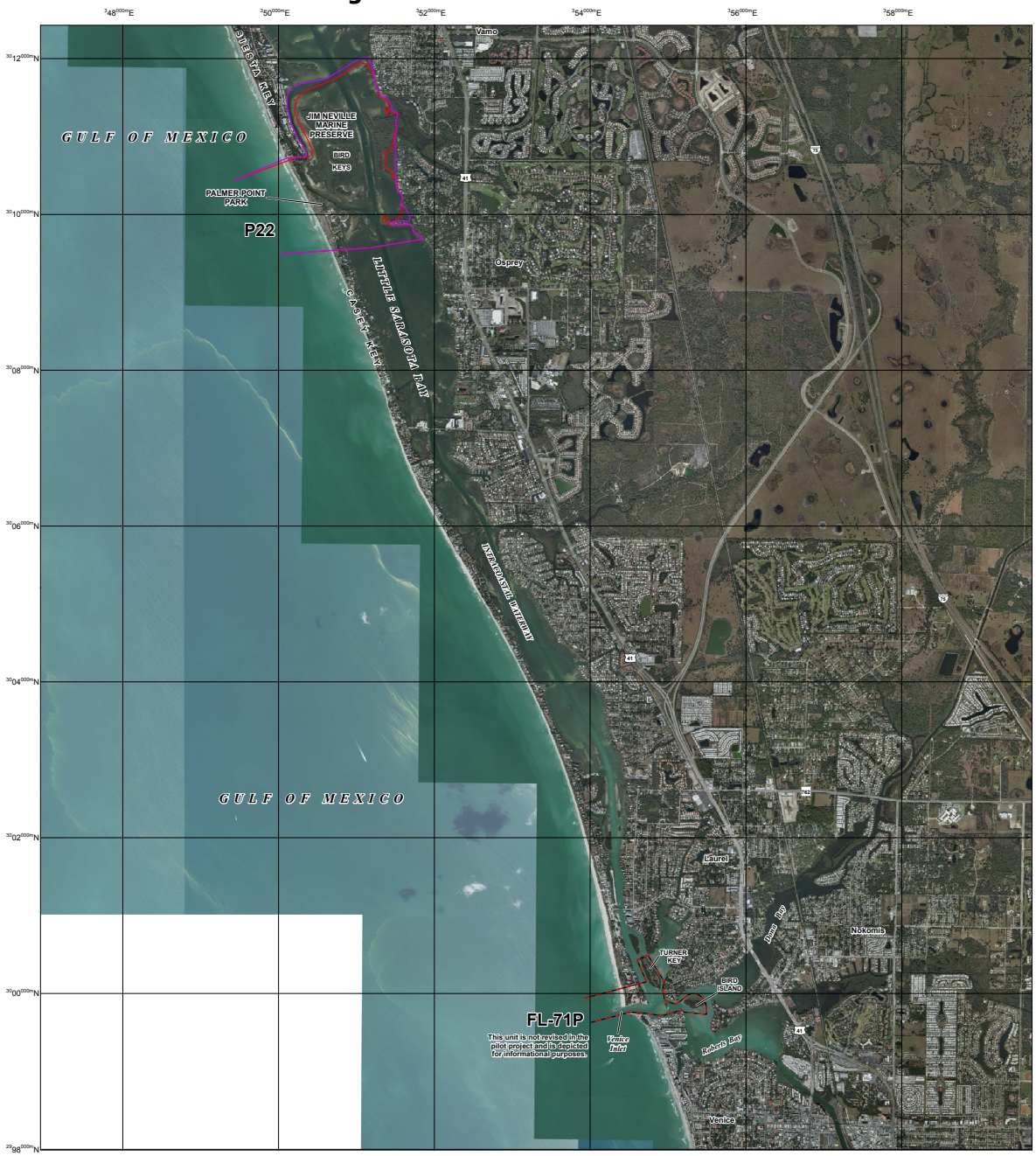
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	615	78	537	0.8	
Added to the CBRS	62	5	57		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	677	83	594	0.8	
Net Change	62	5	57	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Venice Inlet Unit FL-71P
Casey Key Unit P22

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3454000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013, 2014

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program Florida Department of Transportation

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 25 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-72P, Lido Key, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: Southeast of Sarasota on the Gulf Coast, in Sarasota County, Florida

Congressional District: 16

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-72P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-72P.

Historical Changes to Unit: Pub. L. 103-461 (enacted on November 2, 1994) modified the northwestern boundary of Unit FL-72P to include within the Coastal Barrier Resources System (CBRS) only areas that were undeveloped at the time the unit was established.

The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-72P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the CBRS maps at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-72P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-72P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-72P to remove from the CBRS a condominium building and two associated structures located on the Sarasota Sands Resort Condominiums property.

Unit FL-72P contains two conservation and/or recreation areas, a mangrove island named Otter Key and Ted Sperling Park at South Lido Beach (in 2009 the name was changed from South Lido Park), both of which are owned by Sarasota County. The western boundary of the unit is modified to generally align with the boundary of Ted Sperling Park at South Lido Beach and to be adjacent to Taft Drive and the Boulevard of the Presidents. The eastern and southern boundaries of the unit are modified to follow the center of Big Sarasota Pass and the portion of Sarasota Bay between Lido Key and Bird Key.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

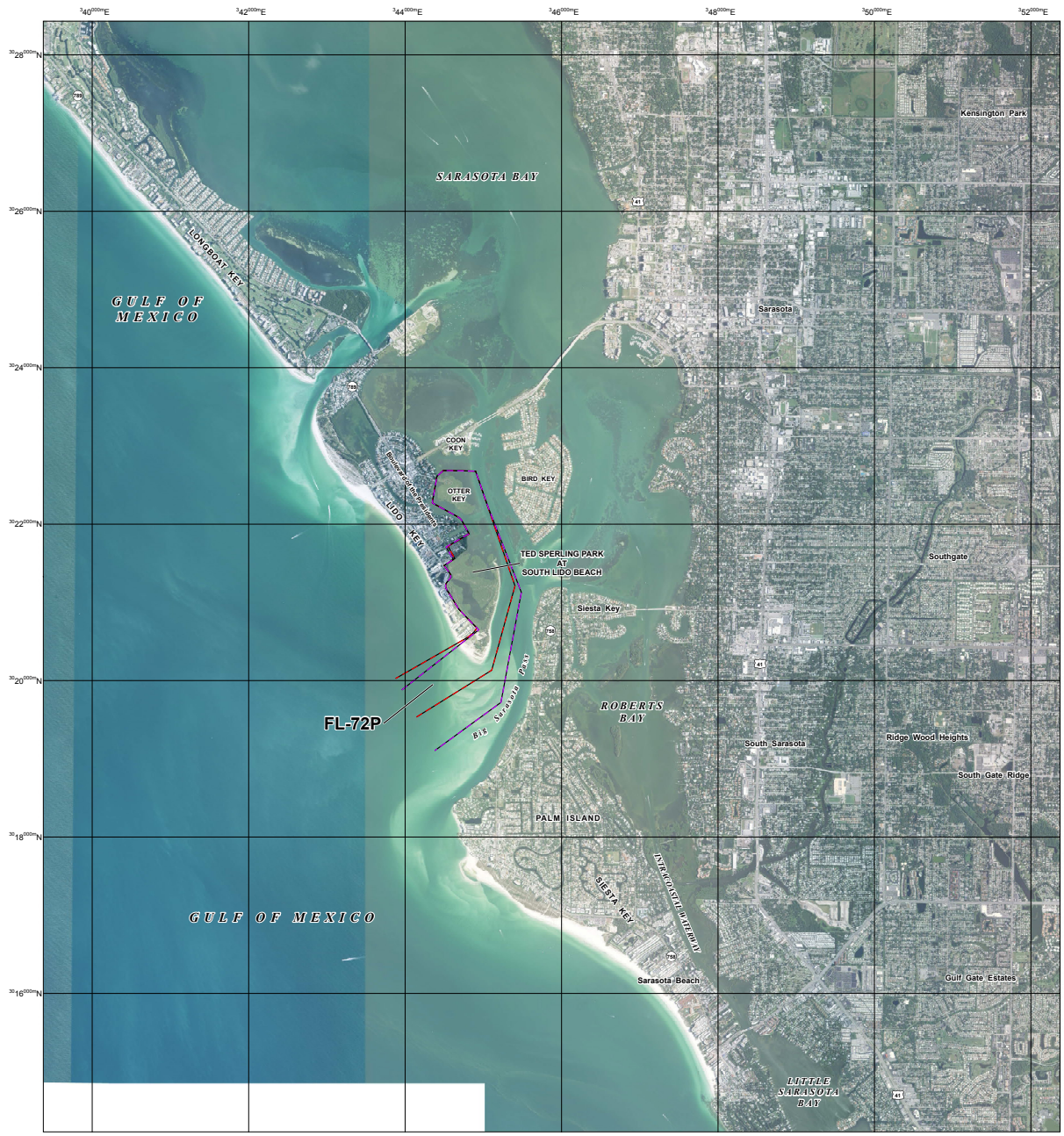
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	349	61	288	0.3	
Added to the CBRS	59	1	58		0
Removed from the CBRS	1	1	0		3
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	407	61	346	0.6	
Net Change	58	0	58	0.3	(3)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Lido Key Unit FL-72P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

N

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0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 26 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-73P, De Soto, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: South of St. Petersburg on the Gulf Coast, in Manatee County, Florida

Congressional District: 16

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-73P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-73P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-73P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-73P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.*

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-73P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-73P to align with the boundary of the De Soto National Memorial, owned by the National Park Service, and to add to the CBRS the portions of the National Memorial which are not already within the unit. In addition, the boundary of the unit is modified to add to the CBRS the Riverview Pointe Preserve, owned by Manatee County and located on the south side of the National Memorial. The open water component of the existing Unit FL-73P, which is not held for conservation and/or recreation purposes, is recommended for reclassification from an existing OPA to System Unit as part of adjacent Unit FL-78.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	192	7	185	0.0	
Added to the CBRS	13	10	3		2
Removed from the CBRS	0	0	0		0
Reclassified Area	(169)	0	(169)	0.0	
Final Recommended Unit	36	17	19	0.0	
Net Change	(156)	10	(166)	0.0	2

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-78, Rattlesnake Key, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of St. Petersburg on the Gulf Coast, in Manatee County, Florida

Congressional District: 16

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-78 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-78.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-78 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act (CBRA) to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-78. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-78. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

In addition, the boundary of the unit is modified to add to Unit FL-78 a small portion of Emerson Point Preserve (formerly Emerson Point Park), managed by Manatee County, that was proposed on the draft map dated June 12, 2006, for addition to new Otherwise Protected Area (OPA) Unit FL-78P. Manatee County concurred with this area being added to the CBRS as System Unit instead of OPA. Because proposed new Unit FL-78P contained only that portion of Emerson Point Preserve, it no longer exists. Most of the remaining preserve area is currently located within Unit FL-78 and is not recommended for reclassification to OPA because the Preserve was acquired by the State of Florida in 1991 after Unit FL-78 was established. The southwestern boundary of Unit FL-78 is also extended further westward to include additional shoals and the entire Manatee River channel within the CBRS.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-78 to remove from the CBRS one privately owned parcel adjacent to Champlain Bayou that was developed at the time the unit was established, and to add to the CBRS a portion of Emerson Point Preserve that is contiguous with a portion of the Preserve that is currently within the existing unit.

The boundary of the unit is also modified to include the entire width of the Manatee River channel within Unit FL-78. The open water component of the existing Unit FL-73P, which is not held for conservation and/or recreation purposes, is recommended for reclassification from an existing OPA to System Unit FL-78.

Unit FL-78 includes portions of Terra Ceia Aquatic Preserve that are not recommended for reclassification to an OPA. Florida State Aquatic Preserves and Outstanding Florida Waters are generally classified within the CBRS as System Units because they do not meet the CBRA definition of an OPA. Emerson Point Preserve is located partially within Unit FL-78, but is not recommended for reclassification as an OPA because the Preserve was acquired by the State of Florida in 1991 after Unit FL-78 was established. A small tract on the eastern end of Emerson Point Preserve is separated from the main body of the Preserve by an undeveloped private property. Neither the private property nor the separate tract of Preserve property is included within the CBRS.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit FL-78, Rattlesnake Key, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	3,231	55	3,176	4.0	
Added to the CBRS	536	17	519		0
Removed from the CBRS	3	2	1		1
Reclassified Area	169	0	169	0.0	
Final Recommended Unit	3,933	70	3,863	5.0	
Net Change	702	15	687	1.0	(1)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-82, Bishop Harbor, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Southeast of St. Petersburg on the Gulf Coast, in Manatee County, Florida

Congressional District: 16

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-82 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-82.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-82 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act (CBRA) to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-82. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-82. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northern boundary of Unit FL-82 is moved back to its original 1990 position due to development affecting the mangrove feature that the proposed boundary on the draft map dated June 12, 2006, was following. The landward boundary of the unit is modified in several places to add areas of mangroves and wetlands.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the landward boundary of Unit FL-82 to add to the CBRS some areas of mangroves and wetlands.

Unit FL-82 currently includes portions of Terra Ceia Preserve State Park, but those portions are not recommended for reclassification to an Otherwise Protected Area (OPA) because the State Park was established in 2004 after this area was first included within the CBRS. Unit FL-82 also currently includes portions of Terra Ceia Aquatic Preserve that are not recommended for reclassification to an OPA. Florida State Aquatic Preserves and Outstanding Florida Waters are generally classified within the CBRS as System Units because they do not meet the CBRA definition of an OPA.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

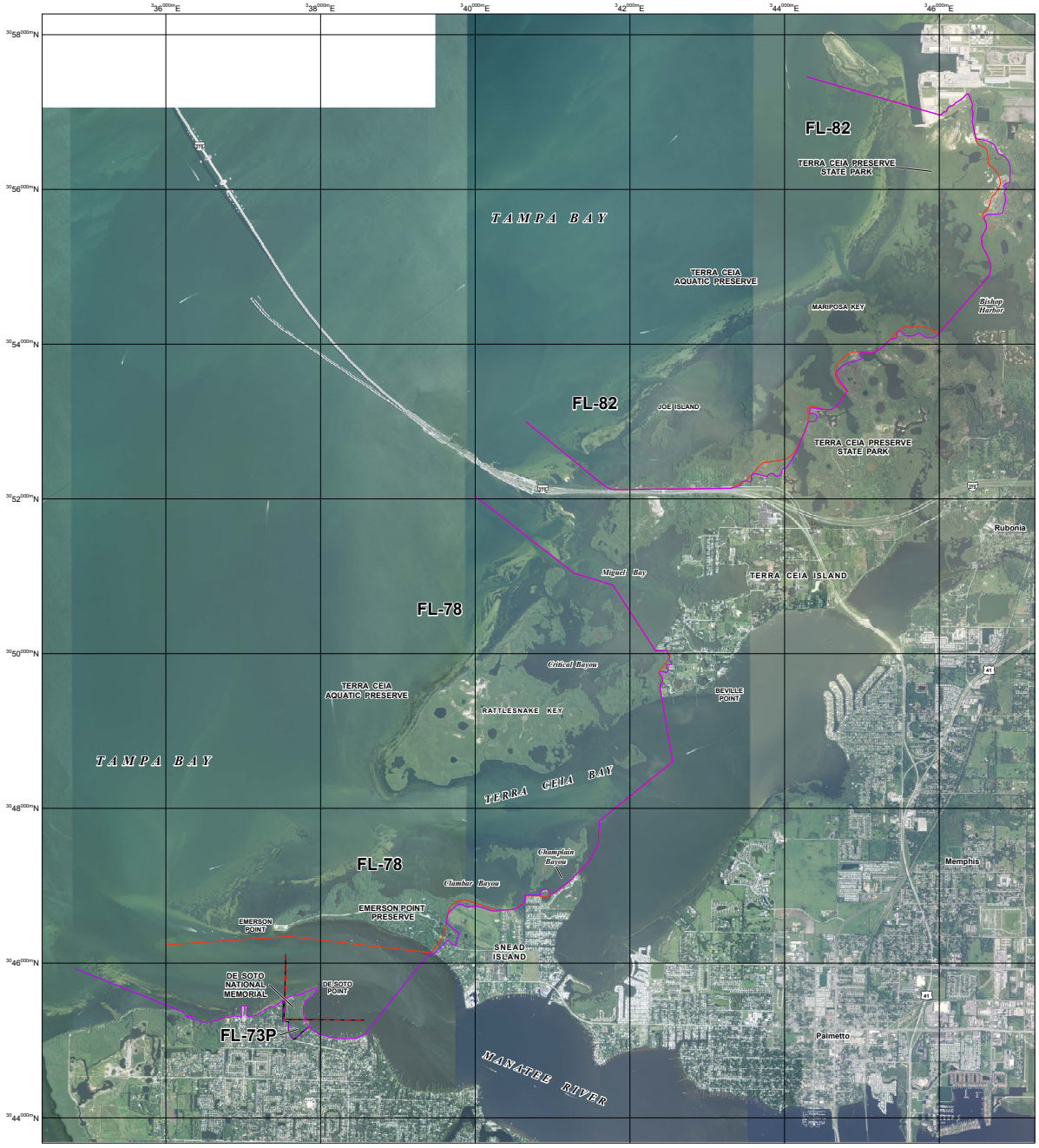
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,499	26	1,473	4.6	
Added to the CBRS	85	0	85		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,584	26	1,558	4.6	
Net Change	85	0	85	0.0	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

De Soto Unit FL-73P
Rattlesnake Key Unit FL-78
Bishop Harbor Unit FL-82

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}$N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 27 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-80P, Passage Key, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: Tampa Bay on the Gulf Coast, in Manatee County, Florida

Congressional District: 16

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-80P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-80P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the northern lateral boundary of Unit FL-80P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to extend westward, and the southern lateral boundary to extend southward and westward. These modifications were made to ensure that all of the shoals were clearly within the unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-80P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-80P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-80P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, makes no changes to the boundary of Unit FL-80P. The unit encompasses Passage Key National Wildlife Refuge, owned by the Service. Passage Key is a low-lying sandbar that fluctuates in size and is mostly underwater.

The Service's final recommended map will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	1,141	0	1,141	1.8	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,141	0	1,141	1.8	
Net Change	0	0	0	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-81, Egmont Key, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of St. Petersburg on the Gulf Coast, in Hillsborough County, Florida

Congressional District: 16*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-81 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-81.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the southern boundary of Unit FL-81 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for natural changes that occurred along the shoreline of Egmont Key. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-81. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-81. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-81, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the southern boundary of the northern segment of Unit FL-81 to align with the Egmont Key National Wildlife Refuge boundary. In addition, the boundary of the southern segment of Unit FL-81 is modified to better align with the boundary of the property owned by the Tampa Bay Pilots Association, which is currently within (and recommended to remain within) the CBRS as System Unit. The Tampa Bay Pilots Association also leases approximately five acres from the Service on the north and south side of their property. This leased land is currently within (and recommended to remain within) Otherwise Protected Area Unit FL-81P.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	294	47	247	0.9	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	(5)	(2)	(3)	0.0	
Final Recommended Unit	289	45	244	0.9	
Net Change	(5)	(2)	(3)	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-81P, Egmont Key, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: South of St. Petersburg on the Gulf Coast, in Hillsborough County, Florida

Congressional District: 16*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-81P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-81P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit FL-81P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for natural changes that occurred in the configuration of the shoreline along Egmont Key. The southern boundary was moved southward to include more of the sand sharing system associated with Egmont Key. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-81P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-81P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-81P, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the northern boundary of Unit FL-81P to align with the boundary of Egmont Key National Wildlife Refuge, which is owned by the Service. The shared boundary around the southern segment of adjacent Unit FL-81 is adjusted to align better with the boundary of the property owned by the Tampa Bay Pilots Association. The Tampa Bay Pilots Association also leases approximately five acres from the Service on the north and south side of their property. This leased land is currently within (and recommended to remain within) Unit FL-81P. In addition, the eastern boundary of the unit is modified to move it off the shoreline and align it with the eastern boundary of adjacent System Unit FL-81.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

Acreage, Shoreline, and Structures:

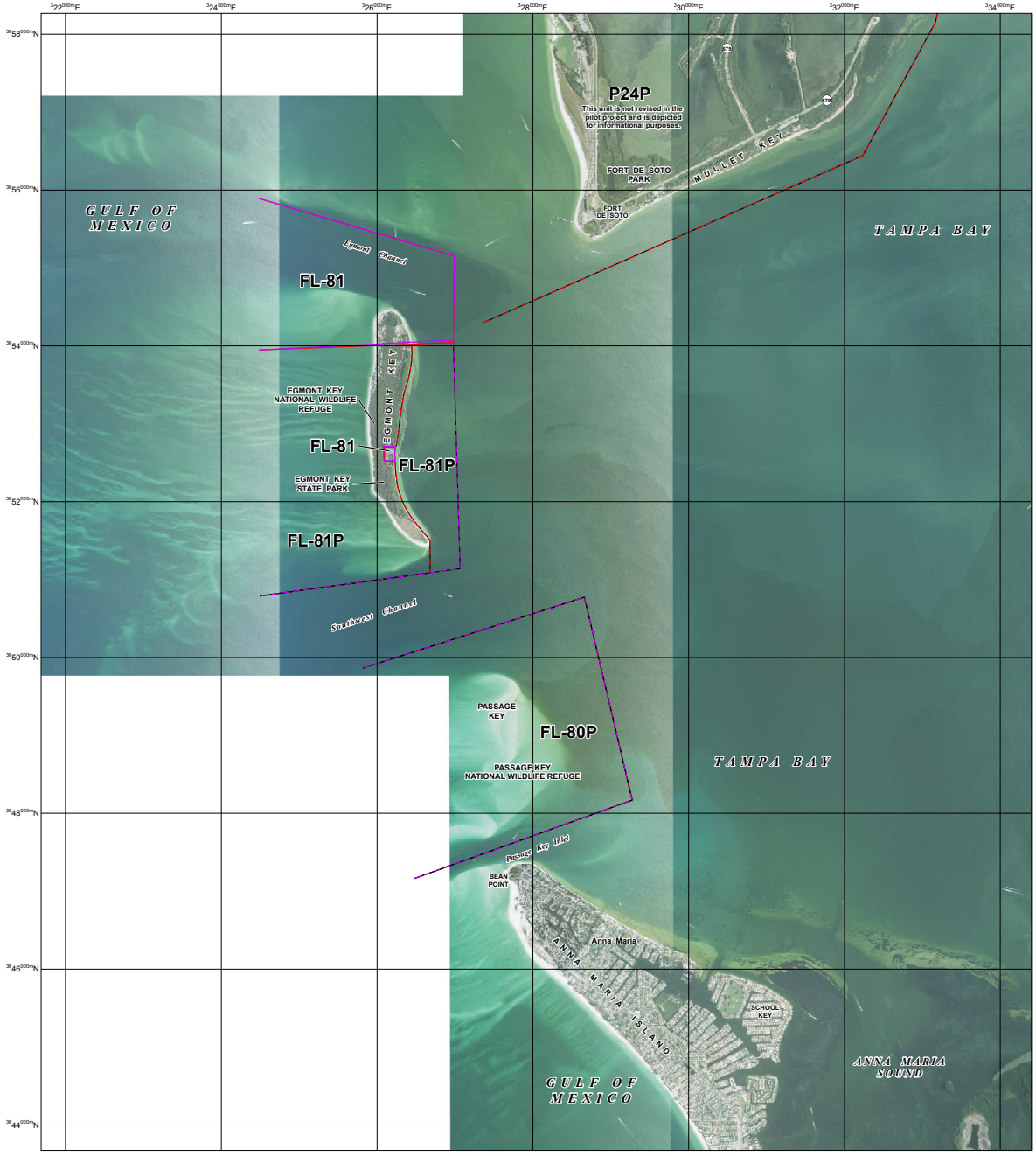
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	237	215	22	2.0	
Added to the CBRS	451	1	450		0
Removed from the CBRS	0	0	0		0
Reclassified Area	5	2	3	0.0	
Final Recommended Unit	693	218	475	2.0	
Net Change	456	3	453	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Passage Key Unit FL-80P
Egmont Key Unit FL-81/FL-81P
The Reefs Unit P24P (1 of 2)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 28 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-83, Cockroach Bay, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: Southeast of St. Petersburg on the Gulf Coast, in Hillsborough County, Florida

Congressional District: 16*

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-83 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-83.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the landward boundary of Unit FL-83 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for natural changes that occurred in the configuration of the wetland/fastland interface. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-83. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-83. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the southeastern and southern boundaries of the unit are modified to add to the CBRS some areas of mangroves and wetlands.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-83, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-83 to add to the CBRS some areas of mangroves and wetlands in the southern half of the unit beginning on the north side of Cockroach Bay.

Unit FL-83 currently includes portions of Cockroach Bay Preserve State Park and Hillsborough County environmental lands that are held for conservation. Because the State Park and County lands were for the most part acquired for conservation and/or recreation after the unit was established, they will remain within the CBRS as a System Unit and not be reclassified to Otherwise Protected Area (OPA). Unit FL-83 also includes portions of the Cockroach Bay Aquatic Preserve that are not recommended for reclassification to an OPA. Florida State Aquatic Preserves and Outstanding Florida Waters are generally classified within the CBRS as System Units because they do not meet the Coastal Barrier Resources Act definition of an OPA.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

*This Congressional District will take effect in the 115th Congress.

