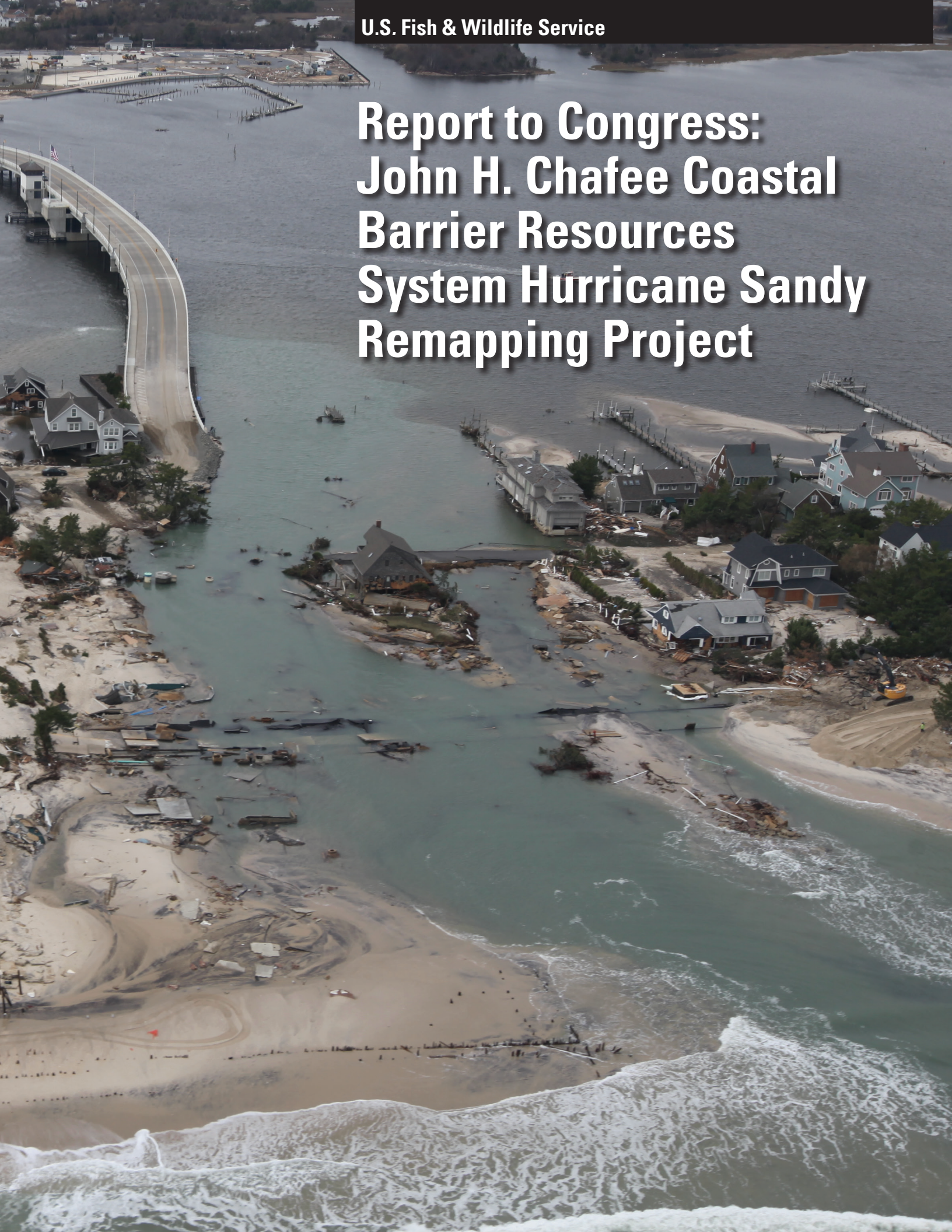


# Report to Congress: John H. Chafee Coastal Barrier Resources System Hurricane Sandy Remapping Project







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

# Acknowledgements

*Many current and former staff within the Department of the Interior, U.S. Fish and Wildlife Service (Service), and U.S. Geological Survey provided support for the Hurricane Sandy Remapping Project (project), including: Marta Anderson, Martha Balis-Larsen, Dr. Rick Bennett, Elizabeth Berg, Cynthia Bohn, David Bruce, Linus Chen, Andrew Cruz, David Eisenhauer, Margaret Engesser, Christine Eustis, Teresa Fish, Kristen Floom, Gary Frazer, Angela Gustavson, Chris Guy, Jane Harner, Alyssa Hausman, Brian Hires, Matthew Hubbard, Noah Kahn, Scott Kahan, Sarah Kilpatrick, Martin Kodis, Genevieve LaRouche, Amy Lavoie, Dominic Maione, Sharon Marino, Meg Marquardt (contractor), Steve Papa, Dr. Paul Phifer, Dr. Jonathan Phinney, Carlo Popolizio, Lauren Privette, Dr. Bianca Prohaska, Ron Salz, Eric Schradling, Michelle Shaughnessy, Gina Shultz, Spencer Simon, Anne Sittauer, Graham Taylor, Kimberly Tripp, Maria Tur, Hans Vraga, Michael Wagganer, Wendi Weber, and numerous other Ecological Services and national wildlife refuge managers and staff. Steve Kalaf and many others with Dewberry LLC provided technical and mapping support for the project. Dr. Robert Young with the Western Carolina University Program for the Study of Developed Shorelines provided technical support for the report.*