Acreage, Shoreline, and Structures:

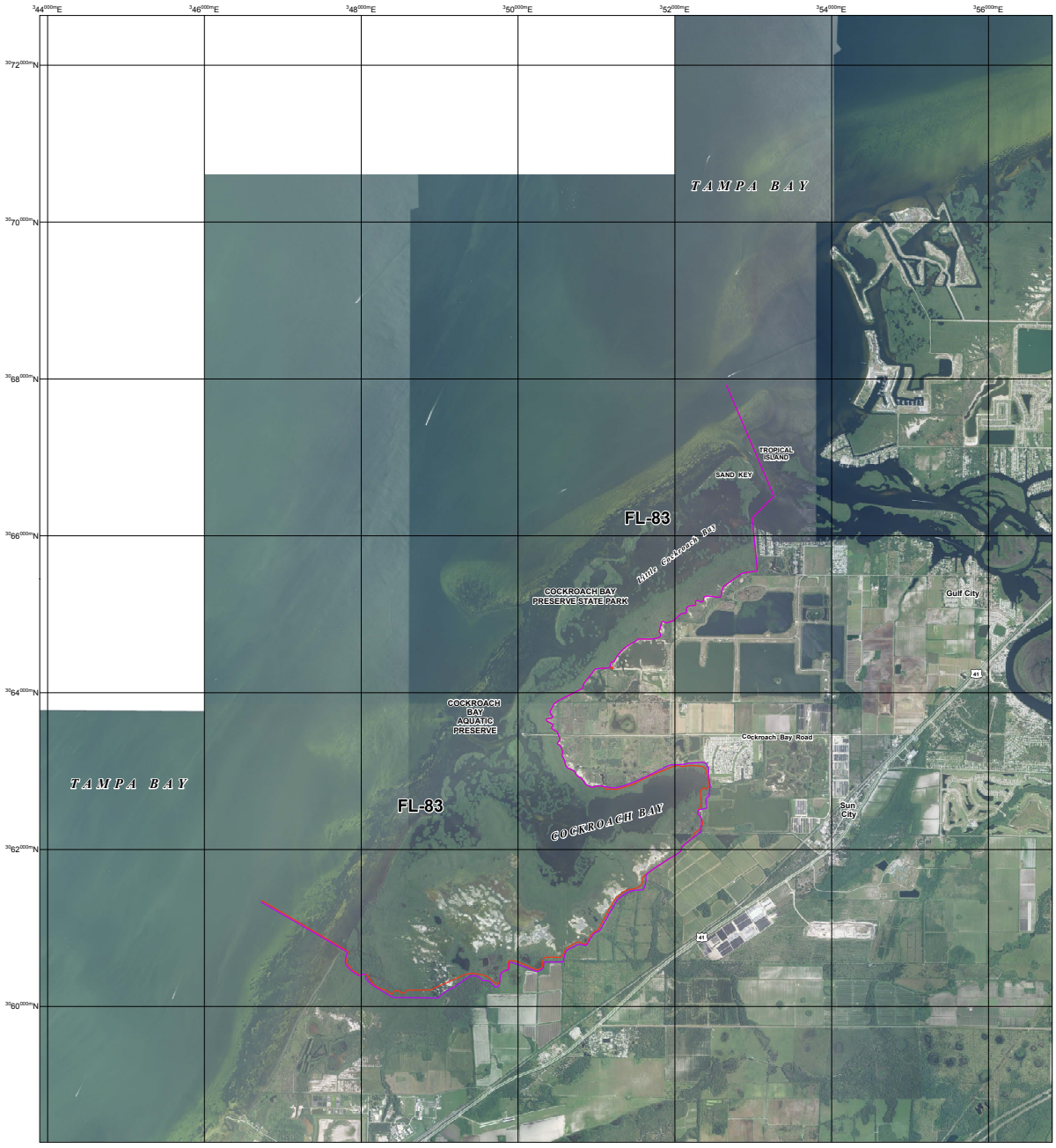
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	3,468	6	3,462	5.5	
Added to the CBRS	64	6	58		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	3,532	12	3,520	5.5	
Net Change	64	6	58	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Cockroach Bay Unit FL-83

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 29 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-85P, Sand Key, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: West of Tampa on the Gulf Coast, in Pinellas County, Florida

Congressional District: 13

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-85P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-85P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-85P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-85P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-85P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the southern boundary of Unit FL-85P to align with the boundaries of Sand Key Park, which is owned by Pinellas County, and recreational property owned by the City of Clearwater.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

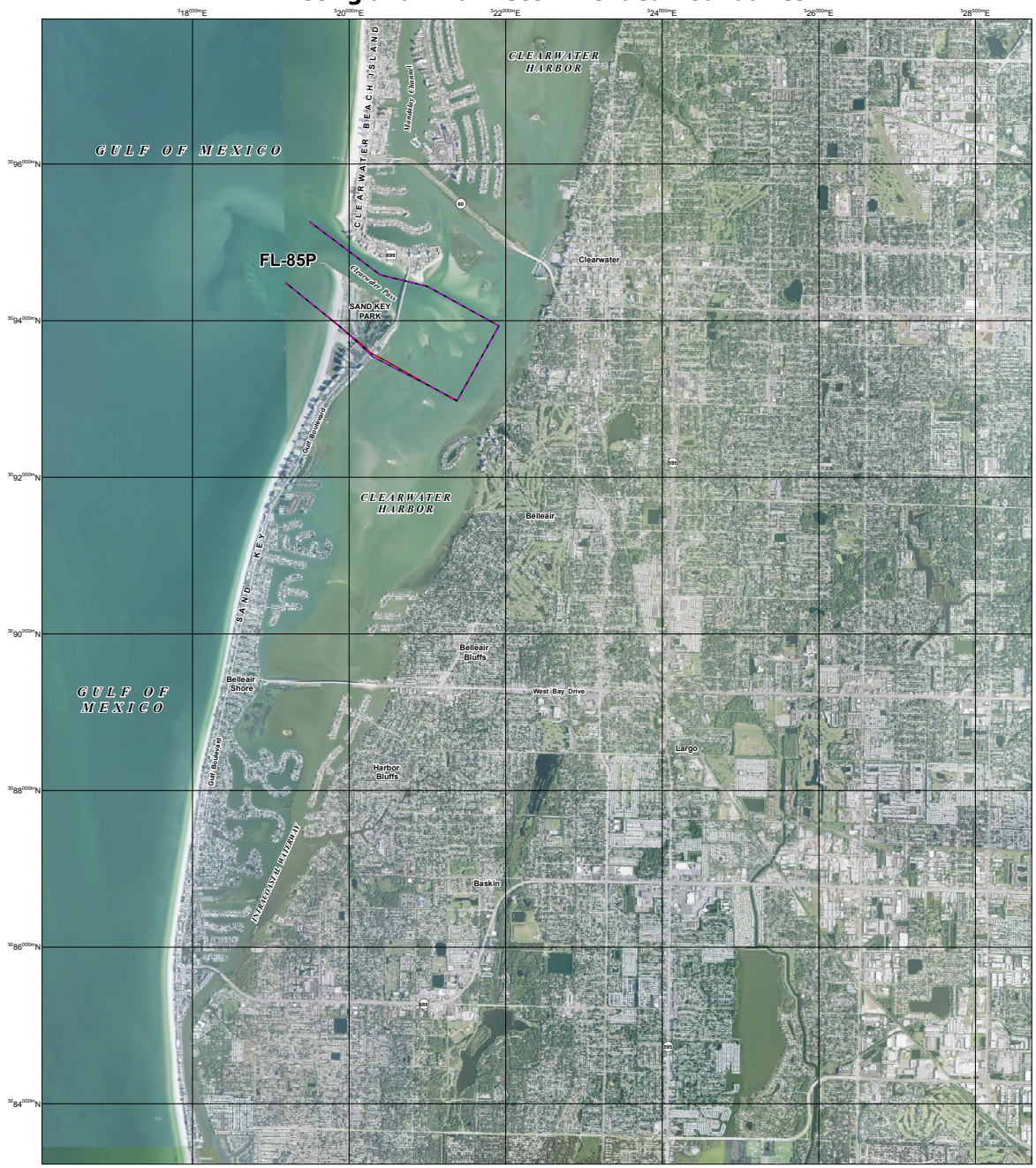
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	521	115	406	0.6	
Added to the CBRS	5	1	4		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	526	116	410	0.6	
Net Change	5	1	4	0.0	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Sand Key Unit FL-85P

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}$N 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 30 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit P26, Pepperfish Keys, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: West of Gainesville on the Gulf Coast, in Dixie County, Florida

Congressional District: 3

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit P26 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit P26.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit P26 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the CBRA to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit P26. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit P26. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit P26 to add to the CBRS the area of associated aquatic habitat located behind Pepperfish Keys.

Unit P26 currently includes portions of the Big Bend Seagrasses Aquatic Preserve that will remain within the unit. Additional portions of this Aquatic Preserve (consisting primarily of shoals and open water) are recommended for addition to Unit P26. Florida State Aquatic Preserves and Outstanding Florida Waters are generally classified within the CBRS as System Units because they do not meet the CBRA definition of an Otherwise Protected Area.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

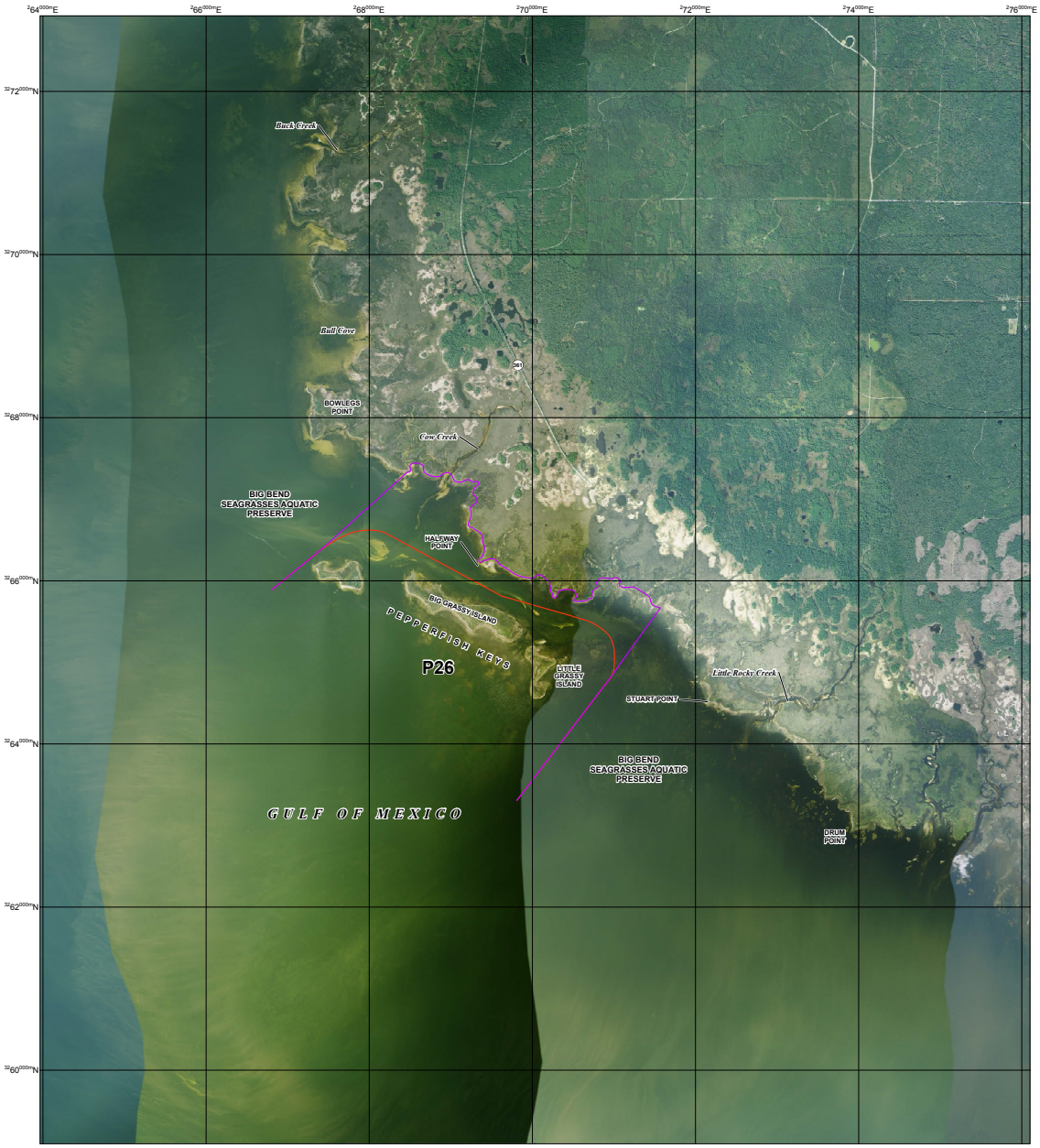
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	678	107	571	2.7	
Added to the CBRS	543	0	543		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,221	107	1,114	2.7	
Net Change	543	0	543	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Pepperfish Keys Unit P26

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 17 North

Pilot Project Draft Map 31 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-89, Peninsula Point, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Tallahassee on the Gulf Coast, in Franklin County, Florida

Congressional District: 2

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-89 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-89.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the boundary of Unit FL-89 (via notice published in the *Federal Register* (62 FR 8258) on February 24, 1997) to include within the Coastal Barrier Resources System (CBRS) all of the peninsula that is prograding to the north across the mouth of Alligator Harbor and the associated aquatic habitat. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

The Service modified the landward boundary and the western lateral boundary of Unit FL-89 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to be further north and west to account for accretion at the western tip of Peninsula Point. The southern lateral boundary of the unit was extended offshore to clarify the extent of the unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-89. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-89. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-89, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-89 to remove from the CBRS a portion of a private property (comprising less than one acre and including one structure) in the Alligator Point subdivision. The boundary of the unit is also modified to include a barrier feature on the mainland that Peninsula Point (at the tip of Alligator Point) is accreting toward and to add the associated aquatic habitat with this feature.

Most of the land currently within Unit FL-89 is the John S. Phipps Preserve, owned by The Nature Conservancy, a private conservation organization. The boundary of the unit is modified to add to the CBRS the portions of the area owned by The Nature Conservancy that are not already within the unit. The Nature Conservancy's property is not recommended for reclassification to an Otherwise Protected Area, although it was held for conservation when Unit FL-89 was established. There is evidence in the Service's records that, in 1990, this privately owned conservation area was deliberately included by Congress within the CBRS as a System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit FL-89, Peninsula Point, Florida (continued)

Acreage, Shoreline, and Structures:

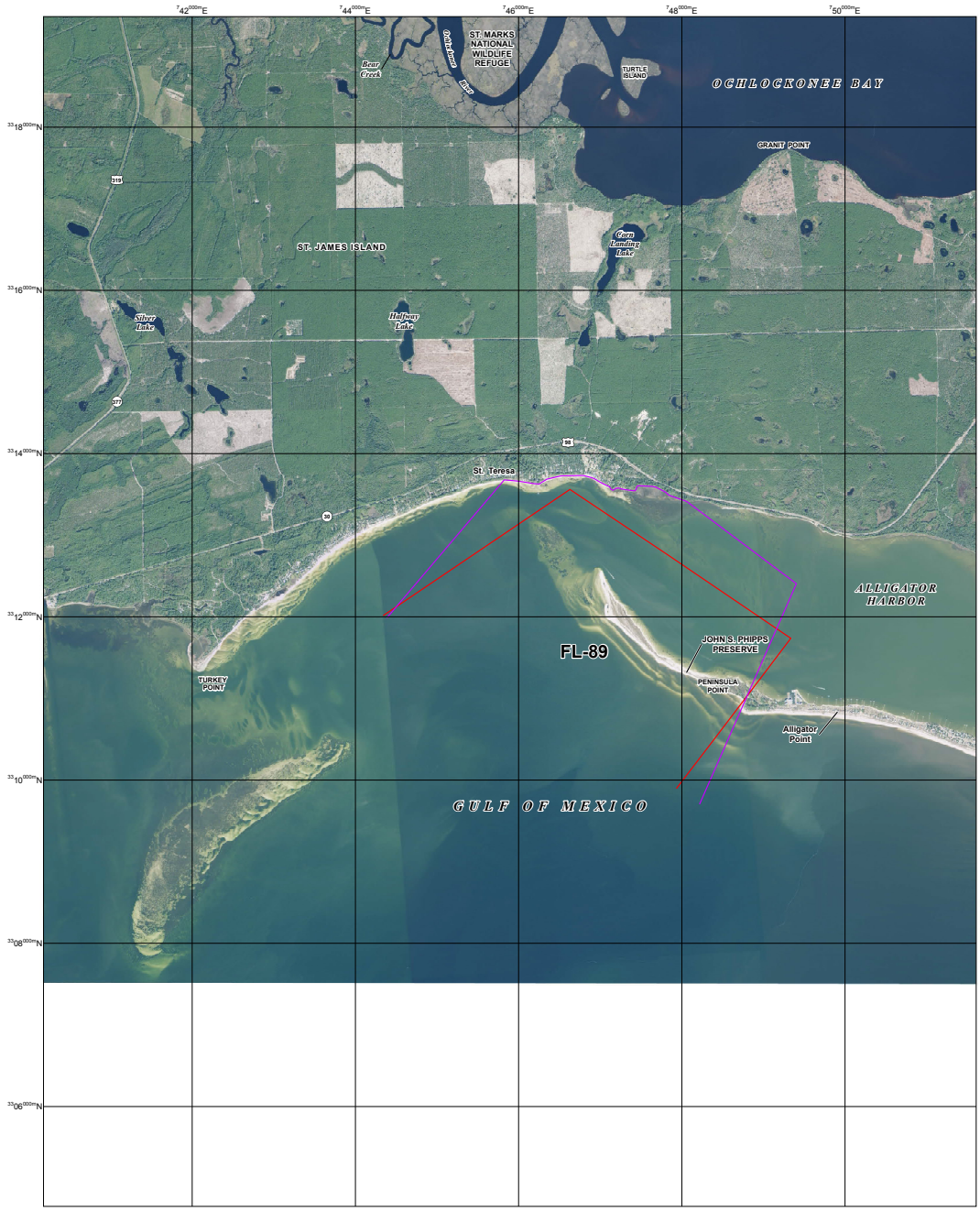
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	767	10	757	2.2	
Added to the CBRS	457	6	451		0
Removed from the CBRS	22	0	22		1
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	1,202	16	1,186	2.6	
Net Change	435	6	429	0.4	(1)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Peninsula Point Unit FL-89

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 16 North

Pilot Project Draft Map 32 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit FL-93, Phillips Inlet, Florida

Summary of Final Recommended Changes

Type of Unit: Recommended new System Unit

Location of Unit: Northwest of Panama City on the Gulf Coast, in Bay County, Florida

Congressional District: 2

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-93 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The majority of the area recommended for inclusion within new System Unit FL-93 is currently within existing Otherwise Protected Area (OPA) Unit FL-93P, which was established by the Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990). The remainder of the area recommended for inclusion within the new unit is currently not within the Coastal Barrier Resources System (CBRS).

The Fish and Wildlife Service's (Service) review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the Coastal Barrier Resources Act definition of an OPA). However, all areas within recommended new Unit FL-93 either qualified at the time they were first included within the CBRS or, for those areas newly added to the CBRS, currently qualify for inclusion within a System Unit.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-93. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-93. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. The boundary of Unit FL-93 is also modified to add a small area of wetlands along the Powell Lake shoreline and to follow parcel data instead of a development boundary along the north side of the Pinnacle Port condominium property. In addition, minor portions of a private beach that had been proposed to be reclassified to System Unit on the draft map dated June 12, 2006, are now recommended to remain within OPA Unit FL-93P because it is impractical to delineate them as System Unit. Similarly, minor portions of Camp Helen State Park are included within Unit FL-93 where it is impractical to delineate them as OPA.

Final Recommended Unit: The final recommended map dated March 18, 2016, creates new System Unit FL-93. Included within this new unit are the following areas: undeveloped private property (comprising approximately 39 acres) on the east side of Powell Lake near Phillips Inlet and the portion of Powell Lake south of U.S. Highway 98.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	0	0	0	0.0	
Added to the CBRS	1	1	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	123	30	93	0.0	
Final Recommended Unit	124	31	93	0.0	
Net Change	124	31	93	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-93P, Phillips Inlet, Florida

Summary of Final Recommended Changes

Type of Unit: Otherwise Protected Area (OPA)

Location of Unit: Northwest of Panama City on the Gulf Coast, in Bay County, Florida

Congressional District: 2

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-93P is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-93P.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit FL-93P (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act (CBRA) to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-93P. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-93P. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, minor portions of a private beach that had been proposed to be reclassified to System Unit on the draft map dated June 12, 2006, are now recommended to remain within OPA Unit FL-93P because it is impractical to delineate them as System Unit. Similarly, minor portions of Camp Helen State Park are included within Unit FL-93 where it is impractical to delineate them as OPA.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-93P to remove from the CBRS four condominium buildings and several associated structures in the Pinnacle Port community; nine structures in the Carillion Beach subdivision; and about 25 undeveloped private properties in the vicinity of Parkshore Court, Parkshore Drive, and Cottage Court.

The boundary of the unit is also modified to align with the boundary of Camp Helen State Park and to add to the CBRS the portions of the State Park which are not already within the unit. Minor portions of private property are included within Unit FL-93P where it is impractical from a mapping perspective to delineate them as System Unit. Similarly, minor portions of the State Park are included within Unit FL-93 where it is impractical to delineate them as OPA.

The following areas currently within OPA Unit FL-93P are recommended for reclassification to System Unit FL-93: undeveloped private property (comprising approximately 39 acres) on the east side of Powell Lake near Phillips Inlet and the portion of Powell Lake south of U.S. Highway 98. The Service's review found no documentation indicating that these areas are held for conservation and/or recreation (in accordance with the CBRA definition of an OPA); however, they do qualify for inclusion within a System Unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit FL-93P, Phillips Inlet, Florida (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	239	81	158	0.5	
Added to the CBRS	157	94	63		14
Removed from the CBRS	13	12	1		17
Reclassified Area	(123)	(30)	(93)	0.0	
Final Recommended Unit	260	133	127	0.5	
Net Change	21	52	(31)	0.0	(3)

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit FL-94, Deer Lake Complex, Florida

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: North of Panama City on the Gulf Coast, in Walton County, Florida

Congressional District: 1

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit FL-94 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2013

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit FL-94.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the westernmost portion of the landward boundary of Unit FL-94 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to reflect natural changes in the wetlands along the shoreline of an unnamed pond. In addition, the boundary following the eastern shoreline of Deer Lake and the boundary along the central segment of the unit were modified to reflect natural changes that occurred in the configuration of the wetland/fastland interface. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the Coastal Barrier Resources System (CBRS) boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit FL-94. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit FL-94. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. The boundary of the unit is also modified to add to the CBRS wetlands near Deer Lake.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit FL-94, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit FL-94 to remove from the CBRS three buildings (comprising 31 residences) in the Beachfront Townhomes and Walton Dunes Townhomes subdivisions.

In addition, the eastern boundary of the unit is modified to follow a vegetative break on the south side of Camp Creek Lake and the lateral boundary of the unit is aligned to be perpendicular to the barrier shoreline. The northern boundary of the unit is modified to add to the CBRS wetlands near Deer Lake, to remove from the CBRS a small area of uplands on the northeast side of Deer Lake, and to align with Lakewood Drive.

Deer Lake State Park is located partially within Unit FL-94 but is not recommended for reclassification as an Otherwise Protected Area because the State Park was acquired in 1996 after Unit FL-94 was established.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

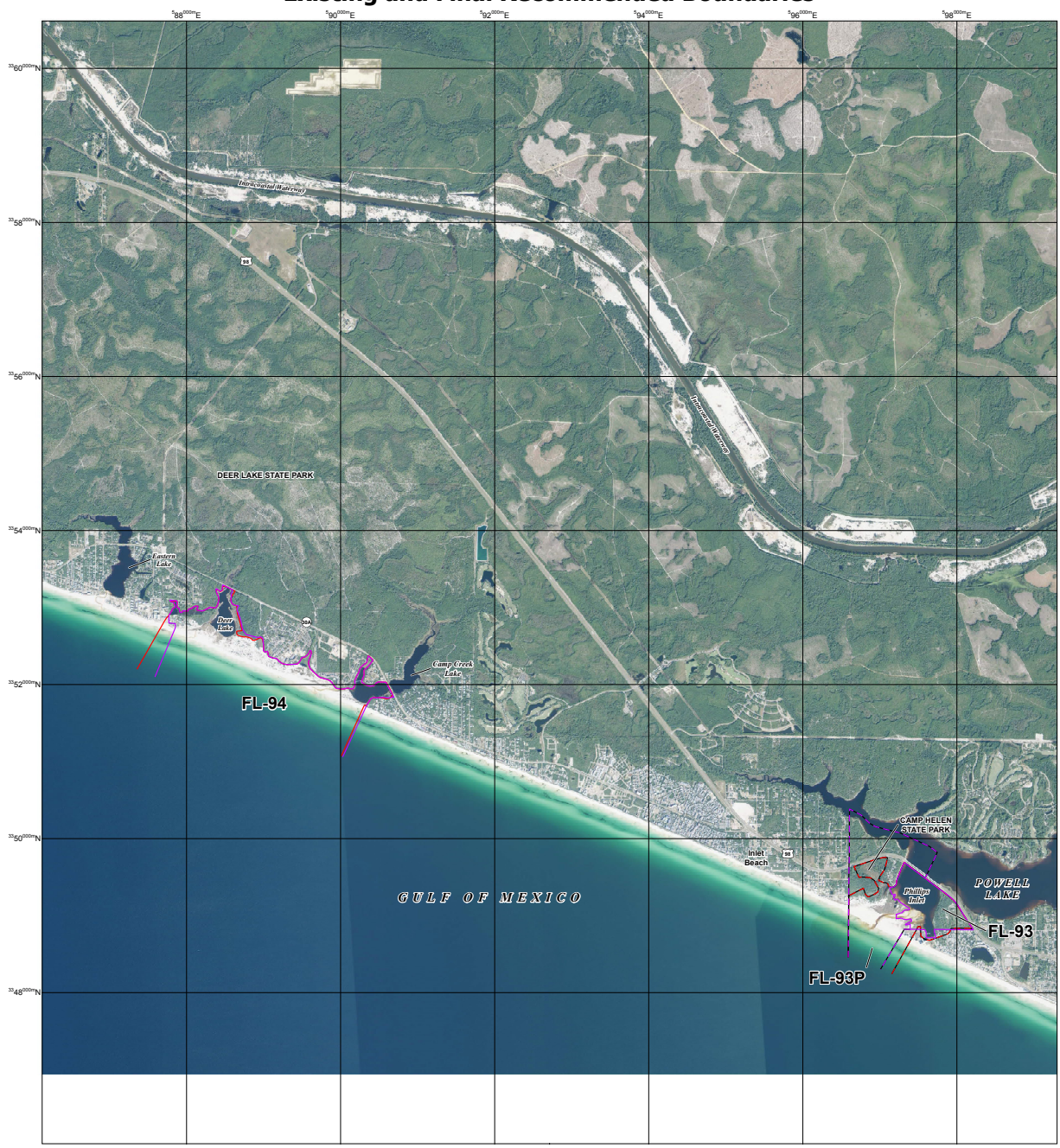
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	264	159	105	2.1	
Added to the CBRS	5	2	3		0
Removed from the CBRS	8	6	2		3
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	261	155	106	1.7	
Net Change	(3)	(4)	1	(0.4)	(3)

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Phillips Inlet Unit FL-93/FL-93P
Deer Lake Complex FL-94

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 33°54°000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2013

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 16 North

Pilot Project Draft Map 33 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit LA-01, Isle au Pitre, Louisiana

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: East of New Orleans, in St. Bernard Parish, Louisiana

Congressional District: 1

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit LA-01 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit LA-01.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit LA-01 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit LA-01. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: There are no changes between the proposed boundary of Unit LA-01 depicted on the draft map dated June 12, 2006, and the final recommended boundary of the unit depicted on the map dated March 18, 2016.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, makes no changes to the boundary of Unit LA-01.

The Service's final recommended map will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	4,851	0	4,851	4.5	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	4,851	0	4,851	4.5	
Net Change	0	0	0	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Isle au Pitre Unit LA-01

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 16 North

Pilot Project Draft Map 34 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit LA-02, Half Moon Island, Louisiana

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: East of New Orleans, in St. Bernard Parish, Louisiana

Congressional District: 1

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit LA-02 is depicted on one map.

Base Map Imagery Source and Dates: U.S. Department of Agriculture, National Agriculture Imagery Program, 2014 and 2015

Establishment of Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) originally established Unit LA-02.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) transferred and fitted to an updated base map the boundary of Unit LA-02 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) in association with the requirement in the Coastal Barrier Resources Act to review the maps of the Coastal Barrier Resources System (CBRS) at least once every five years and make any modifications to the boundaries to reflect changes that have occurred as a result of natural forces. No modifications were made to the boundary of the unit at that time.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit LA-02. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.*

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit LA-02. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, makes no changes to the boundary of Unit LA-02. However, the name of Unit LA-02 is changed from "Grand Island" to "Half Moon Island" to correctly identify the underlying barrier feature.

The Service's final recommended map will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

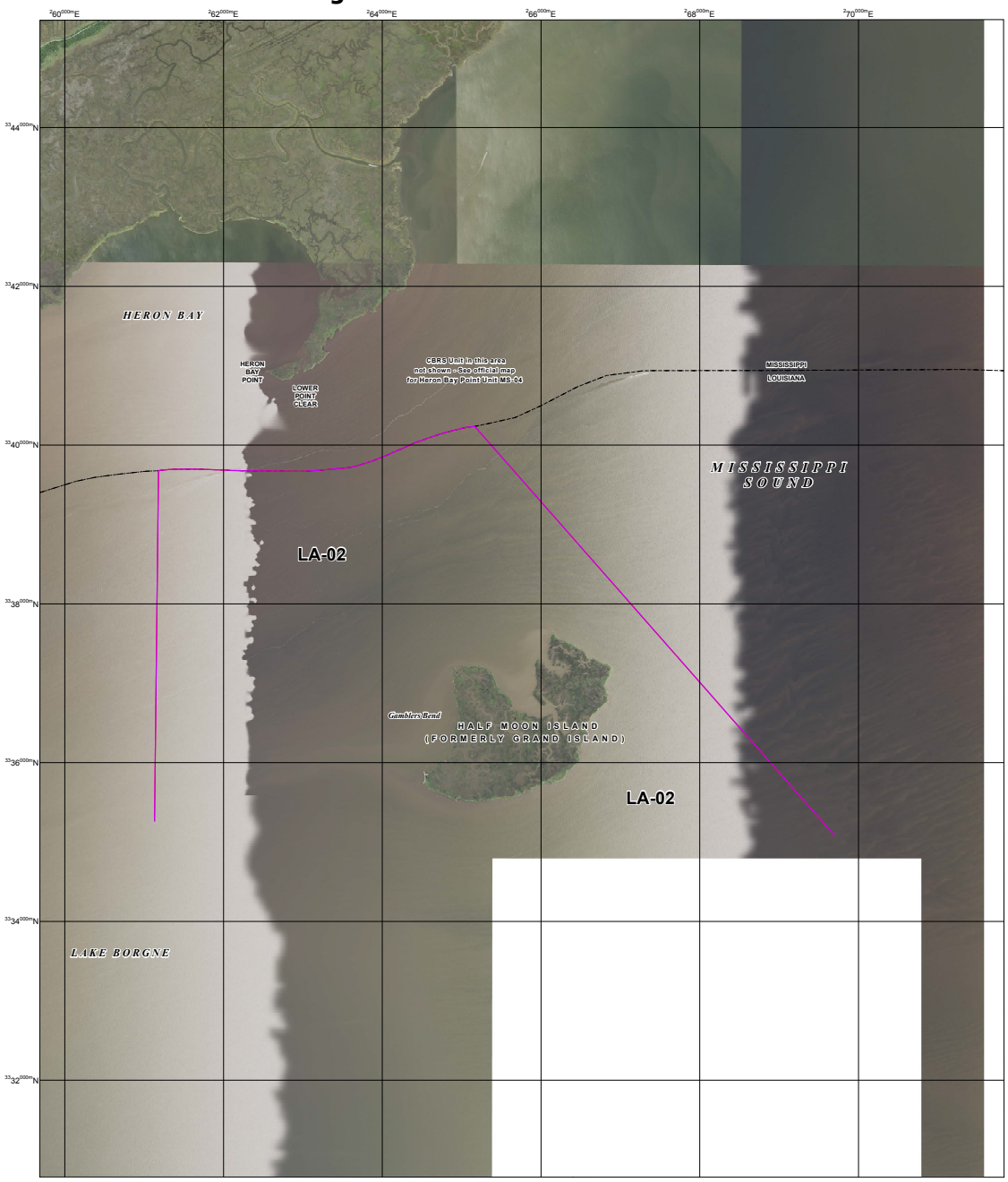
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	5,634	0	5,634	4.7	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	5,634	0	5,634	4.7	
Net Change	0	0	0	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Half Moon Island Unit LA-02

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2014, 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 16 North

Pilot Project Draft Map 35 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit S04, Timbalier Bay, Louisiana

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of New Orleans, in Lafourche Parish, Louisiana

Congressional District: 1

Date of Final Recommended Map: March 18, 2016

Number of Maps: Unit S04 is depicted on one map.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit S04.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit S04 to add to the Coastal Barrier Resources System (CBRS) associated aquatic habitat. In addition, the eastern portion of Unit S04 was added to Unit S03.

The U.S. Fish and Wildlife Service (Service) modified the eastern boundary of Unit S04 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for channel migration and wetlands erosion along Bayou Lafourche and Belle Pass. A portion of the northern boundary following an inlet to Devils Bay was modified to account for channel migration and wetlands erosion. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit S04. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit S04. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. The updated base map imagery for the final recommended map shows significant erosion has occurred in Unit S04 since 1998, which is the date of the base map imagery used for the draft map dated June 12, 2006.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit S04, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, modifies the boundary of Unit S04 to add to the CBRS the entire width of the channel of Belle Pass on the southeastern side of the unit and Havoline Canal on the northeastern side of the unit.

The Service's final recommended map depicts changes to the CBRS that will only become effective if the updated map is adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	9,822	106	9,716	4.0	
Added to the CBRS	169	0	169		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	9,991	106	9,885	4.2	
Net Change	169	0	169	0.2	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

John H. Chafee Coastal Barrier Resources System Unit S05, Timbalier Islands, Louisiana

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of New Orleans, in Terrebonne and Lafourche Parishes, Louisiana

Congressional District: 1

Date of Final Recommended Maps: March 18, 2016

Number of Maps: Unit S05 is depicted on three maps.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit S05.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub L. 101-591 enacted on November 16, 1990) modified the boundary of Unit S05 to add to the Coastal Barrier Resources System (CBRS) associated aquatic habitat and East Timbalier Island.

The U.S. Fish and Wildlife Service (Service) modified the northern boundary of Unit S05 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for the migration of Timbalier Island and East Timbalier Island and to include associated shoals within the CBRS. The western boundary of the unit was also moved westward to account for the migration of Timbalier Island. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit S05. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.*

Changes between Proposed and Final Recommended Boundaries: The northern boundary of Unit S05 has been modified to account for the migration of Timbalier Island and East Timbalier Island and to include associated shoals within the CBRS. The updated base map imagery for the final recommended maps shows significant erosion has occurred in Unit S05 since 1998, which is the date of the base map imagery used for the draft map dated June 12, 2006.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit S05, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended map dated March 18, 2016, makes no changes to the boundary of Unit S05.

The Service's final recommended maps will only become effective if the updated maps are adopted through legislation enacted by Congress.

Acreage, Shoreline, and Structures:

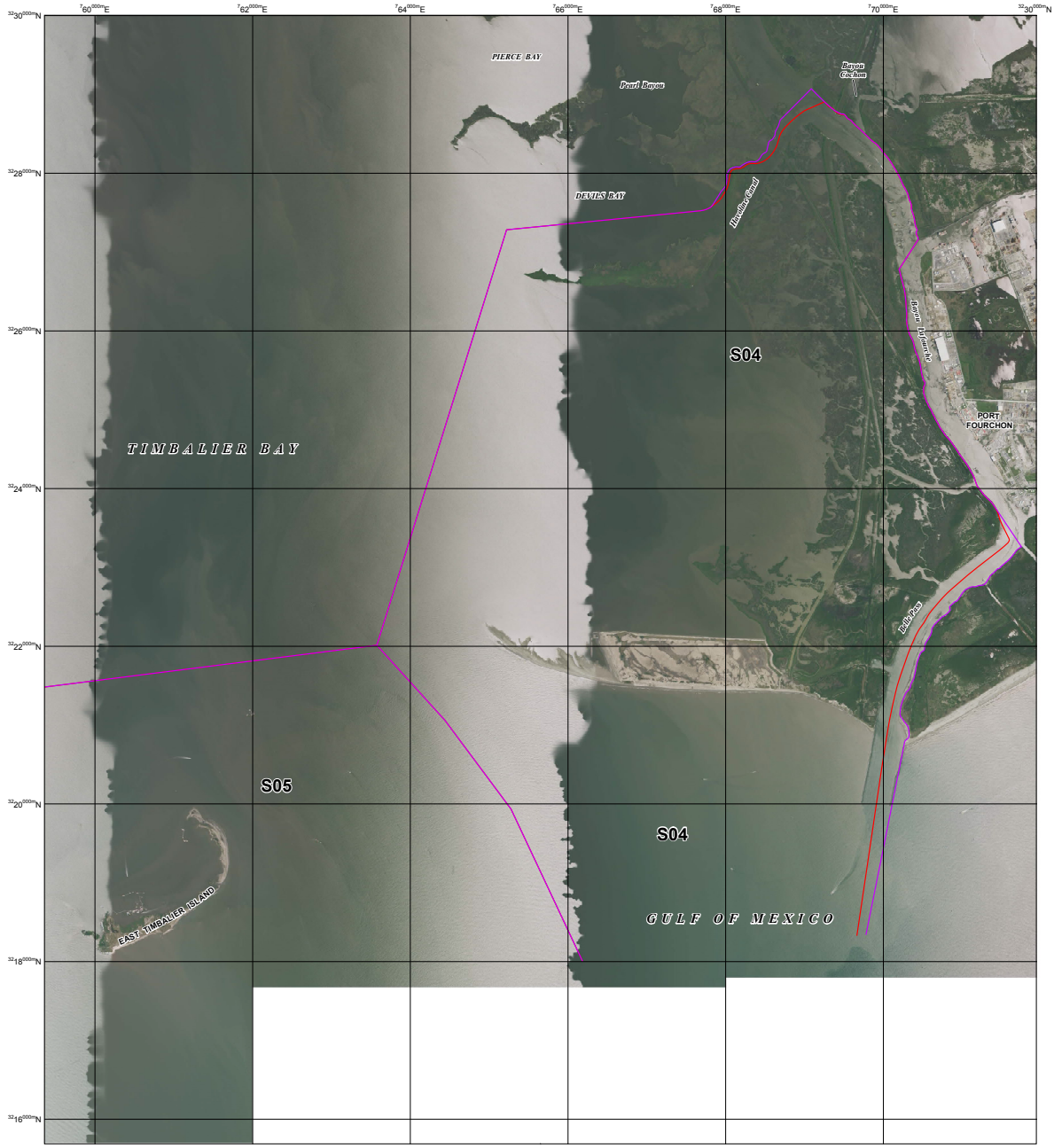
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	21,548	485	21,063	19.5	
Added to the CBRS	0	0	0		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	21,548	485	21,063	19.5	
Net Change	0	0	0	0.0	0

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

[3] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Timbalier Bay Unit S04
Timbalier Islands Unit S05 (1 of 3)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

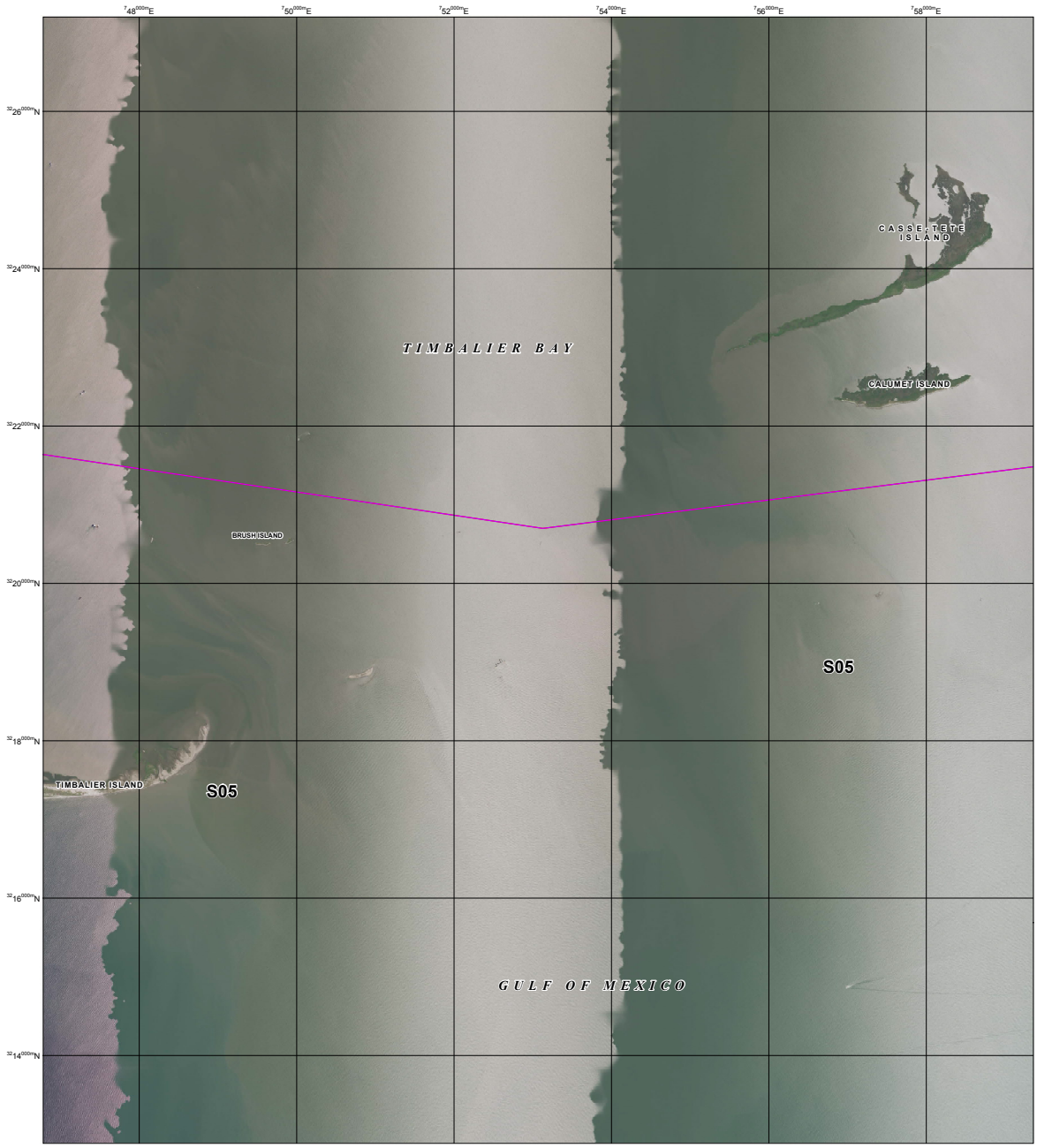
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 36 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Timbalier Islands Unit S05 (2 of 3)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

N

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

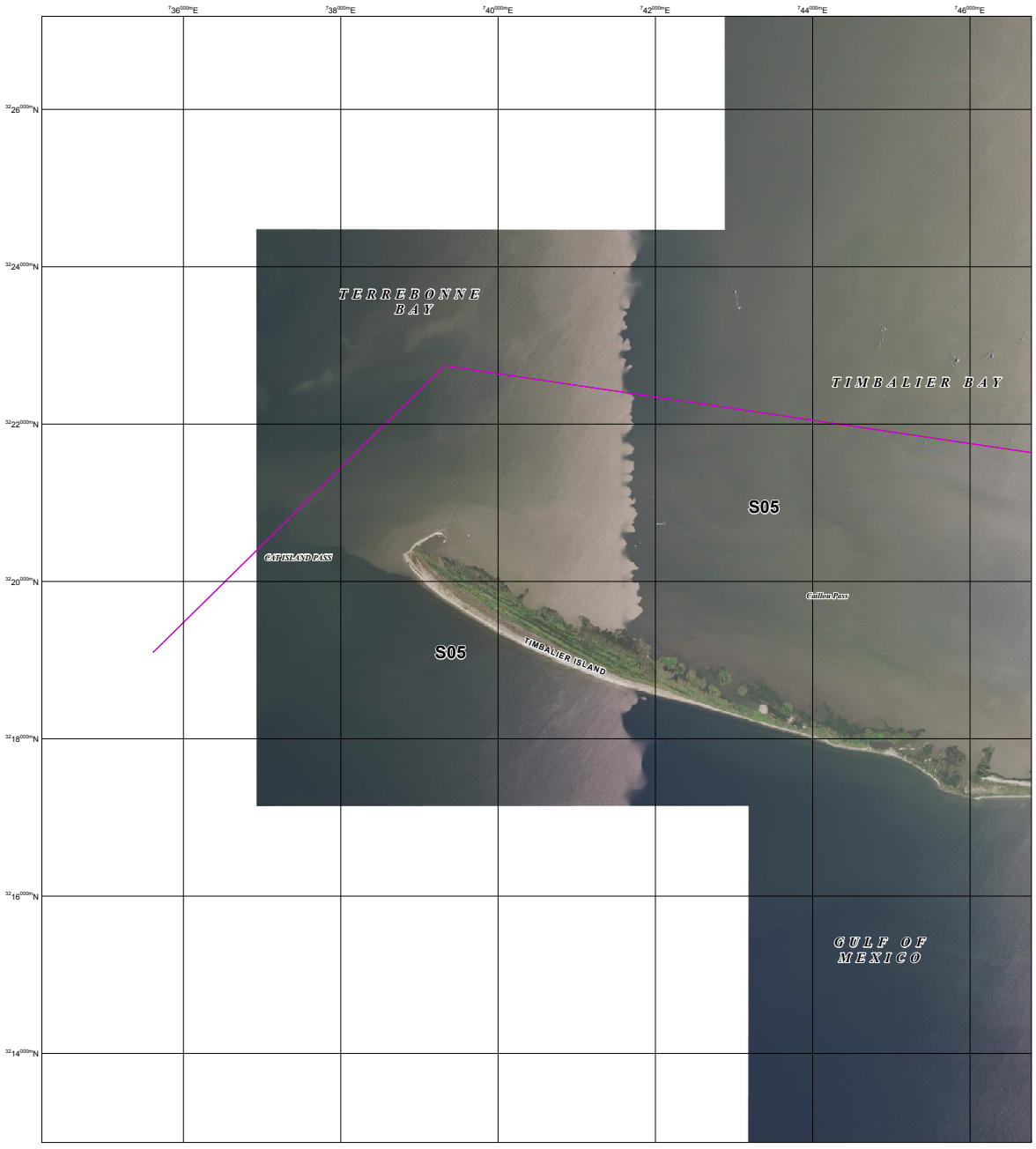
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 37 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Timbalier Islands Unit S05 (3 of 3)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3254000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 38 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit S06, Isles Dernieres, Louisiana

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of New Orleans, in Terrebonne Parish, Louisiana

Congressional District: 1

Date of Final Recommended Maps: March 18, 2016

Number of Maps: Unit S06 is depicted on three maps.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit S06.

Historical Changes to Unit: The U.S. Fish and Wildlife Service (Service) modified the hatching symbol on the Coastal Barrier Resources System (CBRS) map for Unit S06 (via notice published in the *Federal Register* (48 FR 17406) on April 22, 1983). This administrative change clarified that the area located within Unit S06 included the accreted spit at the westernmost tip of Isles Dernieres. There was no change to the boundary of Unit S06. This modification was made in accordance with Section 4(c)(1) of Pub. L. 97-348, which allowed minor and technical boundary modifications as necessary to clarify the boundaries of the units.

The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit S06 to add to the CBRS associated aquatic habitat.

The Service modified the northeastern boundary of Unit S06 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for the migration of the Isles Dernieres. The northern boundary of the unit was modified and generalized to account for wetlands erosion along Grand Pass des Ilettes. The western boundary of the unit was moved northwestward to account for the migration of the Isles Dernieres. The eastern boundary of the unit was extended offshore to clarify the extent of the unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit S06. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit S06. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. The updated base map imagery for the final recommended maps shows significant erosion has occurred in Unit S06 since 1998, which is the date of the base map imagery used for the draft map dated June 12, 2006. In addition, the northern boundary of the unit was modified to follow a more prominent channel in an area experiencing significant erosion and to add an area of associated aquatic habitat north of Grand Pass des Ilettes. The western boundary was moved westward and the eastern boundary northward of the Isles Dernieres to account for the migration of the islands.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit S06, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended maps dated March 18, 2016, modify the northern boundary of Unit S06 to add to the CBRS an area of associated aquatic habitat north of Grand Pass des Ilettes and to include within the CBRS the entire width of the channels (e.g., Grand Pass des Ilettes) through the wetlands.

Although Isles Dernieres Barrier Islands Refuge (which is a wildlife refuge owned by the State) is within Unit S06, the Refuge is not recommended for reclassification as an Otherwise Protected Area because it first became a wildlife refuge in 1992 after Unit S06 was established.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit S06, Isles Dernieres, Louisiana (continued)

Acreage, Shoreline, and Structures:

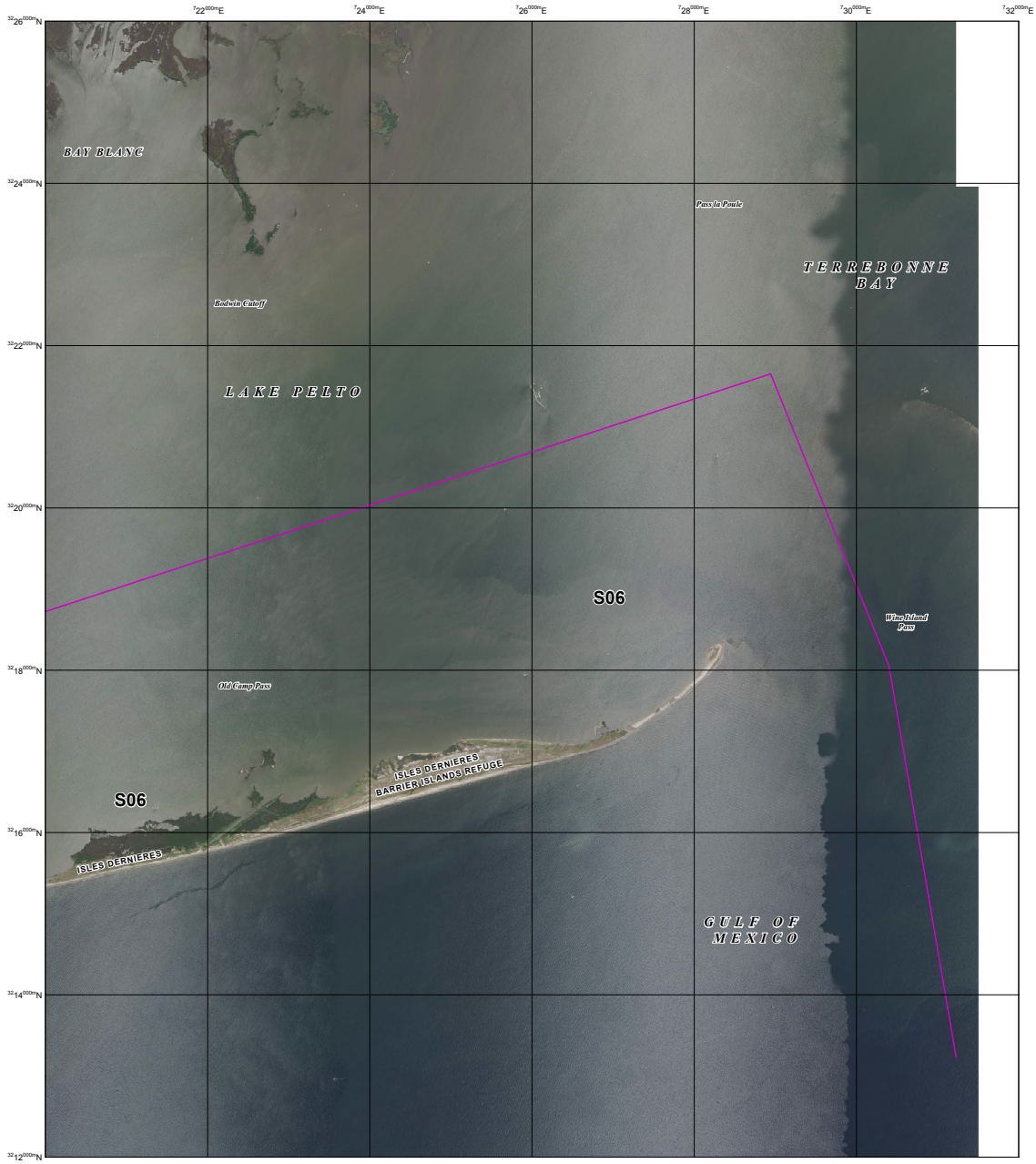
	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	37,327	16	37,311	21.4	
Added to the CBRS	1,080	0	1,080		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	38,407	16	38,391	21.4	
Net Change	1,080	0	1,080	0.0	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Isles Dernieres Unit S06 (1 of 3)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

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0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54^{000m}N$ 2000-meter Universal Transverse Mercator grid values

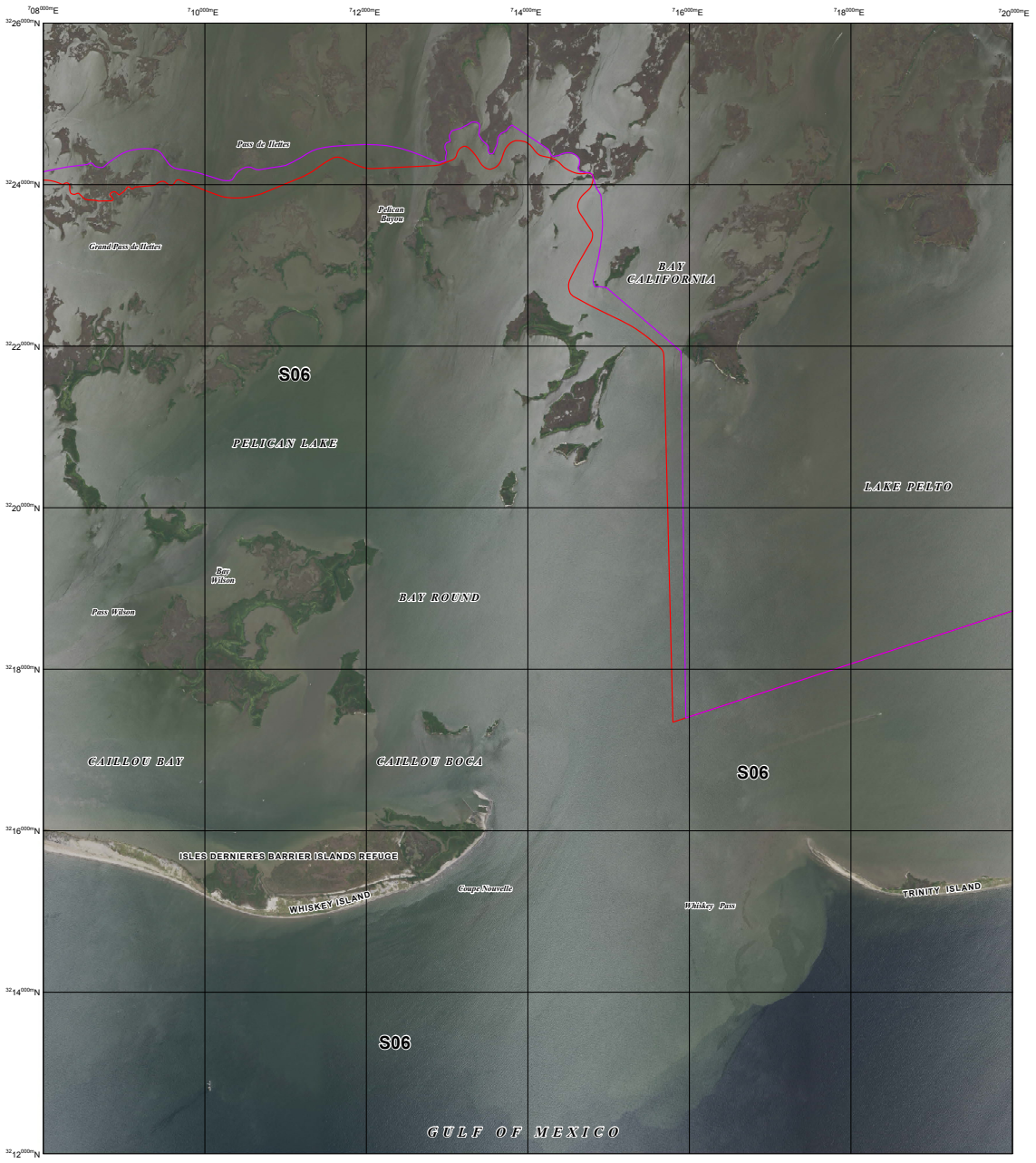
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 39 **March 18, 2016**

Existing and Final Recommended Boundaries



This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Isles Dernieres Unit S06 (2 of 3)

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- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

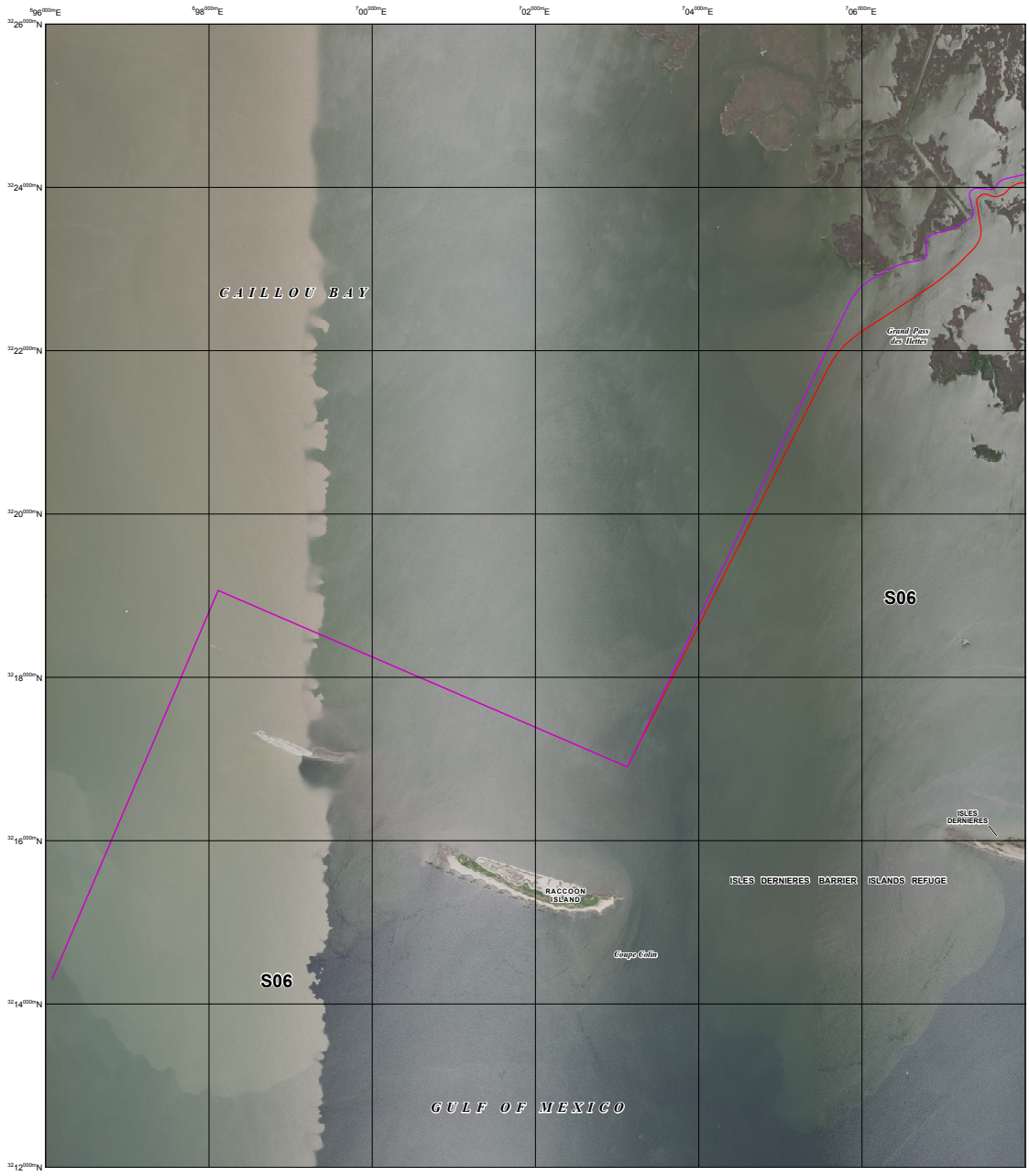
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 40 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Isles Dernieres Unit S06 (3 of 3)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

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0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 35 54 000m N — 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 41 **March 18, 2016**

John H. Chafee Coastal Barrier Resources System Unit S07, Point au Fer, Louisiana

Summary of Final Recommended Changes

Type of Unit: System Unit

Location of Unit: South of Baton Rouge, in Terrebonne and St. Mary Parishes, Louisiana

Congressional District: 1

Date of Final Recommended Maps: March 18, 2016

Number of Maps: Unit S07 is depicted on four maps.

Base Map Imagery Source and Date: U.S. Department of Agriculture, National Agriculture Imagery Program, 2015

Establishment of Unit: The Coastal Barrier Resources Act (CBRA) (Pub. L. 97-348 enacted on October 18, 1982) originally established Unit S07.

Historical Changes to Unit: The Coastal Barrier Improvement Act (Pub. L. 101-591 enacted on November 16, 1990) modified the boundary of Unit S07 to add to the Coastal Barrier Resources System (CBRS) associated aquatic habitat and remove from the CBRS the State-protected Atchafalaya Delta Wildlife Management Area.

The U.S. Fish and Wildlife Service (Service) modified the eastern boundary of Unit S07 (via notice published in the *Federal Register* (81 FR 13407) on March 14, 2016) to account for channel migration along Buckskin Bayou. The northern boundary of the unit was modified to account for channel migration along Blue Hammock Bayou. A segment of the western boundary of the unit was modified to account for wetlands erosion on the western side of Point Au Fer Island. Another segment of the western boundary was modified to include North Point due to accretion connecting North Point to Point Au Fer (this modification results in the inclusion within Unit S07 of a minor portion of the Atchafalaya Delta Wildlife Management Area). Due to the significant rate of erosion in this area, portions of the boundary of Unit S07 were generalized. The eastern and western boundaries were extended offshore to clarify the extent of the unit. Additionally, the northern boundary of the unit was adjusted near the location where Four League Bay joins Atchafalaya Bay to close a gap in the boundary on the official map dated October 24, 1990, for this unit. These modifications were made in accordance with Section 3 of Pub. L. 101-591, which allows for modifications to the CBRS boundaries to reflect changes that have occurred as a result of natural forces.

Public Comments: The Service held a 120-day public comment period on the Digital Mapping Pilot Project (pilot project) draft maps dated June 12, 2006, from April 7 through August 5, 2009. There are no comments specific to Unit S07. For a summary of the comments received on other pilot project units and the Service's responses, see Chapter 4 and Appendix E of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

Changes between Proposed and Final Recommended Boundaries: Minor modifications are made to the boundaries of most units in the pilot project, including Unit S07. These minor modifications may include, but are not limited to: better alignment of the boundary with parcel data, smoothing and simplification of the boundary, and fitting the boundary to updated base map imagery. In addition, the northeastern boundary of the unit is modified to add to the CBRS an area of wetlands about midway along the eastern side of Bay Junop and an island made up of wetlands and the surrounding associated aquatic habitat, located in the Blue Hammock Bayou channel at The Narrows. The portion of the unit's boundary extending through Four League Bay is adjusted to the north, which adds open water to the CBRS. The western boundary is modified to include North Point within the CBRS due to accretion connecting North Point to Point Au Fer. The updated base map imagery for the final recommended maps shows significant erosion has occurred in Unit S07 since 1998, which is the date of the base map imagery used for the draft map dated June 12, 2006. Because the shoreline is rapidly eroding along Point Au Fer Island, the western boundary of the unit is adjusted to generally follow the island shoreline, but is placed a small distance offshore to reduce the frequency that this boundary would need to be revised.

The Service conducted a review for natural changes of all of the existing units in the pilot project, including Unit S07, and issued revised maps (see Historical Changes to Unit section above) between 2014 and 2016. Therefore, some of the changes originally proposed by the pilot project have already been adopted and will not be reflected in the Final Recommended Changes to Unit section below.

Final Recommended Changes to Unit: The final recommended maps dated March 18, 2016, modify the boundary of Unit S07 to add to the CBRS the entire width of the channels of Pelican Pass, Taylors Bayou, Cross Bayou, the small stream cutting through Tony Lake, Bay Junop, Buckskin Bayou, and Blue Hammock Bayou. The northeastern boundary of the unit is modified to add to the CBRS an area of wetlands about midway along the eastern side of Bay Junop and an island made up of wetlands located in the Blue Hammock Bayou channel at The Narrows. The portion of the Unit S07 boundary extending through Four League Bay is adjusted to the north and adds open water to the CBRS.

The Service's final recommended maps depict changes to the CBRS that will only become effective if the updated maps are adopted through legislation enacted by Congress.

John H. Chafee Coastal Barrier Resources System Unit S07, Point au Fer, Louisiana (continued)

Acreage, Shoreline, and Structures:

	Total Acres	*Fastland Acres*[1]	*Associated Aquatic Habitat Acres*[2]	*Shoreline (Miles)*	*Structures*[3]
Existing Unit	76,792	316	76,476	24.2	
Added to the CBRS	4,828	5	4,823		0
Removed from the CBRS	0	0	0		0
Reclassified Area	0	0	0	0.0	
Final Recommended Unit	81,620	321	81,299	24.4	
Net Change	4,828	5	4,823	0.2	0

1 Land above mean high tide.

2 Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

3 Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

Existing and Final Recommended Boundaries

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Point au Fer Unit S07 (1 of 4)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 20-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

N

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0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{30}54^{000}$N 2000-meter Universal Transverse Mercator grid values

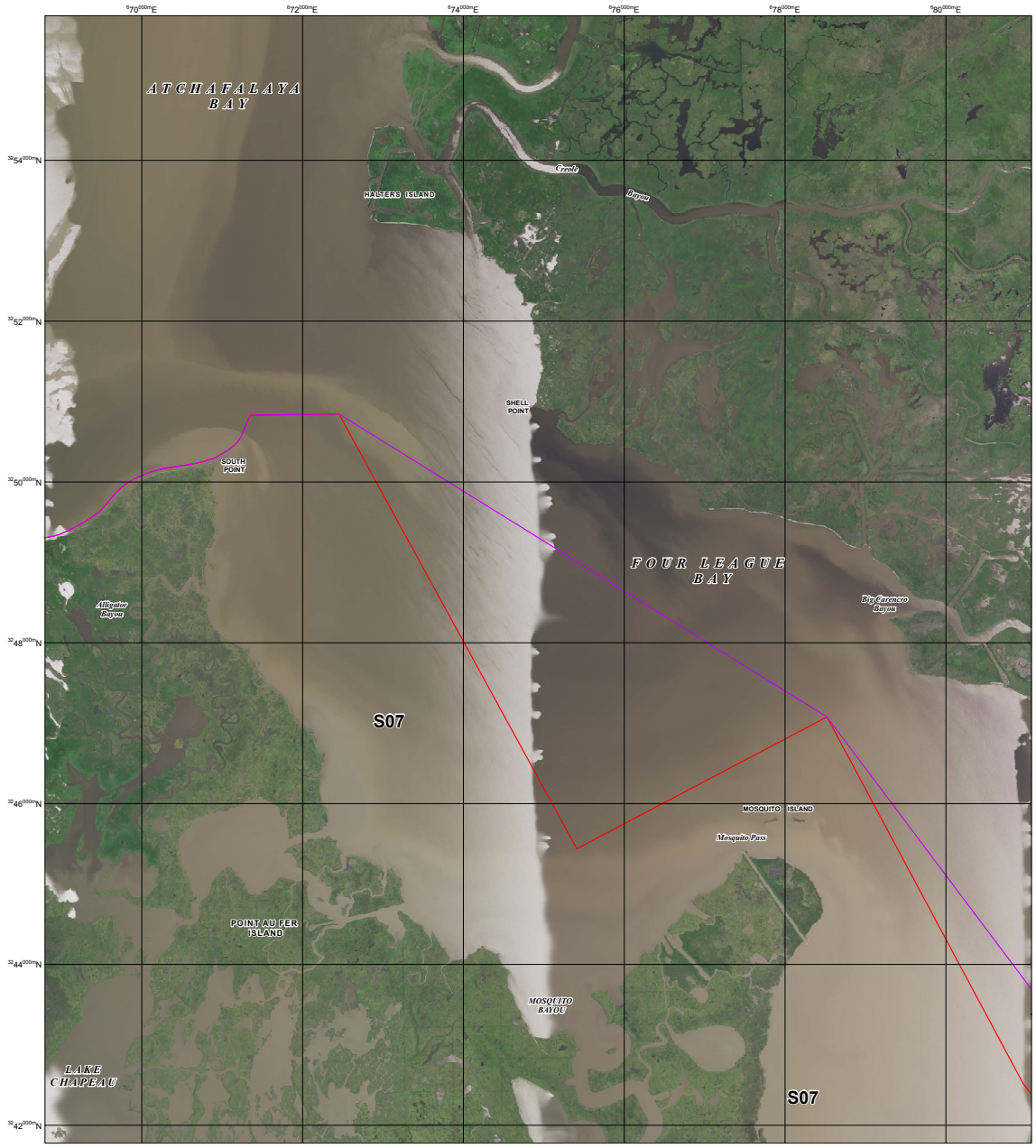
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 42 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Point au Fer Unit S07 (2 of 4)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- $^{36}54'000"N$ 2000-meter Universal Transverse Mercator grid values

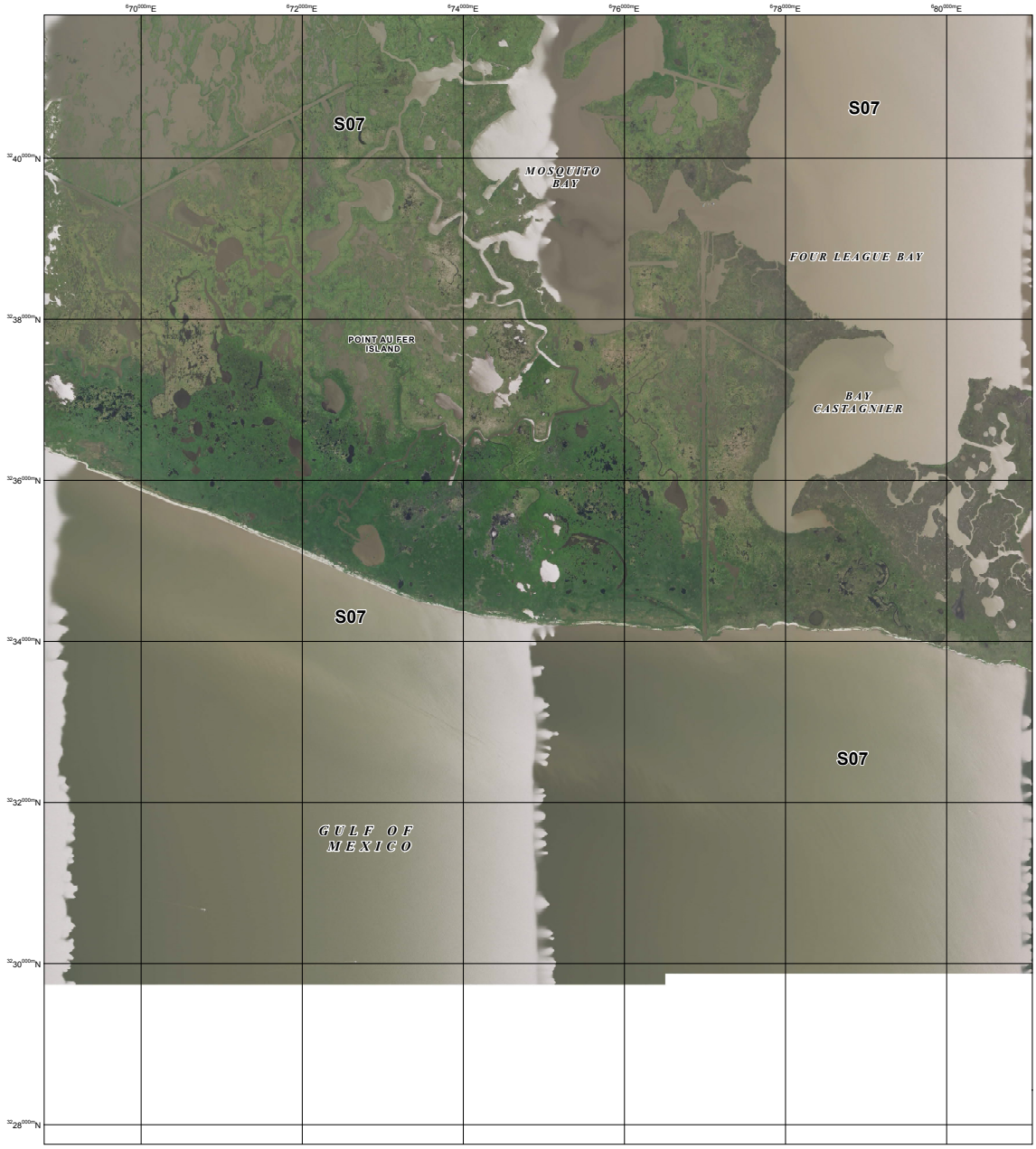
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 43 **March 18, 2016**

Existing and Final Recommended Boundaries



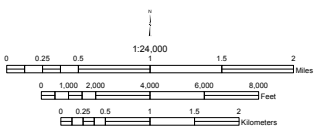
JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Point au Fer Unit S07 (3 of 4)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.



- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3 254 000mN — 2000-meter Universal Transverse Mercator grid values

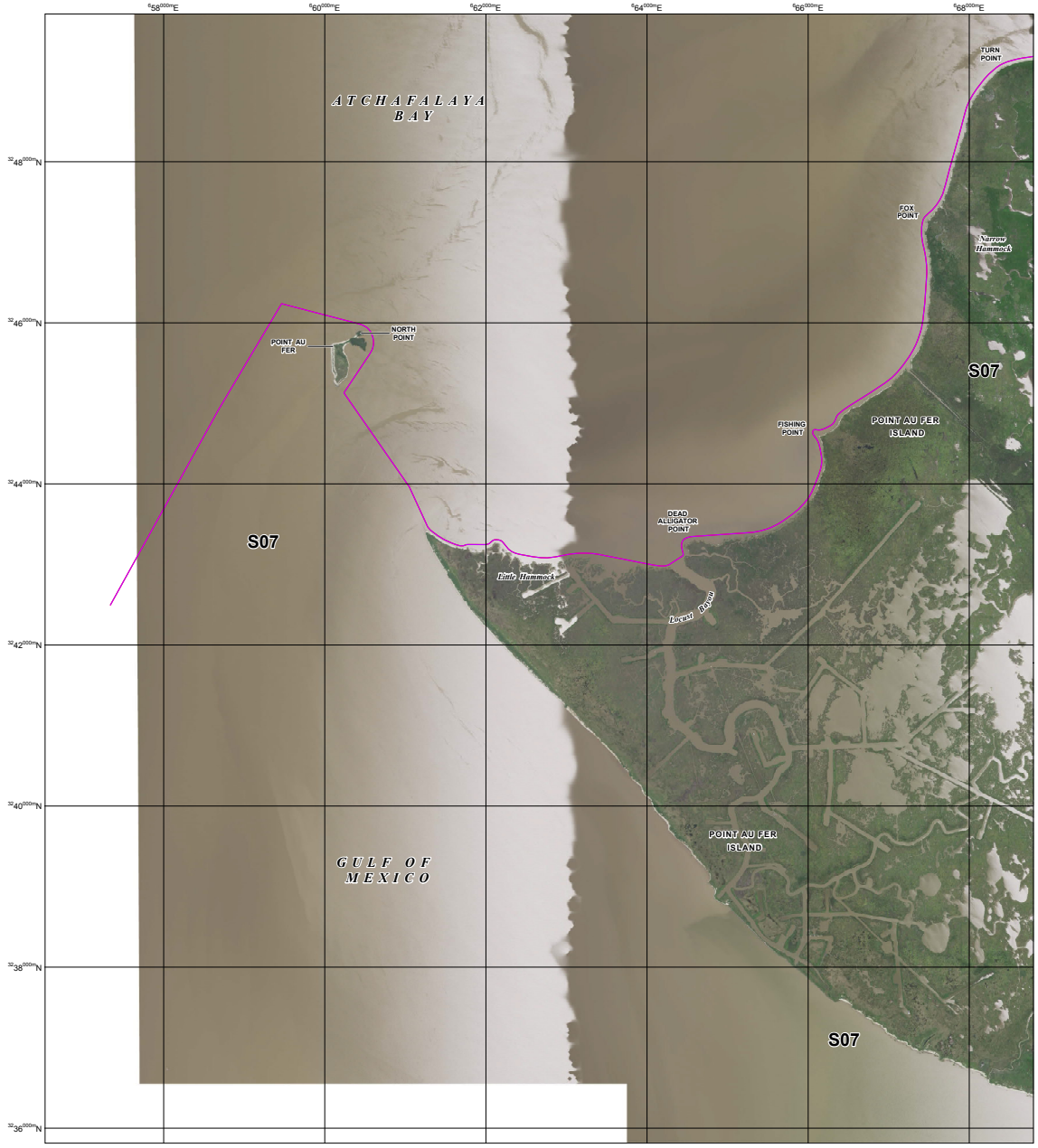
Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 44 **March 18, 2016**

Existing and Final Recommended Boundaries



JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

Point au Fer Unit S07 (4 of 4)

This draft map was produced by the U.S. Fish and Wildlife Service to show final recommended boundary changes to the John H. Chafee Coastal Barrier Resources System (CBRS) as directed by Section 3 of the Coastal Barrier Resources Reauthorization Act of 2005 (Public Law 109-226).

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-foot bathymetric contour. In large coastal embayments and the Great Lakes, the sand-sharing system is defined by the 20-foot bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the Coastal Barrier Resources Act (CBRA) or the CBRS, please visit www.fws.gov/cbra.

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0 0.25 0.5 1 1.5 2 Kilometers

- Existing System Unit Boundary
- Existing Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Final Recommended System Unit Boundary
- Final Recommended Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number
- Approximate State Boundary
- 3654000mN 2000-meter Universal Transverse Mercator grid values

Imagery Date(s): 2015

Imagery Source(s): United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator, Zone 15 North

Pilot Project Draft Map 45 **March 18, 2016**

APPENDIX D: Pilot Project Acreage, Structure, and Shoreline Changes

Table 5. Pilot Project Acreage Changes

Unit	Total (acres)						Fastland (acres)[1]						Associated Aquatic Habitat (acres)[2]					
	Existing	Final Recommended	Added to CBRS	Removed from CBRS	Net Reclassified	Net Change	Existing	Final Recommended	Added to CBRS	Removed from CBRS	Net Reclassified	Net Change	Existing	Final Recommended	Added to CBRS	Removed from CBRS	Net Reclassified	Net Change
DE-07	0	5,358	194	0	5,164	5,358	0	51	0	0	51	51	0	5,307	194	0	5,113	5,307
DE-07P	7,400	2,857	699	78	(5,164)	(4,543)	866	1,185	408	38	(51)	319	6,534	1,672	291	40	(5,113)	(4,862)
H01	171	170	4	5	0	(1)	125	121	1	5	0	(4)	46	49	3	0	0	3
NC-01	7,174	7,148	15	2	(39)	(26)	193	181	10	2	(20)	(12)	6,981	6,967	5	0	(19)	(14)
NC-01P	0	41	2	0	39	41	0	22	2	0	20	22	0	19	0	0	19	19
NC-05P	295	944	650	1	0	649	182	184	3	1	0	2	113	760	647	0	0	647
NC-06	0	6,636	1,219	0	5,417	6,636	0	181	11	0	170	181	0	6,455	1,208	0	5,247	6,455
NC-06P	6,545	1,162	35	0	(5,418)	(5,383)	940	801	31	0	(170)	(139)	5,605	361	4	0	(5,248)	(5,244)
L05	3,010	6,513	3,502	0	1	3,503	545	620	75	0	0	75	2,465	5,893	3,427	0	1	3,428
L06	5,785	5,865	169	89	0	80	801	741	4	64	0	(60)	4,984	5,124	165	25	0	140
M02	110	441	331	0	0	331	28	28	0	0	0	0	82	413	331	0	0	331
M03	183	230	48	1	0	47	10	13	3	0	0	3	173	217	45	1	0	44
FL-01	0	470	248	0	222	470	0	6	4	0	2	6	0	464	244	0	220	464
FL-01P	1,750	1,715	187	0	(222)	(35)	1,058	1,201	145	0	(2)	143	692	514	42	0	(220)	(178)
P04A	669	725	61	5	0	56	46	48	5	3	0	2	623	677	56	2	0	54
P05	1,974	1,816	259	9	(408)	(158)	573	350	5	2	(226)	(223)	1,401	1,466	254	7	(182)	65
P05P	699	1,104	0	3	408	405	569	792	0	3	226	223	130	312	0	0	182	182
P08	4,213	4,052	144	12	(293)	(161)	656	435	7	4	(224)	(221)	3,557	3,617	137	8	(69)	60
P08P	0	293	0	0	293	293	0	224	0	0	224	224	0	69	0	0	69	69
FL-13P	201	199	2	4	0	(2)	155	153	2	4	0	(2)	46	46	0	0	0	0
P09A	3,214	3,224	54	15	(29)	10	304	274	8	11	(27)	(30)	2,910	2,950	46	4	(2)	40
P09AP	0	87	58	0	29	87	0	81	54	0	27	81	0	6	4	0	2	6
P10A	5,725	7,638	1,408	14	519	1,913	840	875	20	11	26	35	4,885	6,763	1,388	3	493	1,878
FL-14P	2,620	2,900	803	4	(519)	280	270	310	69	3	(26)	40	2,350	2,590	734	1	(493)	240
P11	16,155	16,179	60	19	(17)	24	661	639	7	17	(12)	(22)	15,494	15,540	53	2	(5)	46
P11P	0	17	0	0	17	17	0	12	0	0	12	12	0	5	0	0	5	5
FL-15	217	209	8	16	0	(8)	98	98	2	2	0	0	119	111	6	14	0	(8)
FL-16P	51	68	17	0	0	17	34	41	7	0	0	7	17	27	10	0	0	10
FL-17P	100	117	18	1	0	17	88	104	17	1	0	16	12	13	1	0	0	1
FL-18P	844	841	2	5	0	(3)	156	154	1	3	0	(2)	688	687	1	2	0	(1)
FL-19P	84	190	106	0	0	106	67	119	52	0	0	52	17	71	54	0	0	54
FL-20P	396	376	16	36	0	(20)	227	205	0	22	0	(22)	169	171	16	14	0	2
P14A	110	150	40	0	0	40	71	74	3	0	0	3	39	76	37	0	0	37

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

Table 5. Pilot Project Acreage Changes (continued)

Unit	Total (acres)						Fastland (acres)[1]						Associated Aquatic Habitat (acres)[2]					
	Existing	*Final Recommended*	*Added to CBRS*	*Removed from CBRS*	*Net Reclassified*	*Net Change*	*Existing*	*Final Recommended*	*Added to CBRS*	*Removed from CBRS*	*Net Reclassified*	*Net Change*	*Existing*	*Final Recommended*	*Added to CBRS*	*Removed from CBRS*	*Net Reclassified*	*Net Change*
FL-39	1,210	1,352	143	1	0	142	6	6	0	0	0	0	1,204	1,346	143	1	0	142
FL-40	110	2,151	2,041	0	0	2,041	10	16	6	0	0	6	100	2,135	2,035	0	0	2,035
FL-43	1,187	1,187	0	0	0	0	0	0	0	0	0	0	1,187	1,187	0	0	0	0
FL-44	363	557	194	0	0	194	0	3	3	0	0	3	363	554	191	0	0	191
FL-45	1,344	1,935	591	0	0	591	343	484	141	0	0	141	1,001	1,451	450	0	0	450
FL-46	1,212	1,388	189	13	0	176	118	108	2	12	0	(10)	1,094	1,280	187	1	0	186
P17A	32	66	2	0	0	34	11	12	1	0	0	1	21	54	1	0	0	33
FL-67	3,231	3,572	380	7	0	341	87	90	6	3	0	3	3,144	3,482	374	4	0	338
FL-67P	0	179	179	0	0	179	0	1	1	0	0	1	0	178	178	0	0	178
P21	2,002	3,819	1,736	9	90	1,817	409	418	13	4	0	9	1,593	3,401	1,723	5	90	1,808
P21P	394	485	181	0	-90	91	116	192	76	0	0	76	278	293	105	0	-90	15
P22	615	677	62	0	0	62	78	83	5	0	0	5	537	594	57	0	0	57
FL-72P	349	407	59	1	0	58	61	61	1	1	0	0	288	346	58	0	0	58
FL-73P	192	36	13	0	(169)	(156)	7	17	10	0	0	10	185	19	3	0	(169)	(166)
FL-78	3,231	3,933	536	3	169	702	55	70	17	2	0	15	3,176	3,863	519	1	169	687
FL-80P	1,141	1,141	0	0	0	0	0	0	0	0	0	0	1,141	1,141	0	0	0	0
FL-81	294	289	0	0	-5	(5)	47	45	0	0	(2)	(2)	247	244	0	0	(3)	(3)
FL-81P	237	693	451	0	5	456	215	218	1	0	2	3	22	475	450	0	3	453
FL-82	1,499	1,584	85	0	0	85	26	26	0	0	0	0	1,473	1,558	85	0	0	85
FL-83	3,468	3,532	64	0	0	64	6	12	6	0	0	6	3,462	3,520	58	0	0	58
FL-85P	521	526	5	0	0	5	115	116	1	0	0	1	406	410	4	0	0	4
P26	678	1,221	543	0	0	543	107	107	0	0	0	0	571	1,114	543	0	0	543
FL-89	767	1,202	457	22	0	435	10	16	6	0	0	6	757	1,186	451	22	0	429
FL-93	0	124	1	0	123	124	0	31	1	0	30	31	0	93	0	0	93	93
FL-93P	239	260	157	13	(123)	21	81	133	94	12	(30)	52	158	127	63	1	(93)	(31)
FL-94	264	261	5	8	0	-3	159	155	2	6	0	(4)	105	106	3	2	0	1
LA-01	4,851	4,851	0	0	0	0	0	0	0	0	0	0	4,851	4,851	0	0	0	0
LA-02	5,634	5,634	0	0	0	0	0	0	0	0	0	0	5,634	5,634	0	0	0	0
S04	9,822	9,991	169	0	0	169	106	106	0	0	0	0	9,716	9,885	169	0	0	169
S05	21,548	21,548	0	0	0	0	485	485	0	0	0	0	21,063	21,063	0	0	0	0
S06	37,327	38,407	1,080	0	0	1,080	16	16	0	0	0	0	37,311	38,391	1,080	0	0	1,080
S07	76,792	81,620	4,828	0	0	4,828	316	321	5	0	0	5	76,476	81,299	4,823	0	0	4,823
System Unit Total	226,191	257,725	20,870	250	10,914	31,534	7,346	7,345	379	148	(232)	(1)	218,845	250,380	20,491	102	11,146	31,535
OPA Total	24,058	16,638	3,640	146	(10,914)	(7,420)	5,207	6,326	975	88	232	1,119	18,851	10,312	2,665	58	(11,146)	(8,539)
Pilot Total	250,249	274,363	24,510	396	0	24,114	12,553	13,671	1,354	236	0	1,118	237,696	260,692	23,156	160	0	22,996

[1] Land above mean high tide.

[2] Associated aquatic habitat includes wetlands, marshes, estuaries, inlets, and open water landward of the coastal barrier, but does not include open water seaward of the shoreline. This information is derived from an interpretation of base map imagery in consultation with National Wetlands Inventory data and other data sources as necessary.

Table 6. Pilot Project Structure and Shoreline Changes

Unit	Structures[1]			Shoreline Change (in miles)		
	Added	*Removed*	*Net Change*	*Existing*	*Final Recommended*	*Net Change*
DE-07	0	0	0	0.0	0.1	0.1
DE-07P	1	88	(87)	6.8	7.0	0.2
H01	0	11	(11)	0.7	0.7	0.0
NC-01	0	0	0	0.4	0.4	0.0
NC-01P	3	0	3	0.0	0.0	0.0
NC-05P	0	0	0	0.0	0.0	0.0
NC-06	0	0	0	0.0	1.4	1.4
NC-06P	5	0	5	4.2	3.2	(1.0)
L05	0	0	0	10.4	10.5	0.1
L06	0	78	(78)	6.8	6.6	(0.2)
M02	0	0	0	1.2	1.2	0.0
M03	0	0	0	0.6	0.6	0.0
FL-01	0	0	0	0.0	0.0	0.0
FL-01P	0	0	0	1.9	1.9	0.0
P04A	0	2	(2)	0.4	0.4	0.0
P05	0	7	(7)	2.6	1.6	(1.0)
P05P	0	1	(1)	1.6	2.6	1.0
P08	0	6	(6)	1.9	0.8	(1.1)
P08P	0	0	0	0.0	1.1	1.1
FL-13P	0	10	(10)	0.8	0.8	0.0
P09A	0	28	(28)	2.0	1.8	(0.2)
P09AP	1	0	1	0.0	0.7	0.7
P10A	0	13	(13)	3.9	3.9	0.0
FL-14P	3	4	(1)	0.7	3.3	2.6
P11	0	19	(19)	9.8	9.6	(0.2)
P11P	0	0	0	0.0	0.2	0.2
FL-15	0	3	(3)	1.0	0.9	(0.1)
FL-16P	2	0	2	0.3	0.4	0.1
FL-17P	0	3	(3)	0.5	0.6	0.1
FL-18P	0	4	(4)	1.6	1.6	0.0
FL-19P	4	0	4	0.4	0.4	0.0
FL-20P	0	16	(16)	2.6	2.7	0.1
P14A	0	0	0	0.8	0.8	0.0
FL-39	0	0	0	0.8	0.8	0.0
FL-40	0	0	0	0.9	1.1	0.2
FL-43	0	0	0	0.9	0.9	0.0
FL-44	0	0	0	1.0	1.1	0.1
FL-45	0	0	0	1.4	2.1	0.7
FL-46	0	0	0	1.9	2.0	0.1
P17A	0	0	0	0.2	0.4	0.2
FL-67	0	1	(1)	4.3	4.1	(0.2)
FL-67P	0	0	0	0.0	0.0	0.0
P21	0	6	(6)	3.8	3.7	(0.1)
P21P	0	0	0	1.1	1.2	0.1
P22	0	0	0	0.8	0.8	0.0
FL-72P	0	3	(3)	0.3	0.6	0.3
FL-73P	2	0	2	0.0	0.0	0.0
FL-78	0	1	(1)	4.0	5.0	1.0
FL-80P	0	0	0	1.8	1.8	0.0
FL-81	0	0	0	0.9	0.9	0.0
FL-81P	0	0	0	2.0	2.0	0.0
FL-82	0	0	0	4.6	4.6	0.0
FL-83	0	0	0	5.5	5.5	0.0
FL-85P	0	0	0	0.6	0.6	0.0
P26	0	0	0	2.7	2.7	0.0
FL-89	0	1	(1)	2.2	2.6	0.4
FL-93	0	0	0	0.0	0.0	0.0
FL-93P	14	17	(3)	0.5	0.5	0.0
FL-94	0	3	(3)	2.1	1.7	(0.4)
LA-01	0	0	0	4.5	4.5	0.0
LA-02	0	0	0	4.7	4.7	0.0
S04	0	0	0	4.0	4.2	0.2
S05	0	0	0	19.5	19.5	0.0
S06	0	0	0	21.4	21.4	0.0
S07	0	0	0	24.2	24.4	0.2
System Unit Total	0	179	(179)	159	160	1
OPA Total	35	146	(111)	28	33	6
Pilot Total	35	325	(290)	187	193	7

[1] Approximate structure count derived from base map imagery. Structures without walls and a roof (e.g., picnic shelters) and structures with fewer than 200 square feet are not included in this structure count because they do not meet the definition of a "structure" in 16 U.S.C. 3503(g)(2).

APPENDIX E: Responses to Unit-Specific Public Comments

Section 3(b) of the 2006 Coastal Barrier Resources Reauthorization Act (CBRRA) requires that the Secretary of the Interior (Secretary) prepare this final report regarding the Digital Mapping Pilot Project (pilot project) after providing an opportunity for the submission and consideration of public comments. On April 7, 2009, the U.S. Fish and Wildlife Service (Service) released to the public its *Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project* (including draft digital maps dated June 12, 2006, that proposed modifications to 70 Coastal Barrier Resources System (CBRS) units) and announced the start of a 90-day public comment period, which was later extended to 120 days. Section 3(c)(3) of the 2006 CBRRA requires that this final report contain a summary of the comments received from Governors, other government officials, and the public regarding the digital maps.

The Service received 159 written comments during the 120-day public comment period (April 7 through August 5, 2009). Unit-specific comments were received for 26 of the 70 units in the 2008 pilot project report, though three of the units that received comments are no longer included in the pilot project.[1] The majority of the comments received related to the Florida and North Carolina pilot project units. Seventeen of the comments received related to CBRS units that are not within the scope of the pilot project.

The comments received for each unit during the public comment period and the Service's responses to these comments are summarized in this appendix. It is also indicated, where appropriate, if the final recommended maps (dated November 20, 2013, or March 18, 2016) were modified as a result of the comments. Comments concerning labeling and typographical errors are not addressed in this appendix; however, such comments were reviewed and corrections were made as appropriate. Comments related to units that are not currently within the pilot project are not addressed in this appendix. Significant issues raised during the public comment period that are relevant to more than one CBRS unit are addressed with a Service response in Chapter 4 of this final report (see Table 7 below). Copies of the comments received during the public review period have not been reproduced in this report, but will be made available by the Service's Headquarters Office upon request.

Table 7 . Summary of Substantive Overarching Comments and Responses Addressed in Chapter 4

Number	*Issue*	*Page Number*
1	Authority of the Service to Recommend Additions to the CBRS	16
2	Effectiveness of the CBRA	16
3	Long-Term Preservation of the CBRS	17
4	Modernizing CBRS Maps Using Digital Technology	17
5	Public Disclosure of CBRS Designation	17
6	Multiple Layers of Protection on Properties in the CBRS	18
7	Amend the CBRA to Add Exemptions for Projects Deemed to be of Public Benefit	18
8	Effective Dates for Areas Added to or Reclassified within the CBRS	18
9	Delineation of CBRS Boundaries Based on Legal Descriptions Instead of on Maps	19
10	Age and Quality of Aerial Imagery Used for CBRS Base Maps	19
11	System Unit versus OPA Classification and Reclassification	19
12	Mapping Channels within the CBRS	21
13	Mapping Landward CBRS Boundaries Using Easy-to-Map Features	22
14	Addition of Associated Aquatic Habitat behind a Developed Barrier to the CBRS	23
15	Inclusion of Docks, Piers, Marinas, and Other Shoreline Structures within the CBRS	24
16	Shoreline and Development Feature Buffering	24
17	Roads and Road Rights-of-Way in OPAs	27
18	Mapping Seaward Boundaries of Excluded Areas in the CBRS	27
19	Seaward Limits of CBRS Units	27

Table 8 provides the page number for the comments specific to individual units addressed in this Appendix.

Table 8. Summary of Unit-Specific Comments

Unit	*County/Parish*	*Page Number*
Delaware		
DE-07*	Sussex	E-3
DE-07P	Sussex	E-3
H01	Sussex	E-4
North Carolina		
NC-05P	Carteret	E-5
NC-06*	Onslow	E-5
NC-06P	Carteret, Onslow	E-5
L06	Onslow	E-8
South Carolina		
M02	Georgetown	E-9
M03	Georgetown	E-10
Florida		
P04A	St. Johns	E-10
P05	St. Johns	E-11
P05P	St. Johns	E-12
P08	Volusia	E-12
FL-13P	Brevard	E-13
P09AP*	Brevard	E-14
P10A	Indian River, St. Lucie	E-14
FL-14P	St. Lucie	E-14
P11	St. Lucie	E-15
FL-39	Monroe	E-17
FL-45	Monroe	E-17
P17A	Lee	E-17
FL-67	Lee	E-18
FL-67P	Lee	E-18
P21	Charlotte	E-22

* Recommended new or reclassified Unit.

DELWARE

Unit DE-07, Delaware Seashore

Comment 1: A homeowners association commented that their community, The Chancellery, was incorrectly placed within an Otherwise Protected Area (OPA) as a result of a mapping discrepancy.

Service Response to Comment 1: The area in question has not been recommended for removal from the CBRS; rather, on both the proposed map and the final recommended map, the area is reclassified from OPA Unit DE-07P to System Unit DE-07. The CBRS contains two types of units, System Units and OPAs. System Units are generally comprised of privately held areas. OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. In carrying out the pilot project, the Service noted cases where areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas (that are not inholdings) are located within OPAs.

When the Service comprehensively remapped the CBRS units in the pilot project, the conservation and/or recreation areas within the units were identified and the history of those areas was evaluated to determine whether they were appropriately classified as System Unit or OPA. The Service's remapping protocol at the time of the pilot project generally recommended reclassification from System Unit to an OPA, or vice versa, depending on when the particular area was included within the CBRS and whether the area was held for conservation and/or recreation at the time it was included.[2] If the Service found no evidence that an area within an existing OPA was held for conservation and/or recreation at the time it was originally included within the CBRS, then the area in question was generally recommended for reclassification from OPA to System Unit as long as it met the Coastal Barrier Resources Act (CBRA) criteria for an undeveloped coastal barrier at the time it was included within the CBRS.

The area to the north of the Delaware Seashore State Park where The Chancellery subdivision is located is one such area. No structures were on-the-ground in this subdivision when the area was included within the CBRS in 1990. Because the Service's assessment found that the area met the CBRA criteria for an undeveloped coastal barrier at the time of inclusion within the CBRS, it is not recommended for removal from the CBRS, but rather is recommended for reclassification from OPA to System Unit. There are no changes between the proposed and final recommended maps for Unit DE-07 as a result of this comment.

Lessons learned through the course of the pilot project and other comprehensive remapping projects resulted in a revision to the Service's protocol regarding System Unit versus OPA classification for future mapping projects. See Issue 11 in Chapter 4 for more information about reclassifications within the CBRS and Chapter 6 for additional information concerning the Service's guiding principles and criteria for modifications to the CBRS.

Unit DE-07P, Delaware Seashore

Comment 2: State officials commented that their records indicate Breakwater Beach subdivision was undeveloped private land in 1982 when the CBRA was established, and they believe that it meets the criteria for a System Unit.

Service Response to Comment 2: Although Breakwater Beach subdivision was undeveloped when CBRA was first established in 1982, approximately 15 residential structures were already on-the-ground within this subdivision when the area was added to the CBRS in November of 1990. The Service's assessment indicates these private properties were inappropriately included within the CBRS and are appropriate for removal from this unit. There are no changes between the proposed and final recommended maps for Unit DE-07P as a result of this comment.

Comment 3: During the comment period, the Service was asked whether we had considered the infrastructure information for the South Shores Community and Marina submitted by the homeowners association in January 2005 in support of a request to remove the area from the CBRS.

Service Response to Comment 3: The Service reviewed the information submitted by the homeowners association and our historical background records for Unit DE-07P. In addition, we worked closely with the president of the homeowners association to obtain additional information that was needed for a complete assessment. Our review found that in 1990, the subject area consisted of approximately 90 mobile homes in the South Inlet Trailer Park, a marina, and an additional trailer park south of the marina that contained approximately 25 mobile homes and one modular home. However, the area did not have a paved road (which is a necessary component of a full complement of infrastructure according to the CBRA infrastructure criteria).[3]

The CBRA contains the following definition of the term "structure":

A walled and roofed building, other than a gas or liquid storage tank, that—

(A) is principally above ground and affixed to a permanent site, including a manufactured home on a permanent foundation; and

(B) covers an area of at least 200 square feet.[4]

Although not all of the mobile homes met this definition, there were at least ten of them affixed to a permanent foundation. Additionally, there were three buildings on the South Shore Marina site and one modular home in the trailer park south of the marina. Though much of this area has been redeveloped, the Service's assessment found that the development on-the-ground in 1990 constituted a cluster of structures large enough to be excluded from the CBRS (see Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS). Because the subject area did not meet the CBRA criteria for

an undeveloped coastal barrier at the time of inclusion, it is recommended for removal from the CBRS on the final recommended map. There are changes between the proposed and final recommended maps for Unit DE-07P as a result of this comment.

Unit H01, North Bethany Beach

Comment 4: State officials support the Service's proposed removal of the Bayberry Dunes subdivision from the CBRS. Their records show the permit for the first house in Bayberry Dunes was issued in December 1981.

Service Response to Comment 4: When determining whether the removal of an area from the CBRS is warranted, the Service assesses the level of development on-the-ground at the time the area was (or is) included within the CBRS[5] and does not consider permits, approved development plans, or other legal indicators of intent to develop. The subject area is recommended for removal from the CBRS because the Service's assessment found that the infrastructure for the Bayberry Dunes subdivision was on-the-ground by March 15, 1982, which was the cutoff date for the Department of the Interior's (Department) analysis of coastal barrier ground conditions in the case of areas that were included by the CBRA of 1982. Additionally, the Service's background record for Unit H01 indicates that the southern boundary was intended to be located to the north of Bayberry Dunes subdivision. The Service did not consider the date when the homes were permitted in its assessment. See Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS.

NORTH CAROLINA

Comments affecting all pilot project CBRS Units in North Carolina

Comment 5: State and local officials are concerned that the Service may have overlooked current major infrastructure projects and potential future improvements and never assessed the impact of placing the project areas within a System Unit of the CBRS. In particular, the officials are concerned about infrastructure that may be damaged or destroyed by a storm event. These officials want to know if the new restrictions will eliminate Federal funding for:

- repair and reconstruction of roads and bridges outside the original footprint,
- installation of sandbags along ocean-front roadways after storms,
- construction and maintenance of stormwater treatment facilities and outfalls,
- dredging and disposal projects, and
- beach nourishment.

Service Response to Comment 5: When remapping a particular area, the Service considers projects to the extent that they impact the current development status of a coastal barrier in accordance with the Service's criteria for modifications to the CBRS described in Chapter 6. Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis following consultation between the funding agency and the Service. There are many different exceptions that may be applicable and they are each dependent upon a number of factors. Examples of the specifics considered for such consultations may include (depending on the type of project) but are not limited to: the date that the infrastructure that is to be repaired was first constructed, whether there is a proposed expansion in service volume and/or area of the infrastructure, the specific details regarding where sand is proposed to be moved to and from, the anticipated effects of the particular project on fish and wildlife, and/or whether the project is to be conducted pursuant to certain sections of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Due to the case by case nature of consultations, the Service cannot provide generalized responses to whether such projects would be allowable under the CBRA. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html.*

Comment 6: State officials commented that the Service is required to determine both benefits and problems associated with the approval of the CBRS units, and they were unable to find this analysis.

Service Response to Comment 6: Section 6(d) of the 2000 CBRRA required that the initial pilot project report to Congress describe the results of the pilot project and the feasibility, data needs, and costs of completing digital maps for the entire CBRS. Specifically, that report was to include:

- a description of the cooperative agreements that would be necessary to complete digital mapping of the entire CBRS;
- the extent to which the data necessary to complete digital mapping of the entire CBRS are available;
- the need for additional data to complete digital mapping of the entire CBRS;
- the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps; and
- the amount of funding necessary to complete digital mapping of the entire CBRS.

The Service addressed all of the above requirements with the initial 2008 pilot project report. Section 3(c) of the 2006 CBRRA requires that this final pilot project report include:

- the final recommended digital maps created under the pilot project;
- recommendations for the adoption of the digital maps by Congress;

- a summary of the comments received from the Governors of the States, other government officials, and the public regarding the digital maps;
- a summary and update of the protocols and findings of the initial pilot project report required under Section 6(d) of the 2000 CBRRA; and
- an analysis of any benefits that the public would receive by using digital mapping technology for all CBRS units.

The Service addressed all of these requirements with this final pilot project report. There is no statutory requirement that the Service assess any benefits and problems with the approval of the CBRS units as stated by the commenters.

Comment 7: State officials are concerned that areas within existing units and the proposed new additions are not owned by the State or Federal Government and request that the ownership of all areas within the CBRS units be determined.

Service Response to Comment 7: The CBRS includes areas that are owned by a variety of private, Federal, State, and local entities. It is not a requirement that any areas within the CBRS be owned by the State or Federal Government. For information on how the Service determines whether to classify an area as System Unit or OPA, see Issue 11 in Chapter 4 and the "Overview of Protocol for CBRS Unit Classification" section in Chapter 6.

Unit NC-05P, Roosevelt Natural Area

Comment 8: Local officials commented that they are supportive of the Service's efforts to update the CBRS maps using the latest mapping technology, but are opposed to the expansion and creation of new CBRS units in the pilot project. However, the commenters request that if Unit NC-05P is expanded as proposed, the northern boundary of the unit be moved northward to follow the center of the Atlantic Intracoastal Waterway instead of the centerline of a channel in Bogue Sound.

Service Response to Comment 8: In 1982 and 1988 the Department published guidance for delineating CBRS boundaries through the aquatic habitat landward of coastal barriers.[6] In carrying out the pilot project, the Service noted that the Department's guidance for delineating these landward boundaries has not been consistently applied to the CBRS maps created in the past, including the map for Unit NC-05P. The 1988 published guidance states that if there is an open water body greater than one mile wide landward of the coastal barrier, then the boundary is generally placed in the open water approximately one mile landward of the farthest landward extent of wetlands on the protected side of the coastal barrier. If a discernible natural channel, artificial channel, or political boundary exists in the open water approximately one mile landward of the coastal barrier, the channel or political boundary is used as the landward boundary. The northern boundary of Unit NC-05P is mapped according to this protocol, and not placed in the center of the Atlantic Intracoastal Waterway because it is greater than one mile landward of the coastal barrier. There are no changes between the proposed and final recommended maps for Unit NC-05P as a result of this comment.

Units NC-06 and NC-06P, Hammocks Beach

Comment 9: Local officials expressed concern over the inclusion within proposed new Unit NC-06 of a large area of aquatic and marsh habitat behind a barrier island (Emerald Isle) that is already fully developed, and with the alignment of the proposed boundary of the unit against the western side of the North Carolina Highway 58 bridge. Commenters stated that this bridge is one of the main access points onto the barrier island from the mainland, and any future bridge project is likely to depend on Federal funds.

Service Response to Comment 9: In carrying out the pilot project, the Service noted that there are inconsistencies in how the associated aquatic habitat situated behind development was mapped in 1982, 1990, and when areas were added to the CBRS through subsequent legislative amendments. In the 2008 pilot project report, the Service established a consistent protocol for adding associated aquatic habitat behind a developed coastal barrier to the CBRS. The associated aquatic habitat of Bogue Sound between the channel that empties into the Atlantic Ocean at Bogue Inlet and the Highway 58 bridge is an area that was added behind a developed barrier in accordance with this protocol. However, in addressing the comments received during the public comment period opposing such additions, the Service agrees that there should be a limit as to how far additions of associated aquatic habitat may extend behind a developed barrier. The Service's updated protocol establishes a limit with the boundary generally drawn along the outside edge of a channel that exists in the associated aquatic habitat within one mile of the undeveloped portion of the coastal barrier. For more information on this updated protocol for the addition of associated aquatic habitat behind a developed barrier, see Issue 14 in Chapter 4. There are changes between the proposed and final recommended maps for Unit NC-06 as a result of this comment. The boundary of Unit NC-06 on the final recommended map is modified to be at the eastern edge of the channel emptying into the Atlantic Ocean at Bogue Inlet and is now almost two miles west of the Highway 58 bridge.

Comment 10: Local officials requested that the geographic area of the existing OPA Unit NC-06P be reduced to reflect the holdings of the State only, and that the proposed new System Unit NC-06 be removed entirely from the final pilot project report.

Service Response to Comment 10: The CBRS contains two types of units, System Units and OPAs. System Units are generally comprised of privately held areas. OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. In carrying out the pilot project, the Service noted cases where

areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas (that are not inholdings) are located within OPAs.

When the Service comprehensively remapped the CBRS units in the pilot project, the conservation and/or recreation areas within the units were identified and the history of those areas was evaluated to determine whether they were appropriately classified as System Unit or OPA. The Service's remapping protocol at the time of the pilot project generally recommended reclassification from System Unit to OPA, or vice versa, depending on when the particular area was included within the CBRS and whether the area was held for conservation and/or recreation at the time it was included.[7] If the Service found no evidence that an area within an existing OPA was held for conservation and/or recreation at the time it was originally included within the CBRS, then the area in question was generally recommended for reclassification from OPA to System Unit as long as it met the CBRA criteria for an undeveloped coastal barrier at the time it was included within the CBRS.

The associated aquatic habitat between Bear Island and the mainland is one such area. The Service's review found no documentation indicating that this area is held for conservation and/or recreation (in accordance with the CBRA definition of an OPA); however, it qualified for inclusion within a System Unit at the time it was included within the CBRS. There are no changes between the proposed and final recommended maps for Units NC-06 and NC-06P as a result of this comment.

Lessons learned through the course of the pilot project and other comprehensive remapping projects resulted in a revision to the Service's protocol regarding System Unit versus OPA classification for future mapping projects. See Issue 11 in Chapter 4 for more information about reclassifications within the CBRS and changes to the Service's OPA mapping protocol and Chapter 6 for additional information concerning the Service's guiding principles and criteria for modifications to the CBRS.

Comment 11: State and local officials are concerned that Federal funding prohibitions on areas within new System Unit NC-06 will have an impact on dredging and beach nourishment projects. State officials commented specifically that Cow Creek Channel, which is located behind Bear Island and is proposed for reclassification from OPA Unit NC-06P to System Unit NC-06, is dredged periodically to provide public ferry service between the mainland and Hammocks Beach State Park on Bear Island. Although State officials have not yet used Federal funds to maintain this channel, they would like to maintain that option for the future. The commenters are concerned that reclassification of the associated aquatic habitat from Unit NC-06P to Unit NC-06 will make consistency consultations a requirement for such projects, which will add uncertainty, increase the time in implementing a project, and create controversy.

Service Response to Comment 11: The Service's review found no documentation indicating that Cow Creek Channel and the marsh between Bear Island and the mainland are held for conservation and/or recreation (in accordance with the CBRA definition of an OPA); however, they qualified for inclusion within a System Unit at the time they were included within the CBRS. See Issue 11 in Chapter 4 for more information about reclassifications within the CBRS. There are no changes between the proposed and final recommended maps for Unit NC-06 as a result of this comment.

There is an exception in the CBRA for the maintenance of existing Federal navigation channels.[8] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Comment 12: Local officials are concerned that the proposed creation of System Unit NC-06 ignores the intention of Congress because associated aquatic habitats should only be included within the CBRS if these areas include few manmade structures and take into account the existence of manmade features and human activities that impede the natural processes. These officials identify the following evidence of human activities: structures within Hammocks Beach State Park, the periodic dredging of channels providing access to Bear Island, the inclusion of waterfront structures along the Swansboro and Cedar Point shorelines, and the dredging and disposal project activities in the Bogue Inlet area.

Service Response to Comment 12: The consideration of human activities is a part of the CBRA definition of an undeveloped coastal barrier:

(1) The term "undeveloped coastal barrier" means—

(A) a depositional geologic feature (such as a bay barrier, tombolo, barrier spit, or barrier island) that—

(i) is subject to wave, tidal, and wind energies, and

(ii) protects landward aquatic habitats from direct wave attack; and

(B) all associated aquatic habitats, including the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters;

but only if such feature and associated habitats contain few manmade structures and these structures, and man's activities on such feature and within such habitats, do not significantly impede geomorphic and ecological processes.[9]

However, the significance that human activities have in considering whether an area is undeveloped under the CBRA is limited. The Department's May 1983 Final Environmental Statement Undeveloped Coastal Barriers report contains an explanation of how this is applied:

> *All coastal barriers are affected to some degree by human activities. Even completely undeveloped coastal barriers often have a considerable history of human use and occupancy, which have from time to time affected environmental quality, vegetation, wildlife, and other factors. For the most part, these impacts have been minor and well within the capability of the coastal barrier ecosystem to mitigate or repair in a short period of time. Significant impacts--that is, those which interfere with the geological and ecological processes responsible for maintaining coastal barrier ecosystems--are nearly always associated, either directly or indirectly, with intensive development involving large capital investments on the site.*[10]

If a coastal barrier contains few man-made structures but is subject to significant levels of human activity such as the intensive development associated with a large condominium development, it is considered developed. The 1983 report also states:

> *The wording of this section requires evaluation of human impacts only in cases where structures are present; completely undeveloped coastal barriers are not evaluated (presumably on the assumption that, without any structures, the probability of significant human impacts on geological and ecological processes is extremely low). Although human activities (such as the destruction of dunes) which significantly affect geological processes almost always have significant impacts on ecological processes as well, the converse is less often true. Thus, ditching of tidal marshes, which can have significant ecological impacts by damaging or destroying habitat for numerous fish and wildlife species, may have only minor impacts on geologic processes. The existence of ecologically adverse activities alone would not cause a coastal barrier to be excluded for purposes of denying flood insurance coverage.*[11]

This 1983 report goes on to say that the impacts of human activities are considered in cases where the development density is less than the threshold for identifying an undeveloped coastal barrier, but not in cases where the coastal barrier is completely undeveloped. Significant impacts on both geological and ecological processes must be present, and the area must contain some development in order for it to be a factor.

Our review found that the area within new System Unit NC-06 (which includes a large area of associated aquatic habitat that is recommended for reclassification from OPA Unit NC-06P and new additions on the north and east) met (or meets, for new additions) the CBRA criteria for an undeveloped coastal barrier at the time it was included within the CBRS and is well below the density threshold of one structure per five acres of fastland. There were a few scattered structures when the area was first included within OPA Unit NC-06P, and the Service found no significant impacts on geological and ecological processes related to these structures. There are no changes between the proposed and final recommended maps for Units NC-06 and NC-06P as a result of this comment.

Comment 13: Local officials are concerned that the proposed expansion of the CBRS to include the marsh along the shorelines of the Towns of Swansboro and Cedar Point will have negative consequences for the waterfront structures. The commenters indicated that the Swansboro downtown district is a designated urban waterfront area and is on the National Register of Historic Places due to its long history of use as a working waterfront area.

Service Response to Comment 13: The CBRA definition of a coastal barrier includes all associated aquatic habitats, encompassing the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters.[12] The statutory definition is consistent with the fact that the upland component and the associated aquatic habitat are inseparable parts of a single coastal barrier ecosystem. The CBRS currently includes approximately 2.9 million acres of associated aquatic habitat, some of which is located close to development. The subject area that is added to Unit NC-06 is consistent with the CBRA definition of associated aquatic habitat. Unit NC-06 is modified where appropriate to include the entire width of the Intracoastal Waterway within the unit in accordance with the Service's channel mapping protocol. As a result of this protocol, additional docks, piers, marinas, and other shoreline structures are included within the CBRS. However, such structures are already prevalent within the CBRS.

When comprehensively remapping CBRS units, the Service generally applies a 20 foot buffer (i.e., leaving space between the boundary and the feature it is intended to follow) along developed shorelines to ensure that structures and/or infrastructure (e.g., walled and roofed structures, roads, and bulkheads) located along the shoreline are not inadvertently included within the CBRS. Large marinas that existed when the area was originally included within the CBRS are generally excluded from the CBRS. However, because docks, piers, and other similar structures are located throughout the waterways that are part of the associated aquatic habitat of the CBRS, and these structures frequently change in size and shape

over time, it would be impractical to map CBRS units to exclude them. See Issue 16 in Chapter 4 for more information about the Service's mapping protocol for shoreline and development feature buffering and Issues 12 and 15 for more information about the mapping protocols for channels, docks, piers, and marinas.

Unit L06, Topsail

Comment 14: State officials commented that they are extremely concerned by the mapping of Unit L06 because there are approximately 12 bridges and 7.5 miles of roads that the State maintains in this unit. The State may need to increase the footprint, replace, and/or relocate the existing roadways and bridges as maintenance and traffic conditions change. There is also the potential that new roadways or bridges will be required to serve the growing population in this area.

Service Response to Comment 14: There is an exception in the CBRA for the maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system.[13] There is also an exception in the CBRA for roads that are not essential links in a larger network or system, but projects that fall under that exception must meet additional requirements.[14] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Most of the area within Unit L06 has been in the CBRS since 1982. Road projects within the unit that do not meet an exception under the CBRA have been prohibited from receiving Federal funds for over 30 years and will continue to be prohibited from receiving Federal funds even if no additions are made to the existing unit. Of the 169 total acres recommended for addition to Unit L06, only four acres are fastland. The Service generally does not consider future development or infrastructure projects when assessing areas for addition to the CBRS (see Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS). There are no changes between the proposed and final recommended maps for Unit L06 as a result of this comment.

Comment 15: Local officials, individuals, and homeowners associations commented that Unit L06 should be removed in its entirety from the CBRS based on a claim that there was a full complement of existing infrastructure (i.e., roads, wastewater disposal system, electric service, and fresh water supply) to each lot or building site in the area when it was included in 1982 within the CBRS. Local officials submitted documentation concerning the level of infrastructure that was on-the-ground at the time Unit L06 was designated in 1982.

Service Response to Comment 15: The Service assessed the information submitted by the commenters and other interested parties, Onslow County property parcel data, and historical imagery and background records for Unit L06. Our review found that though there were some structures on-the-ground and a main trunk line of infrastructure that ran along the length of the unit in 1982, the area still met the CBRA criteria for an undeveloped coastal barrier when it was included within the CBRS in 1982. Therefore, the Service does not recommend removing Unit L06 from the CBRS or remapping the unit to remove the majority of the land currently in the unit from the CBRS. A summary of the Service's findings related to Unit L06 are below. There are no changes between the proposed and final recommended maps for Unit L06 as a result of this comment.

The Service's historical background record on Unit L06 contains information about the existence of a main road through North Topsail Beach and the basic availability of utilities along that road prior to the inclusion of the area within the CBRS. A July 1982 memo of the Department's Coastal Barriers Task Force states that structures were scattered over the unit in very low densities, primarily along Highway 210, with the overall density very much below the threshold of one structure per five acres of fastland. In addition, the memo stated that no evidence was found that a full complement of infrastructure exists at each lot or building site within Unit L06.

The 1982 CBRS definition and delineation criteria state that:

> *The presence on a coastal barrier of a single road, or even through highway, plus associated electric transmission and water and sewer lines in this highway corridor does not constitute the necessary full complement of infrastructure necessary to support development.*[15]

This is essentially the level of infrastructure that existed in North Topsail Beach at the time of the initial CBRS designation, with the exception of a couple of areas that had more extensive infrastructure and structures on-the-ground, which are either currently excluded from the unit or recommended for removal on the final recommended maps.

Our review of Unit L06 also considered the density of development on-the-ground when the unit was designated in 1982. Unit L06 was comprised of approximately 797 acres of uplands and contained approximately 35 structures in April of 1982; therefore the density of development was about one structure per 23 acres of land above mean high tide, well below the density threshold (one structure per five acres of land above mean high tide) to be considered developed. The Service's background record on Unit L06 indicates that in 1982, a

review of the aerial photography dated April 30, 1982, verified the existence of the components of a coastal barrier and confirmed the lack of sufficient structures and other facilities or visible impacts to consider the area developed as defined in the CBRA.

Comment 16: Local officials requested that those areas the Town of North Topsail Beach had zoned as Conservation District prior to their inclusion within the CBRS in 1982 be reclassified from System Unit to a new OPA. The commenters submitted excerpts from the Town's zoning ordinance. These excerpts state that the Conservation District is established to protect floodplain, coastal waters, and areas of environmental concern of the Coastal Area Management Act; within this zoning designation, only water-dependent uses are permitted and intensive use of the land is not permitted.

Service Response to Comment 16: Areas established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes, are typically included within OPAs of the CBRS.[16] All other areas, including those subject to certain regulations and/or zoning designations (which may be subject to change), are typically included within System Units rather than OPAs. Therefore, the Service does not recommend reclassifying from System Unit to OPA the areas in the Town that are zoned as Conservation Districts. See Issue 6 in Chapter 4 for more information concerning this protocol related to zoning designations.

Comment 17: The Service received many comments on Unit L06 from individuals stating that CBRA has failed to discourage development in the Town of North Topsail Beach and the unit should therefore be removed from the CBRS or the law should be repealed.

Service Response to Comment 17: The Service does not recommend removing areas simply because they have developed after they were added to the CBRS, and would not support the repeal of the CBRA. See Issue 2 in Chapter 4 for more information.

Comment 18: Local officials requested that five parcels at the west end of Waterway Drive be removed from the CBRS because they believe these parcels meet the guidelines for existing infrastructure as indicated in Section 2 of the 2000 CBRRA[17] and are consistent with other properties along Waterway Drive that are proposed by the Service for removal from the CBRS.

Service Response to Comment 18: The Service does not recommend removing the five parcels at the west end of Waterway Drive from the CBRS. On the proposed map, the boundary of the unit was modified to be located at the 1990 break-in-development. The break-in-development is where development ended when the area was originally included within the CBRS (i.e., the area immediately adjacent to the last structure in a cluster or row of structures, or at the property parcel boundary of the last structure).[18] The Service's assessment found that, at the time of inclusion within the CBRS, the five parcels were undeveloped and did not have a paved road (which is a necessary component of a full complement of infrastructure). See Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS. There are no changes between the proposed and final recommended maps for Unit L06 as a result of this comment.

SOUTH CAROLINA

Unit M02, Litchfield Beach

Comment 19: Local officials commented that two existing homes on Norris Drive are added to Unit M02 on the proposed map. The commenters requested confirmation that these two homes are intended to be included within the unit.

Service Response to Comment 19: The homes on Norris Drive were not visible on the 1999 base map imagery used for the proposed map. These two homes were already on-the-ground at the time the proposed maps were produced; therefore, on the final recommended map, the northern boundary of Unit M02 is returned to its existing location. The two homes are not recommended for addition to the CBRS. There are changes between the proposed and final recommended maps for Unit M02 as a result of this comment.

Comment 20: Local officials commented that the creeks within and proposed for addition to Unit M02 are subject to periodic dredging and should be removed from the CBRS.

Service Response to Comment 20: Some portions of the creeks are within Unit M02 and some portions of the creeks are recommended for addition to the unit. Channels are part of the associated aquatic habitat of coastal barriers and have been included as such throughout the CBRS. In carrying out the pilot project, the Service noted that the Department's 1982 and 1988 published guidance[19] have not been consistently applied to the CBRS maps, and we modified the boundaries on the proposed maps to include the entire width of the channel within the CBRS unit. See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS. There are no changes between the proposed and final recommended maps for Unit M02 as a result of this comment.

There is an exception in the CBRA for the maintenance of existing Federal navigation channels.[20] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Comment 21: In accordance with the CBRA's requirement to update the CBRS maps at least once every five years to account for natural changes,[21] the Service prepared draft revised maps dated November 30, 2012, for all CBRS units in South Carolina. The Service held a comment period on these draft maps in 2013 for Federal, State, and local stakeholders. During the comment period, we received a comment from the Town of Pawleys Island. However, the change requested by the Town of Pawleys Island was outside the scope of the Service's administrative authority under the CBRA in revising the CBRS boundaries to account for natural changes. Because the pilot project comprehensively revises Unit M02, the Service is addressing the Town's comment here. The Town of Pawleys Island requested that the CBRS boundary at the northern end of the town (which is the southern boundary of Unit M02) be moved northward of the jetty at the south side of Midway Inlet.

Service Response to Comment 21: The Service's historical background record indicates that in 1982, when Unit M02 was established, the Department was aware of the shoreline stabilizing structures (at that time, it was rock revetments and a small pile-driven groin) at the north end of Pawleys Island. The Department considered the presence of these structures and found no basis for excluding from the CBRS the property where the structures were located. The area around Midway Inlet is a dynamic area and has changed significantly since 1982. The Service recommends that the jetty remain within the CBRS. There are no changes between the proposed and final recommended maps for Unit M02 as a result of this comment.

There is an exception in the CBRA for the maintenance or improvements of existing Federal navigation channels and related structures, such as jetties.[22] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Unit M03, Pawleys Island

Comment 22: Local officials commented that it is difficult to determine whether the existing groin at the southern end of Springs Avenue is located within the CBRS because the groin is very close to the proposed boundary of Unit M03 on the proposed map. The local officials recommend that the groin not be located within the CBRS because of the protection the groin provides to the south end of Pawleys Island, and because they would like to have the option of seeking Federal funds to repair the groin if it is damaged.

Service Response to Comment 22: Through the course of preparing the final recommended maps, the Service determined that we had incorrectly depicted the existing northern lateral boundary of Unit M03 on the proposed map. The existing boundary is actually located approximately 20 feet further south than is shown on that map. Because the Service recommends no change to the boundary of Unit M03 in that location, the final recommended boundary has been adjusted by 20 feet south to the actual location of the existing boundary. The groin on the southern end of Springs Avenue is not currently within the CBRS and is not recommended for addition to the CBRS on the final recommended map. There are changes between the proposed and final recommended maps for Unit M03 as a result of this comment.

Comment 23: Local officials commented that the creeks within and proposed for addition to Unit M03 are subject to periodic dredging and should be removed from the CBRS.

Service Response to Comment 23: Some portions of the creeks are within Unit M03, and some portions of the creeks are recommended for addition to the unit. Channels are part of the associated aquatic habitat of coastal barriers and have been included as such throughout the CBRS. In carrying out the pilot project, the Service noted that the Department's 1982 and 1988 published guidance[23] have not been consistently applied to the CBRS maps, and we modified the boundaries on the proposed maps to include the entire width of the channel within the CBRS unit. See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS. There are no changes between the proposed and final recommended maps for Unit M03 as a result of this comment.

There is an exception in the CBRA for the maintenance of existing Federal navigation channels.[24] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

FLORIDA

Unit P04A, Usina Beach

Comment 24: Local officials requested that the Service review several areas of concern where the proposed boundary of Unit P04A may need to be adjusted or buffered. The areas of concern are: (1) a private home on Seminole Drive that is very close to the CBRS boundary; (2) three buildings located on Bella Vista Boulevard in Las Palmas on

the Intracoastal Condominiums community that appear to be clipped by the CBRS boundary; (3) the Las Palmas on the Intracoastal Condominiums clubhouse that may have been inadvertently included within the CBRS; and (4) three areas of uplands (lots in the Fort Moosa Gardens subdivision, at the end of Maralinda Drive, and on the south side of Unit P04A along State Highway A1A) that appear to have been inadvertently added to the CBRS.

Service Response to Comment 24: The Service has reviewed the areas of concern that were identified by local officials. The final recommended map modifies the boundary of Unit P04A to add an appropriate buffer (at least five feet) between the boundary and the structures in (1) and (2) above and to remove the uplands specified in (4) above. The boundary of Unit P04A in these particular areas is intended to follow the wetland/fastland interface.

The area where the Las Palmas on the Intracoastal Condominiums clubhouse is located has been within the CBRS since 1990. The Service's assessment found that this area was undeveloped when it was first included within the CBRS and the clubhouse was constructed about ten years after the area was added to Unit P04A. Also, the CBRS boundary lines on the maps follow the underlying features they were intended to follow on-the-ground. Therefore, the clubhouse remains within the CBRS on the final recommended map. See Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS.

There are changes between the proposed and final recommended maps for Unit P04A as a result of this comment.

Comment 25: An individual submitted comments and supporting information to request that the proposed southern boundary of Unit P04A be moved to the north so that it does not cut through the uplands located on the commenter's vacant property. In the submitted materials, the commenter included documentation of a claim that there was a full complement of existing infrastructure (i.e., roads, wastewater disposal system, electric service, and fresh water supply) to the subject lot when it was included within the CBRS on the proposed map.

Service Response to Comment 25: The proposed southern boundary of Unit P04A, where it bisects the commenter's property, is intended to follow a wetland/fastland interface and include additional wetlands within the unit. Updated imagery and information submitted by the commenter showed that the proposed boundary did not correctly align with the wetland/fastland interface. The final recommended map modifies the southern boundary of Unit P04A to remove from the CBRS an area of uplands on the commenter's property. Because the modified Unit P04A boundary in this area removes the uplands that the commenter was concerned about, the Service did not validate the submitted infrastructure claim. There are changes between the proposed and final recommended maps for Unit P04A as a result of this comment.

Unit P05, Conch Island

Comment 26: Local officials commented that Commercial Marina at Conch House appears to be excluded from Unit P05 on the proposed map; however, boat slips have been added since then and they want to know if those additional slips will also be excluded from the unit.

Service Response to Comment 26: The Service has reviewed the submitted information and the 2013 base map imagery. The Service generally recommends the exclusion of large marinas from the CBRS. The final recommended map modifies the boundary of Unit P05 to remove the more recently constructed portions of the marina from the area recommended for addition to the unit. See Issue 15 in Chapter 4 for more information about the Service's mapping protocols for docks, piers, and marinas. There are changes between the proposed and final recommended maps for Unit P05 as a result of this comment.

Comment 27: Local officials submitted comments concerning the difference in buffering along the Matanzas River at the Bridge of Lions. On the east side of the river, there is a buffer between the bulkhead and the proposed boundary for Unit P05, but on the west side, there is no buffer. The local officials requested that a buffer be added to the west side in case Federal funds are needed to rebuild the bulkhead.

Service Response to Comment 27: The proposed maps applied an approximately 50 foot buffer to developed shorelines in order to avoid the inadvertent inclusion of development within the CBRS, but only considered the presence of walled and roofed structures and not the presence of bulkheads or roads. However, after consideration of the comments, the Service believes that a reasonable definition of a developed shoreline would include bulkheads and roads that run parallel to and closely follow (or are coincident with) the shoreline. The final recommended map modifies the boundary of Unit P05 to add a buffer of about 20 feet on the west side of the Matanzas River and reduce the buffer on the east side to about 20 feet. See Issue 16 in Chapter 4 for more information about the Service's mapping protocol for shoreline and development feature buffering. There are changes between the proposed and final recommended maps for Unit P05 as a result of this comment.

Comment 28: Local officials commented that the parking area at the Vilano Beach Boat Ramp has been extended and requested that the extension be excluded from Unit P05 like the rest of the parking lot. They state that this is a park area and Federal grants are used for the park from time to time.

Service Response to Comment 28: The Service has reviewed the submitted information and the

2013 base map imagery. The parking area extension at the Vilano Beach Boat Ramp is in an area that was proposed for addition to Unit P05. The Unit P05 proposed boundary in that area was intended to follow the wetland/fastland interface. Therefore, the final recommended map modifies the boundary of Unit P05 to remove the parking area extension from the area recommended for addition to the unit and follow the current wetland/fastland interface. There are changes between the proposed and final recommended maps for Unit P05 as a result of this comment.

Comment 29: Local officials submitted a comment asking whether the proposed Unit P05 boundary was intended to include the temporary bridge north of the Bridge of the Lions.

Service Response to Comment 29: The final recommended map modifies the boundary of Unit P05 to add an appropriate buffer along the Bridge of the Lions. In cases where the CBRS boundary follows a bridge, an appropriate buffer (about 20 feet) is applied between the bridge and the boundary. Additional visible bridge infrastructure (e.g., fenders) is generally excluded but not buffered. This protocol is not intended to allow for existing bridges (which are currently not within the CBRS) to be expanded, but rather to ensure that the structure, as it existed at the time the adjacent area was included within the CBRS, is clearly outside of the unit. See Issue 16 in Chapter 4 for more information about the Service's mapping protocol for shoreline and development feature buffering. There are changes between the proposed and final recommended maps for Unit P05 as a result of this comment.

Temporary bridges are generally not taken into consideration when determining where to place the CBRS boundary. Since this comment was received, the temporary bridge north of the Bridge of Lions has been demolished.

Unit P05P, Conch Island

Comment 30: Local officials submitted comments regarding five different areas of concern where it appears that the proposed boundaries of Unit P05P do not precisely follow the boundaries of the underlying park, but rather include small pieces of both publicly (e.g., roads, road rights-of-way) and privately owned areas. These areas of concern are located along Pope Road, Santander Street, Hernandez Boulevard, Anastasia Park Drive, and the San Jose Forest subdivision. The commenters requested that the Service review these areas.

Service Response to Comment 30: The Service has reviewed the submitted information and the 2013 base map imagery. Minor adjustments based on the updated imagery were made to the final recommended map to better fit the boundary of Unit P05P to the underlying features they were intended to follow, such as roads and park boundaries, and to remove the small pieces of privately owned areas. There are changes between the proposed and final recommended maps for Unit P05P as a result of this comment.

Roads and road rights-of-way are included within OPAs throughout the CBRS. There are no CBRA prohibitions affecting Federal funding or financial assistance for road construction and/or maintenance within OPAs. Remapping OPAs to exclude all roads and road rights-of-way would be resource intensive, impractical, and unnecessary.

Unit P08, Ponce Inlet

Comment 31: Local officials requested that the private development south of Smyrna Dunes Park that is currently within Unit P08 be removed based on an infrastructure claim (i.e., whether a full complement of infrastructure including roads, wastewater disposal system, electric service, and fresh water supply existed to each lot or building site in the area when it was first included within the CBRS) and a phased development claim (i.e., whether the area was part of a large single ownership of property that was in the process of being developed under a phased development plan). They also submitted supporting resolutions from the affected homeowners associations.

Service Response to Comment 31: The Service has reviewed the submitted infrastructure and phased development information, and historical imagery and background records for Unit P08. Our review found that though there were some structures on-the-ground and a main trunk line of infrastructure that ran along the length of the unit, the area in which the private development is located still met the CBRA criteria for an undeveloped coastal barrier when it was included within the CBRS in 1982. Therefore, the Service does not recommend removing the development south of Smyrna Dunes Park from the CBRS.

The Service generally considers the on-the-ground conditions at the time an area was included within the CBRS (either by an act of Congress or by an administrative action of the Service that is published in the *Federal Register*). However, in the case of areas that were included by the CBRA of 1982, the Service identified March 15, 1982, as the cutoff date for the Department's analysis of coastal barrier ground conditions.[25] In addition, Congress provided a delay to October 1, 1983, for terminating the availability of new Federal flood insurance for structures that were under development but not completed until after March 15, 1982.[26]

The Service's background record on Unit P08 contains information indicating that the only permanent buildings on the south side of Ponce de Leon Inlet are at the U.S. Coast Guard Reservation, with residential development increasing south of the unit. A January 1982 information summary prepared by the Department's Coastal Barriers Task Force states that the segment of the unit south of the inlet contained a paved road and utility

corridor leading to the U.S. Coast Guard Reservation. In addition, this document indicates that a full complement of infrastructure at each lot and building was not in place and only four structures were on-the-ground at the time the unit was established.

The 1982 CBRS definition and delineation criteria state that:

> *The presence on a coastal barrier of a single road, or even through highway, plus associated electric transmission and water and sewer lines in this highway corridor does not constitute the necessary full complement of infrastructure necessary to support development.*[27]

This is essentially the level of infrastructure that existed in the southern portion of Unit P08 at the time of the initial CBRS designation. This area is also discussed in Volume 14 of the Department's 1988 Report to Congress in the response to public comments section for Unit P08, which says "the area known as 'The Inlet' was undeveloped in 1982 when it was included in the original CBRS."[28] For more information on our review of infrastructure claims, see Chapter 6 of this report.

Our review of Unit P08 also considered the density of development on-the-ground when the unit was designated in 1982. The Service's records indicate that the density of development in Unit P08 was below the density threshold and that a full complement of infrastructure was not available on the ground at the time of the unit's designation in 1982. The Service's background record on Unit P08 also indicates that in 1982, a review of the aerial photography dated May 10, 1982, verified the existence of the components of a coastal barrier and confirmed the lack of sufficient structures and other facilities or visible impacts to consider the area developed as defined in the CBRA.

Local officials assert that the development south of Smyrna Dunes Park was planned and permitted at the time of inclusion. However, the Service considers only development that existed on-the-ground at the time of inclusion. The 1982 CBRS definition and delineation criteria state that:

> *Commitments or legal arrangements necessary for and leading toward construction of either structures or infrastructure will not be considered relevant to the development status of coastal barriers except to the degree that they are actually reflected in the existence of structures or infrastructure on the coastal barrier, or portion thereof.*[29]

In addition, the Service generally does not consider phased development in assessments of areas for removal from the CBRS (see Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS). Volume 1 of the Department's 1988 Report to Congress states:

> *When undeveloped coastal barrier units were identified in 1982…"phased development" was recognized as a special class of developing coastal barrier. Under this concept, minimally developed or undeveloped portions of coastal barriers were excluded from the CBRS if they were planned from the outset for a continuous program of multi-stage development by a single developer and the first stage of the development had already been substantially completed… Some phased developments were excluded in 1982 if a developer could prove that at least one phase of the development exceeding 100 units had been completed and that the developer had viable plans, means, and intent to promptly move forward to construction of the next phase.*[30]

The Service's assessment found that the subject area does not meet these criteria to be considered as phased development. In addition, because of the difficulties in making consistent determinations about phased development, this has not been considered in determining development status after 1982.[31] There are no changes between the proposed and final recommended maps for Unit P08 as a result of this comment.

Unit FL-13P, Spessard Holland Park

Comment 32: Local officials commented that the boundary on the stakeholder concurrence map that they provided to the Service in 2005 does not match the boundary of Unit FL-13P on the proposed map. In particular, the proposed map of Unit FL-13P includes the road rights-of-way, the Indian River, and the Air Force Radar Tracking Station that were excluded on the stakeholder map.

Service Response to Comment 32: The stakeholder concurrence map that local officials signed is used to validate the accuracy of the conservation and/or recreation area boundary as depicted on a base map. This concurrence map does not depict the OPA boundary, but rather helps to ensure that the Service has the best available data with which to delineate the OPA boundary on the CBRS map.

The stakeholder concurrence map does not include water bodies, roads, and road rights-of-way within the property boundary of the conservation and/or recreation area unless such features are part of the conservation/recreation area. However, OPAs often include water bodies, roads, and road rights-of-way because it would be resource intensive, impractical, and unnecessary to exclude them, and the only Federal funding prohibition within OPAs is on Federal flood insurance.

The radar tracking station is included within Unit FL-13P because the property is (1) owned by the Brevard County Parks and Recreation Department and leased to the U.S. Air Force and (2) is too minor from a mapping perspective to exclude from the unit.

There are no changes between the proposed and final recommended maps for Unit FL-13P as a result of this comment.

Unit P09AP, Coconut Point

Comment 33: Local officials commented that the boundary on the stakeholder concurrence map that they provided to the Service in 2005 does not match the boundary of Unit P09AP on the proposed map. In particular, the stakeholder map excluded the road rights-of-way, and these areas are included within Unit P09AP on the proposed map.

Service Response to Comment 33: The stakeholder concurrence map that local officials signed is used to validate the accuracy of the conservation and/or recreation area boundary as depicted on a base map. This concurrence map does not depict the OPA boundary, but it ensures that the Service has the best available data with which to delineate the OPA boundary on the CBRS map.

The stakeholder concurrence map does not include roads and road rights-of-way within the property boundary of the conservation and/or recreation area unless such features are part of the conservation/ recreation area. However, OPAs often include roads and road rights-of-way because it would be resource intensive, impractical, and unnecessary to exclude them, and the only Federal funding prohibition within OPAs is on Federal flood insurance. There are no changes between the proposed and final recommended maps for Unit P09AP as a result of this comment.

Unit P10A, Blue Hole and Unit FL-14P, Pepper Beach

Comment 34: Individuals and an advocacy organization provided comments regarding ownership and management of areas in the vicinity of Queens Cove subdivision. The commenters also seem to object to the inclusion within the CBRS of properties within Queens Cove and are concerned that the addition to the CBRS of the channels around Queens Cove will affect the dredging of these channels. The commenters also felt there was inadequate public notice of the pilot project and requested more time for the public comment period.

Service Response to Comment 34: The proposed map for Units P10A and FL-14P does not add to the CBRS any additional properties in Queens Cove subdivision except for a minor area on Kings Island. Although this area is not held for conservation and/or recreation, it is included within OPA Unit FL-14P because it qualifies as an undeveloped coastal barrier and it is impractical to delineate it separately as a System Unit.

There are some undeveloped lots in Blocks 10 and 11 of Queen's Cove that have been within Unit P10A since 1982. The Service generally will not recommend a removal from the CBRS unless there is clear and compelling evidence that an error in boundary delineation was made. When assessing whether an area may be appropriate for removal, the Service considers the following criteria:

(1) the level of development on-the-ground at the time the area was included within the CBRS (i.e., the number of structures or complement of infrastructure on-the-ground exceeded the threshold for the area to be considered undeveloped)[32] and/or

(2) the location of geomorphic, cultural, and development features on-the-ground at the time the area was included within the CBRS (i.e., the CBRS boundary lines on the maps do not precisely follow the underlying features they were intended to follow on-the-ground).

The lots in Blocks 10 and 11 do not meet either of these criteria for removal. They were undeveloped when they were included within the CBRS, and the CBRS boundary to the north of the area follows the break-in-development. The break-in-development is where development ended when the area was originally included within the CBRS (i.e., the area immediately adjacent to the last structure in a cluster or row of structures, or at the property parcel boundary of the last structure).[33]

There is an exception in the CBRA for the maintenance of existing Federal navigation channels.[34] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html.* For channels within OPAs, there are no CBRA prohibitions affecting Federal funding or financial assistance (the only prohibition in OPAs applies to flood insurance).

Regarding the comment about public notice for the pilot project, the Service initially announced a 90-day comment period that was subsequently extended to 120 days. The Service also held virtual public meetings and published announcements in local papers. For a full description of the public review outreach efforts, see Chapter 3.

There are no changes between the proposed and final recommended maps for Units P10A and FL-14P as a result of this comment.

Comment 35: Local officials are concerned about the proposed expansion of Unit P10A to include the Fort Pierce Inlet and the Port of Fort Pierce, which are parts of a Federally maintained deep-water port established in 1935. A significant portion of the port and inlet areas are already developed and future development and redevelopment is anticipated. Other concerns are that dredging maintenance is performed by the U.S. Army Corps of Engineers using Federal funds and local

officials may seek Federal funds for future improvements such as shoreline stabilization and a sand bypassing facility. Local officials and a business owner are also concerned about the proposed addition to the CBRS of the Harbortown Marina, a large private marina constructed in the early 1980's and located in the port area.

Service Response to Comment 35: The Service reviewed the submitted materials and other State and county data and determined that due to the existing level of development, the port, inlet, and marina should not be added to System Unit P10A. Instead, the final recommended boundary for OPA Unit FL-14P is modified in accordance with the Service's pilot project channel mapping protocol to be in the center of the channel of the inlet and port turning basin. This modification will not affect Federally funded activities within channels because the CBRA's only Federal funding prohibition within OPAs applies to flood insurance. The boundary of Unit P10A is modified to be north of State Route A1A. See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS. There are changes between the proposed and final recommended maps for Units P10A and FL-14P as a result of this comment.

Comment 36: Local officials requested that all St. Lucie County parks and preserves that are identified on the materials they provided be classified as OPAs.

Service Response to Comment 36: The CBRS contains two types of units, System Units and OPAs. System Units are generally comprised of privately held areas. OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. In carrying out the pilot project, the Service noted cases where areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas (that are not inholdings) are located within OPAs. Some County parks and preserves are already within the proposed boundary of OPA Unit FL-14P; however, some areas that are County parks were proposed for reclassification from the OPA to System Unit P10A or were already within Unit P10A.

When the Service comprehensively remapped the CBRS units in the pilot project, the conservation and/or recreation areas within the unit were identified and the history of those areas was evaluated to determine whether they were appropriately classified as System Unit or OPA. The Service's remapping protocol at the time of the pilot project generally recommended reclassification from System Unit to an OPA, or vice versa, depending on when the particular area was included within the CBRS and whether the area was held for conservation/recreation at the time it was included.[35]

In preparing the proposed maps, the Service made every effort to identify the conservation and/or recreation areas within Units P10A and FL-14P and evaluate their history to determine whether such areas were appropriately classified as System Unit or OPA. Although numerous conservation and/or recreation areas are located within existing Unit P10A, none were held for conservation and/or recreation when the areas were first included within the CBRS. Therefore, such areas in Unit P10A are not recommended for reclassification to OPA.

The area within existing Unit FL-14P is a complex patchwork of State and county owned parks and preserves as well as wetland areas without clear ownership information. The Service used the submitted materials and other State and county data to identify additional conservation and/or recreation areas that are appropriate to remain within or be added to the OPA. The boundaries of Unit FL-14P on the final recommended map have been modified to include within the unit most of the County parks and preserves that were identified by local officials. On the final recommended map, any parks within existing Unit FL-14P are not reclassified to System Unit P10A (as shown on the proposed map) with the exception of three small mosquito control areas, which are too small to reclassify. There are changes between the proposed and final recommended maps for Units P10A and FL-14P as a result of this comment.

Lessons learned through the course of the pilot project and other comprehensive remapping projects resulted in a revision to the Service's protocol regarding System Unit versus OPA classification for future mapping projects. See Issue 11 in Chapter 4 for more information about reclassifications within the CBRS and Chapter 6 for additional information concerning the Service's guiding principles and criteria for modifications to the CBRS.

Unit P11, Hutchinson Island

Comment 37: Local officials commented that the northern proposed boundary of Unit P11 that lies along Blue Heron Boulevard could be straightened at the point it reaches the dunes on the Atlantic Ocean side of the barrier island to remove from the CBRS the beachfront dune property in front of completed development (Oceanhouses at Southpointe Condominiums).

Service Response to Comment 37: The area in question was first included within the CBRS in 1982, and the developed area to the west of the area in question was removed from the CBRS in 1990. The Service generally will not recommend a removal from the CBRS unless there is clear and compelling evidence that an error in boundary delineation was made. When assessing whether an area may be appropriate for removal, the Service considers the following criteria:

(1) the level of development on-the-ground at the time the area was included within the CBRS (i.e., the number of structures or complement of infrastructure on-the-ground exceeded the threshold for the area to be considered undeveloped)[36] and/or

(2) the location of geomorphic, cultural, and development features on-the-ground at the time the area was included within the CBRS (i.e., the CBRS boundary lines on the maps do not precisely follow the underlying features they were intended to follow on-the-ground).

The area in question does not meet either of these criteria. It was undeveloped when it was included within the CBRS in 1982 and is still undeveloped, and there is not a clear error in the depiction of the underlying features on the original base map that would have resulted in the unintentional inclusion of this area in the CBRS. There are no changes between the proposed and final recommended maps for Unit P11 as a result of this comment.

Comment 38: Local officials commented that the excluded area boundary adjacent to the South Hutchinson Island Fire Station No. 8 could be extended to exclude the entire facility from Unit P11 because the fire station is for public safety and not for encouraging additional development.

Service Response to Comment 38: The excluded area where the South Hutchinson Island Fire Station No. 8 is located was expanded south on the proposed map to remove development (including the fire station) that was on the ground when the area was included within the CBRS. To determine whether this removal was appropriate, the Service reviewed historical records and imagery and considered our criteria for removing areas from the CBRS.

The southern boundary of the excluded area on the final recommended map generally follows the parcel boundary. Most of the South Hutchinson Island Fire Station No. 8 property, including the structure, is recommended for removal from the CBRS; only a minor portion of the property will remain within the CBRS. There are no changes between the proposed and final recommended maps for Unit P11 as a result of this comment.

Comment 39: Local officials commented that the excluded area boundary adjacent to the South Hutchinson Wastewater Treatment Plant could be extended to exclude the entire facility from Unit P11 because of the environmental benefits gained from the plant.

Service Response to Comment 39: The Service reviewed historical imagery from 1982 and found that the area south of the South Hutchinson Island Fire Station No. 8 property where the South Hutchinson Wastewater Treatment Plant is located was undeveloped when it was included within the CBRS. The Service generally will not recommend a removal from the CBRS unless there is clear and compelling evidence that an error in boundary delineation was made. When assessing whether an area may be appropriate for removal, the Service considers the following criteria:

(1) the level of development on-the-ground at the time the area was included within the CBRS (i.e., the number of structures or complement of infrastructure on-the-ground exceeded the threshold for the area to be considered undeveloped)[37] and/or

(2) the location of geomorphic, cultural, and development features on-the-ground at the time the area was included within the CBRS (i.e., the CBRS boundary lines on the maps do not precisely follow the underlying features they were intended to follow on-the-ground).

The area in question does not meet either of these criteria. It was undeveloped when it was included within the CBRS in 1982, and the CBRS boundary to the north of the area follows a break-in-development. The break-in-development is where development ended when the area was originally included within the CBRS (i.e., the area immediately adjacent to the last structure in a cluster or row of structures, or at the property parcel boundary of the last structure).[38] There are no changes between the proposed and final recommended maps for Unit P11 as a result of this comment.

Comment 40: Local officials asked whether a CBRA consistency consultation with the Service would be required for a wind turbine construction project that is being proposed by Florida Power and Light near the Hutchinson Island Nuclear Power Plant.

Service Response to Comment 40: There is an exception in the CBRA for the use or facility necessary for the exploration, extraction, or transportation of energy resources, which can be carried out only on, in, or adjacent to a coastal water area because the use or facility requires access to the coastal water body.[39] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Comment 41: Local officials requested that all St. Lucie County parks and preserves that are identified on the maps they provided to the Service with their comment be classified as OPAs.

Service Response to Comment 41: The CBRS contains two types of units, System Units and OPAs. System Units are generally comprised of privately held areas. OPAs are generally comprised of areas held for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. In carrying out the pilot project, the Service noted cases where areas held for conservation and/or recreation are located within System Units, as well as cases where privately held areas (that are not inholdings) are located within

OPAs. Many of the identified parks and preserves are currently located within Unit P11.

When the Service comprehensively remapped the CBRS units in the pilot project, the conservation/recreation areas within the unit were identified and the history of those areas was evaluated to determine whether they were appropriately classified as System Unit or OPA. The Service's remapping protocol at the time of the pilot project generally recommended reclassification from System Unit to an OPA, or vice versa, depending on when the particular area was included within the CBRS and whether the area was held for conservation/recreation at the time it was included.[40]

Although numerous conservation/recreation areas are located within Unit P11, Frederick Douglass Park is the only area that was held for conservation/recreation at the time it was included within the CBRS. This park is reclassified to OPA on both the proposed and final recommended maps; however, the other conservation/recreation areas will remain within the System Unit. Three parcels identified by local officials that are south of Unit P11 and not currently within the CBRS are not recommended for addition to the CBRS at this time due to their size and location. There are no changes between the proposed and final recommended maps for Unit P11 as a result of this comment.

Lessons learned through the course of the pilot project and other comprehensive remapping projects resulted in a revision to the Service's protocol regarding System Unit versus OPA classification for future mapping projects. See Issue 11 in Chapter 4 for more information about reclassifications within the CBRS and changes to the Service's OPA mapping protocol and Chapter 6 for additional information concerning the Service's guiding principles and criteria for modifications to the CBRS.

Comment 42: A homeowners association requested help in saving a property that contains mostly wetlands from being developed. The proposed development is known as Kristen's Cove and is located on South Hutchinson Island, approximately 140 feet north of the Martin County line.

Service Response to Comment 42: The property in question is approximately ten acres and is located more than a mile away from the nearest CBRS unit (Unit P11). The Service does not recommend adding this property to the CBRS because although the property itself is an undeveloped area, it is behind a portion of the coastal barrier that is entirely developed.

Unit FL-39, Tavernier Key

Comment 43: Local officials requested that Community Harbor be removed from the proposed addition to Unit FL-39 because this harbor has been used historically as an anchorage for liveaboards and has been considered by Monroe County for establishment of a managed mooring field. In the future, the County may desire to seek Federal funding for the mooring field development and maintenance.

Service Response to Comment 43: A portion of Community Harbor has been within Unit FL-39 since 1993. More of the harbor is recommended for addition to the CBRS because it is qualifying associated aquatic habitat. In determining the development status of coastal barriers, the Service does not consider development plans, commitments, legal arrangements, or financial commitments related to development except to the degree that they are actually reflected in the existence of structures or infrastructure on-the-ground. See Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS. There are no changes between the proposed and final recommended maps for Unit FL-39 as a result of this comment.

Unit FL-45, Deer/Long Point Keys

Comment 44: Local officials requested that the disturbed/developed area north of U.S. Highway 1, which includes a medical examiner's office, a fire training facility, an electrical relay station, and a service road, be excluded from the proposed addition to Unit FL-45 because it is already developed.

Service Response to Comment 44: The final recommended map modifies the boundary of Unit FL-45 to remove the medical examiner's office, fire training facility, electrical relay station, and a portion of the service road from the area recommended for addition to the unit. The Service inadvertently included this existing development within the proposed addition to Unit FL-45 because it was not visible on the 1999 base map imagery used for the proposed map. There are changes between the proposed and final recommended maps for Unit FL-45 as a result of this comment.

Unit P17A, Bowditch Point

Comment 45: Local officials commented that it is critical that Federal resources continue to be available for the maintenance of Federal channels. The commenters also believe that the Service should recognize navigation channels as pre-existing developed infrastructure to eliminate any confusion or potential problems in interpreting where a channel can be dredged, and requested that the boundaries be modified to the landward edge of the channel rights-of-way.

Service Response to Comment 45: Channels are part of the associated aquatic habitat of coastal barriers and have been included as such throughout the CBRS. In carrying out the pilot project, the Service noted that the Department's 1982 and 1988 published guidance[41] have not been consistently applied to the CBRS maps and we modified the boundaries on the proposed maps to include the entire width of the channel within the CBRS unit. The northern and eastern boundaries of Unit P17A on the proposed map were modified to include the entire barrier spit at the northern end of Estero Island and its associated aquatic habitat within Unit P17A. The associated aquatic habitat (including channels) had been within adjacent Unit FL-67 before this

modification. The channels in Unit P17A have been within the CBRS either since 1982 or 1990, and in Unit FL-67 since 1990. Dredging projects within these units that do not meet any CBRA exceptions have been prohibited from receiving Federal funds for 25 years or more and will continue to be prohibited from receiving Federal funds even if no modifications or additions are made to the existing units. See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS. There are no changes between the proposed and final recommended maps for Unit P17A as a result of this comment.

There is an exception in CBRA for the maintenance of existing Federal navigation channels.[42] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Comment 46: Local officials are concerned about the Service's protocol regarding navigation channels in the 2008 pilot project report. In this report, there is a discussion on the results of channel boundary mapping, which states that the effect of the proposed changes placing additional channel area within System Units would be to prohibit the use of Federal financial assistance for dredging and other projects. The commenters believe this is inconsistent with the next sentence, which states that the Service does not anticipate a significant impact due to the change in this mapping protocol.

Service Response to Comment 46: Channels are part of the associated aquatic habitat of coastal barriers and have been included as such throughout the CBRS.[43] Additional channel areas are recommended for inclusion within System Units through the pilot project, and such areas would be subject to CBRA's prohibitions if the final recommended maps are adopted by Congress. However, the Service believes that the impact of these additions is not significant because there are many cases in the affected areas where about half of the channels' width is already included within the CBRS and they therefore are already subject to the CBRA's prohibitions. In addition, there are exceptions in the CBRA for existing Federal navigation channels and related structures. Congress determined that it would be sufficient to exempt these channels from the CBRA's prohibitions on Federal expenditures rather than exclude or remove them from the CBRS.[44] See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS.

Units FL-67 and FL-67P, Bunche Beach

Comment 47: Local officials commented that while Units FL-67 and FL-67P are undeveloped, these units do not seem to fit any of the four types of coastal barriers (bay barrier, tombolo, spit, or barrier island), and the definition of a coastal barrier should be amended if the intent is to include additional types of geologic features.

Service Response to Comment 47: While the geologic features that comprise Units FL-67 and FL-67P do not fit within one of the four common categories of coastal barriers listed as examples in the CBRA (i.e., bay barrier, tombolo, barrier spit, or barrier island), these areas are functioning coastal barriers along an undeveloped coast. The units include a depositional geologic feature; are subject to wave, tidal, and wind energies; and protect landward aquatic habitats from direct wave attack.

The legislative history of the CBRA states that "the term 'coastal barrier' is included in the legislation for informational purposes only," and that "this definition is designed to demonstrate the values [sic] of coastal barriers and provide a logical basis for identifying them."[45] The Service has found nothing in the legislative history of the CBRA indicating that Congress intended the Service to analyze whether an area literally meets the statutory definition of a coastal barrier when making recommendations to Congress for additions to or removals from the CBRS. The only directive that Congress has specifically given the Service when conducting such reviews is that we shall consider whether the area in question met the development criteria at the time that it was (or is) first included in the CBRS.

In general, areas that are inherently vulnerable to coastal hazards (e.g., flooding, storm surge, wind, erosion, and sea level rise) and may reasonably be considered to be coastal barrier features, or related to coastal barrier ecosystems, are rationally related to the purposes of the CBRA. Therefore, these areas may be appropriate for inclusion in the CBRS even if they do not meet all elements of the literal definition of a coastal barrier under CBRA. The Service generally will not recommend the removal of such areas from the CBRS unless there is compelling evidence that a mistake in the delineation of the CBRS boundaries was made as a result of incorrect, outdated, or incomplete information. See Chapter 6 for additional information concerning the Service's criteria for modifications to the CBRS. There are no changes between the proposed and final recommended maps for Units FL-67 and FL-67P as a result of this comment.

Comment 48: Local officials requested that historical aerial imagery be used to determine which docks along Connie Mack Island (an area excluded from the CBRS) were existing at the time the area around the island was included within the CBRS and to exclude any docks in existence prior to that time.

Service Response to Comment 48: When comprehensively remapping CBRS units, the Service generally applies a 20 foot buffer (i.e., leaving space between the boundary and the feature it is intended to follow) along developed shorelines to ensure that structures and/or infrastructure (e.g., walled and roofed structures, roads, and bulkheads) located along the shoreline are not inadvertently included within the CBRS. Large marinas that existed when the area was originally included within the CBRS are generally excluded from the CBRS. However, because docks, piers, and other similar structures are located throughout the waterways that are part of the associated aquatic habitat of the CBRS, and these structures frequently change in size and shape over time, it would be impractical to map CBRS units to exclude them. See Issue 15 in Chapter 4 for more information about the Service's mapping protocols for docks, piers, and marinas.

The Service has reviewed historical aerial imagery of the area around Connie Mack Island and found that a large commercial marina located on the southern side of the island existed at the time the area was included within the Unit FL-67. There are changes between the proposed and final recommended maps for Unit FL-67 as a result of this comment. The final recommended map modifies the boundary of the unit to remove this marina from the CBRS.

Comment 49: A developer that owns property within Unit FL-67 submitted comments that are supportive of the proposed addition of some of the undeveloped lands to, and the proposed removal of developed areas from, the CBRS. The commenter would like several additional areas removed from the CBRS which are described below.

(a) McGregor Boulevard and the Sanibel Causeway bridge – The commenter believes that McGregor Boulevard and the Sanibel Causeway should be treated like U.S. Route 1 in the Florida Keys, which has an exemption in the CBRA for not only maintenance, replacement, reconstruction, or repair, but also expansion. Like Route 1, McGregor Boulevard and the Sanibel Causeway are the sole means of exiting Sanibel and Captiva Islands during hurricane evacuations.

(b) Property owned by Lee County (including a toll facility and boat ramp) adjacent to McGregor Boulevard – The commenter states that there are extensive County-owned facilities and structures along McGregor Boulevard and believes that these areas should be removed from the CBRS because they are developed.

(c) Sanibel Harbour Resort tennis complex and stadium – The commenter believes that the tennis complex and stadium should be removed from the CBRS because they existed when the area was included within the CBRS.

(d) A property known as Sanibel Passage, which is owned by the developer – In support of the request to remove the Sanibel Passage property, the developer submitted a report, prepared by Dr. Donald F. McNeill for MLG Island Passage LLC, on the geomorphology of the area. This report states that the natural processes of the barrier have been modified to an extent that impedes the long-term perpetuation of the coastal barrier system. The commenter states that the area north of McGregor Boulevard, where the Sanibel Passage property is located, no longer functions as a coastal barrier because this area has been significantly altered by man's activities, including the dredging of mosquito canals and clearing and draining of wetlands.

(e) A bait and tackle shop (which was torn down and replaced by a restaurant in 2014) – The commenter believes that because this property was developed before it was included within the CBRS, it should be removed from the CBRS.

Local officials also commented that they would like the County-owned facilities near the Sanibel Causeway, including a boat ramp, toll facility, and a portion of McGregor Boulevard removed from the CBRS.

Service Response to Comment 49: The Service has reviewed the submitted information, our historical background records for Unit FL-67, and historical aerial imagery of the area. Our response to each of the areas that the commenter seeks to remove from the CBRS is below.

McGregor Boulevard and the Sanibel Causeway bridge (response to* (a) *above) – There is an exception in the CBRA for the maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system.[46] There is an additional exception for roads that are not essential links in a larger network or system that also allows for the expansion of U.S. Route 1.[47] A 1990 U.S. Senate report discusses the reason behind the creation of this exception in the CBRA for the expansion of U.S. Route 1:

> *U.S. Route 1 presents a special case because it provides the only access to and egress from the already heavily developed chain of islands which make up the Florida Keys. Any funds for expansion of this highway should be used for public safety purposes.*[48]

There is similar language in a 1990 U.S. House of Representatives report.[49] The Service agrees with the Congress that allowing expansion of U.S. Route 1 is a special case for the Florida Keys, involving a long distance along a heavily developed chain of islands. In most other cases where a road is the only egress from an island (e.g., Florida State Road A1A along the Atlantic coast),

the Service does not recommend removing the road from the CBRS because the exceptions in the CBRA would allow most road projects to use Federal funds, just not projects involving expansions. There are no changes between the proposed and final recommended maps for Unit FL-67 as a result of this comment.

Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html.*

Development on-the-ground at the time of inclusion within the CBRS (response to* (b), (c), *and* (e) *above) **–** The commenter states that there are several areas within Unit FL-67 that were developed at the time the areas were included within the CBRS: the County-owned property adjacent to McGregor Boulevard, the Sanibel Harbour Resort tennis complex and stadium, and the former bait and tackle shack. The commenter believes that these areas should be removed from the CBRS.

To be considered developed under the CBRA, a coastal barrier must have a density of one structure for every five acres of fastland or have a full complement of infrastructure on-the-ground to each lot or building site at the time the area is included within the CBRS. Although the development that the commenters seek to remove from the CBRS was on-the-ground when the area was included within the CBRS, the structures were few and scattered at a density well below the threshold. When adopting the CBRA, Congress did not intend to exclude a relatively small number of scattered structures from CBRS units even if a full complement of infrastructure was available to them. Instead, the maps adopted by Congress sought to exclude intensively capitalized, privately financed subdivisions with many lots where a full complement of infrastructure was available to each lot. The rationale in excluding these subdivisions was that when private funds were used to provide a full complement of infrastructure, it was expected the construction of the structures was imminent.[50] Lands without this intensive level of infrastructure were included in the CBRS. Our review found that the area met the CBRA criteria for an undeveloped coastal barrier when it was included within the CBRS. Therefore, the Service recommends that these areas remain within Unit FL-67. For more information on our review of infrastructure claims, see Chapter 6 of this report. There are no changes between the proposed and final recommended maps for Unit FL-67 as a result of this comment.

Sanibel Passage property (response to* (d) *above) **–** The commenter states that the Sanibel Passage property was significantly altered by the dredging of mosquito canals and the clearing and draining of the property prior to its inclusion within the CBRS. The commenter indicates that McGregor Boulevard, which runs east-west through the center of Unit FL-67, is situated on an elevated dike and therefore, the areas north of this road (including the Sanibel Passage property) no longer function as a coastal barrier. One of the key points that the commenter cites for why the areas north of the road do not function as a coastal barrier is that the structures and human activities on these features significantly impede geomorphic and ecological processes. In addition, the commenter submitted the McNeill report in support of the claim that these areas do not function as a coastal barrier because of the extensive modifications.

The consideration of human activities is a part of the CBRA definition of an undeveloped coastal barrier:

> *(1) The term "undeveloped coastal barrier" means—*
>
> *(A) a depositional geologic feature (such as a bay barrier, tombolo, barrier spit, or barrier island) that—*
>
> *(i) is subject to wave, tidal, and wind energies, and*
>
> *(ii) protects landward aquatic habitats from direct wave attack; and*
>
> *(B) all associated aquatic habitats, including the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters;*
>
> *but only if such feature and associated habitats contain few manmade structures and these structures, and man's activities on such feature and within such habitats, do not significantly impede geomorphic and ecological processes.*[51]

However, the significance that human activities have in considering whether an area is undeveloped under the CBRA is limited. The Department's May 1983 *Final Environmental Statement Undeveloped Coastal Barriers* report contains an explanation in how this is applied:

> *All coastal barriers are affected to some degree by human activities. Even completely undeveloped coastal barriers often have a considerable history of human use and occupancy, which have from time to time affected environmental quality, vegetation, wildlife, and other factors. For the most part, these impacts have been minor and well within the capability of the coastal barrier ecosystem to mitigate or repair in a short period of time. Significant impacts--that is, those which interfere with the geological and ecological processes responsible for maintaining coastal barrier*

ecosystems--are nearly always associated, either directly or indirectly, with intensive development involving large capital investments on the site.[52]

If a coastal barrier contains few man-made structures but is subject to significant levels of human activity such as the intensive development associated with a large condominium development, it is considered developed. The 1983 report also states:

The wording of this section requires evaluation of human impacts only in cases where structures are present; completely undeveloped coastal barriers are not evaluated (presumably on the assumption that, without any structures, the probability of significant human impacts on geological and ecological processes is extremely low). Although human activities (such as the destruction of dunes) which significantly affect geological processes almost always have significant impacts on ecological processes as well, the converse is less often true. Thus, ditching of tidal marshes, which can have significant ecological impacts by damaging or destroying habitat for numerous fish and wildlife species, may have only minor impacts on geologic processes. The existence of ecologically adverse activities alone would not cause a coastal barrier to be excluded for purposes of denying flood insurance coverage.[53]

This 1983 report goes on to say that the impacts of human activities are considered in cases where the development density is less than the threshold for identifying an undeveloped coastal barrier, but not in cases where the coastal barrier is completely undeveloped. Significant impacts on both geological and ecological processes must be present, and the area must contain some development in order for it to be a factor.

The Service has reviewed the submitted information and historical imagery and background records for Unit FL-67. Our review found that the area within Unit FL-67 had a relatively small number of scattered structures in 1990. McGregor Boulevard, which runs through the unit, had (and still has) few structures along it. In addition, there are no structures on-the-ground within the Sanibel Passage property now nor where there at the time the area was included within the CBRS. The presence of mosquito canals and McGregor Boulevard are insufficient to warrant exclusion; such features are typical for coastal areas and prevalent through the CBRS. The impacts of human activities have been minor and well within the capability of the coastal barrier ecosystem to mitigate or repair in a short period of time. The area within Unit FL-67 met the density and level of infrastructure criteria to be considered undeveloped at the time it was included within the CBRS. There are no changes between the proposed and final recommended maps for Units FL-67 and FL-67P as a result of this comment.

Comment 50: Local officials commented that it is critical that Federal resources continue to be available for the maintenance of Federal channels. The commenters also believe that the Service should recognize navigation channels as pre-existing developed infrastructure to eliminate any confusion or potential problems in interpreting where a channel can be dredged, and requested that the boundaries be modified to the landward edge of the channel rights-of-way.

Service Response to Comment 50: Channels are part of the associated aquatic habitat of coastal barriers and have been included as such throughout the CBRS. In carrying out the pilot project, the Service noted that the Department's 1982 and 1988 published guidance[54] have not been consistently applied to the CBRS maps, and we modified the boundaries on the proposed maps to include the entire width of the channel within the CBRS unit. Although there have been some additions of channels to the CBRS in Unit FL-67, most channels in the unit have been within the CBRS since 1990. Dredging projects within the unit that do not meet any CBRA exceptions have been prohibited from receiving Federal funds for more than 25 years and will continue to be prohibited from receiving Federal funds even if no modifications or additions are made to the existing unit. There are no changes between the proposed and final recommended maps for Unit FL-67 as a result of this comment. See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS.

There is an exception in CBRA for the maintenance of existing Federal navigation channels.[55] Determinations regarding whether specific projects or actions meet an exception to the CBRA's limitations on Federal expenditures are made on a case by case basis. The Federal funding agency must consult with the Service's local Ecological Services Field Office prior to committing funds for a project or action within or affecting a System Unit of the CBRS. Information concerning the CBRA's limitations on Federal expenditures, and exceptions to those limitations, is available on the Service's website at: *https://www.fws.gov/ecological-services/habitat-conservation/cbra/Consultations/Limitations-and-Exceptions.html*.

Comment 51: Local officials are concerned about the Service's protocol regarding navigation channels in the 2008 pilot report. In this report, there is a discussion on the results of channel boundary mapping, which states that the effect of the proposed changes placing additional channel area within System Units would be to prohibit the use of Federal financial assistance for dredging and other projects. The commenters believe this is inconsistent with the next sentence, which states that the Service does not anticipate a significant impact due to the change in this mapping protocol.

Service Response to Comment 51: Channels are part of the associated aquatic habitat of coastal barriers and have been included as such throughout the CBRS.[56] Additional channel areas are recommended for inclusion within System Units through the pilot project, and such areas would be subject to CBRA's prohibitions if the final recommended maps are adopted by Congress. However, the Service believes that the impact of these additions is not significant because there are many cases in the affected areas where about half of the channels' width is already included within the CBRS and they therefore are already subject to the CBRA's prohibitions. In addition, there are exceptions in the CBRA for existing Federal navigation channels and related structures. Congress determined that it would be sufficient to exempt these channels from the CBRA's prohibitions on Federal expenditures rather than exclude or remove them from the CBRS.[57] See Issue 12 in Chapter 4 for more information about the Service's protocol for mapping of channels within the CBRS.

Unit P21, Bocilla Island

Comment 52: The Service received two comments from individuals regarding the removal of properties from Unit P21. One commenter supported the Service's proposed removal from the CBRS of a structure within the Eagle Preserve Estates subdivision. Another commenter requested the removal from the CBRS of 22 homes and numerous vacant lots between an area called "the Preserve" and the CBRS boundary based on an infrastructure claim.

Service Response to Comment 52: The Service does not recommend modifying the boundary for Unit P21 to remove from the CBRS 22 homes and numerous vacant lots between "the Preserve" and the CBRS boundary. The existing Unit P21 boundary in this area was drawn at the break-in-development that existed at the time it was included within the CBRS. The break-in-development is where development ended when the area was originally included within the CBRS (i.e., the area immediately adjacent to the last structure in a cluster or row of structures, or at the property parcel boundary of the last structure).[58] Although the commenter claimed that the area should be removed based on existing infrastructure, no supporting documentation was submitted to show that a full complement of infrastructure existed in this area. The commenter indicated that the area had dirt roads; however the CBRA infrastructure criteria require roads with a reinforced road bed in order to consider an area developed.[59] The Service's assessment found that at the time of inclusion within Unit P21, the area that the commenter seeks to remove from the CBRS was undeveloped. There are no changes between the proposed and final recommended maps for Unit P21 as a result of this comment.

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[1] Units FL-64P, L07, L08, and L09 have been removed from the pilot project because comprehensively revised maps for these areas have been adopted by Congress. The Service's proposed map for Unit FL-64P was made effective via Pub. L. 110-419 on October 15, 2008. No comments were received during the comment period related to Unit FL-64P.

The Service's final recommended maps for Units L07, L08, and L09 were made effective via Pub. L. 113-253 on December 18, 2014. The Service did receive comments during the comment period related to all three of these units. The Service assessed these comments and made any warranted modifications on the final recommended maps, but because the maps have already been adopted, the Service has not addressed the comments related to these units in this Appendix.

[2] See endnote 10 in Chapter 5.

[3] See endnote 15 in Chapter 4.

[4] 16 U.S.C. 3503(g)(2)

[5] See endnote 12 in Chapter 6.

[6] See endnote 21 in Chapter 4.

[7] See endnote 5 in Chapter 4.

[8] 16 U.S.C. 3505(a)(2) is an exception for "The maintenance or construction of improvements of existing Federal navigation channels (including the Intracoastal Waterway) and related structures (such as jetties), including the disposal of dredge materials related to such maintenance or construction." Federal expenditures for such projects and activities that meet this exception may be made following consultation with the Service. According to 16 U.S.C. 3505(b), "a Federal navigation channel or a related structure is an existing channel or structure, respectively, if it was authorized before the date on which the relevant System Unit or portion of the System Unit was included within the CBRS."

[9] See endnote 6 in Chapter 6.

[10] Page II-13 of: DOI, Coastal Barriers Study Group. 1983. Final environmental statement: Undeveloped coastal barriers. Washington, D.C.

[11] See endnote 10 above.

[12] See endnote 2 in Chapter 1.

[13] 16 U.S.C. 3505(a)(3) is an exception for "The maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system." Federal expenditures for such projects and activities that meet this exception may be made following consultation with the Service.

[14] 16 U.S.C. 3505(a)(6)(F) is an exception for "Maintenance, replacement, reconstruction, or repair, but not the expansion (except with respect to United States route 1 in the Florida Keys), of publicly owned or publicly operated roads, structures, and facilities." Projects must also be consistent with the purposes of the CBRA to meet this exception. Federal expenditures for such projects and activities that meet this exception may be made following consultation with the Service.

[15] See endnote 3 in Chapter 5.

[16] See endnote 5 in Chapter 4.

[17] See endnote 15 in Chapter 4.

[18] See endnote 3 in Chapter 5.

[19] See endnote 21 in Chapter 4.

[20] See endnote 8 above.

[21] See endnote 25 in Chapter 1.

[22] See endnote 8 above.

[23] See endnote 21 in Chapter 4.

[24] See endnote 8 above.

[25] See endnote 12 in Chapter 6.

[26] 42 U.S.C. 4028(a)

[27] See endnote 3 in Chapter 5.

[28] Page 61 of: DOI, Coastal Barriers Study Group. 1988. Report to Congress: Coastal Barrier Resources System with recommendations as required by Section 10 of the Public Law 97-348, the Coastal Barrier Resources Act of 1982. Volume 14 *in* Report to Congress: Coastal Barrier Resources System. U.S. Department of the Interior, Washington, D.C.
152 pp.

[29] See endnote 3 in Chapter 5.

[30] See endnote 16 in Chapter 6.

[31] See endnote 16 in Chapter 6. "Because it was so difficult to make consistent determinations about phased development, phased development was not considered in determining development status after 1982."

[32] See endnote 15 in Chapter 4.

[33] See endnote 3 in Chapter 5.

[34] See endnote 8 above.

[35] See endnote 10 in Chapter 5.

[36] See endnote 15 in Chapter 4.

[37] See endnote 15 in Chapter 4.

[38] See endnote 3 in Chapter 5.

[39] 16 U.S.C. 3505(a)(1) is an exception for "Any use or facility necessary for the exploration, extraction, or transportation of energy resources which can be carried out only on, in, or adjacent to a coastal water area because the use or facility requires access to the coastal water body." Federal expenditures for such projects and activities that meet this exception may be made following consultation with the Service.

[40] See endnote 10 in Chapter 5.

[41] See endnote 21 in Chapter 4.

[42] See endnote 8 above.

[43] See endnote 2 in Chapter 1.

[44] See endnote 19 in Chapter 4.

[45] See endnote 8 in Chapter 6.

[46] See endnote 13 above.

[47] See endnote 14 above.

[48] S. Rept. 101-529

[49] H. Rept. 101-657, Part 1. "The committee recognizes the importance of Route 1 in the Florida Keys, particularly since this highway is the only road that provides access to and from the Keys."

[50] See endnote 19 in Chapter 6.

[51] See endnote 6 in Chapter 6.

[52] See endnote 10 above.

[53] See endnote 10 above.

[54] See endnote 21 in Chapter 4.

[55] See endnote 8 above.

[56] See endnote 2 in Chapter 1.

[57] See endnote 19 in Chapter 4.

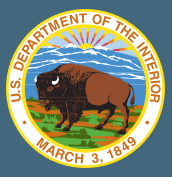
[58] See endnote 3 in Chapter 5.

[59] See endnote 15 in Chapter 4.

U.S. Department of the Interior
U.S. Fish & Wildlife Service

http://www.fws.gov

November 2016



U.S. Fish and Wildlife Service—Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Project