*The Service would like to thank the Members of Congress who sponsored and cosponsored the 2006 Coastal Barrier Resources Reauthorization Act and the Strengthening Coastal Communities Act of 2018, which directed the Secretary of the Interior to complete digital maps for the Coastal Barrier Resources System and prepare this report including: Congresswoman Lisa Blunt Rochester, former Senator Lincoln Chafee, Congressman Neal Dunn, former Congressman Wayne Gilchrest, Senator James Inhofe, the late Senator James Jeffords, former Congressman James Leach, Congressman Brian Mast, former Congressman Thomas Rooney, as well as the current and former Senate Committee on Environment and Public Works and House Committee on Natural Resources staff who have supported the map modernization effort.*

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## Suggested Citation:

**U.S. Fish and Wildlife Service (USFWS).  
Report to Congress:  
John H. Chafee Coastal Barrier Resources  
System Hurricane Sandy Remapping Project.  
Washington, D.C.: USFWS, 2022.**



# Authority for the Hurricane Sandy Remapping Project and Purpose of this Report

The Secretary of the Interior (Secretary), through the U.S. Fish and Wildlife Service (Service), is responsible for administering the Coastal Barrier Resources Act (CBRA), which includes maintaining and updating the official maps of the Coastal Barrier Resources System (CBRS), consulting with federal agencies that propose to spend funds within the CBRS, and making recommendations to Congress regarding changes to the CBRS. The 2006 Coastal Barrier Resources Reauthorization Act (CBRRA)<sup>1</sup> specifies that the Secretary shall carry out a project to create digital versions of all of the CBRS maps, including maps of Otherwise Protected Areas (OPAs).

Section 4(c) of the 2006 CBRRA requires the Secretary, after providing an opportunity for the submission and consideration of public comments on the proposed changes to the CBRS, to submit a report regarding the digital CBRS maps created under the project to the Senate Committee on Environment and Public Works and the House Committee on Natural Resources. Section 4(c)(3) of the 2006 CBRRA specifies that the report shall contain:

- a description of the extent that the boundary lines on the digital maps differ from the boundary lines on the original maps;
- a summary of the comments received from Governors, other government officials, and the public regarding the digital maps created under this section;
- recommendations for the adoption of the digital maps created under this section by Congress;
- recommendations for expansion of the John H. Chafee CBRS and OPAs as in existence on the date of enactment of this act;
- a summary and update on the implementation and use of the digital maps created under the pilot project; and
- a description of the feasibility of, and the amount of funding necessary for:
  - making all of the System Unit and OPA maps available to the public in digital format; and
  - facilitating the integration of digital System Unit and OPA boundaries into federal, state, and local planning tools.

Section 3 of the Strengthening Coastal Communities Act of 2018 (SCCA)<sup>2</sup> directs the Service to submit a report to Congress regarding the progress and challenges in the transition from paper to digital maps and a timetable for completing the digitization of all maps related to the CBRS.

This report to Congress on the Hurricane Sandy Remapping Project fulfills requirements contained in both section 4 of the 2006 CBRRA and section 3 of the SCCA. While the 2006 CBRRA requires the Service to comprehensively remap the entire CBRS, we have prioritized our remapping efforts based on the availability of resources and a backlog of requests from the public and members of Congress for the review of specific areas. We were able to conduct the mapping for the CBRS units in the nine states most affected by Hurricane Sandy (which made landfall along the northeast coast of the United States in 2012) and prepare this accompanying report as a result of \$5 million provided in fiscal year 2014 through the Department of the Interior's Hurricane Sandy supplemental disaster appropriations.<sup>3</sup> The Service will continue to prepare comprehensively revised maps for priority areas within the CBRS as resources are made available for this effort. Information about mapping efforts for the remainder of the CBRS is contained in [chapter 5](#) of this report.

The following table introduces the chapters of this report and notes which chapters and appendixes address the statutory requirements.

<i>Report Chapter/Appendix</i>	<i>Description</i>
Chapter 1: Introduction	This chapter includes an overview of coastal barriers, Hurricane Sandy, and this project.
Chapter 2: Public Review Process	This chapter includes a summary of the public review process required by section 4(c)(2) of the 2006 CBRRA.
Chapter 3: Summary of Public Comments and Service Responses	This chapter includes a summary of the substantive overarching comments received during the public review period regarding the proposed boundaries as required by section 4(c)(3)(B) of the 2006 CBRRA.
Chapter 4: Overview of Project Methodology and Results	<p>This chapter provides an overview of the methodology used for this project and summarizes the results of the project, including the extent to which the final recommended boundaries differ from the boundaries on the original maps as required by section 4(c)(3)(A) of the 2006 CBRRA. This chapter also describes the methodology for the creation of the final recommended maps following the public review period.</p> <p>This chapter includes:</p> <ul style="list-style-type: none"> <li>• a summary and update on the status and implementation of the maps created through the Digital Mapping Pilot Project as required by section 4(c)(3)(E) of the 2006 CBRRA;</li> <li>• a recommendation to Congress for adoption of the final recommended maps produced by the Service through the Hurricane Sandy Remapping Project, as required by section 4(c)(3)(C) of the 2006 CBRRA;</li> <li>• information regarding the progress and challenges in the transition from paper to digital maps;</li> <li>• next steps and a timetable for future mapping efforts, as required by section 3 of the SCCA; and</li> <li>• information regarding the costs and feasibility of making the official CBRS maps available in digital format and facilitating data integration into federal, state, and local planning tools as required by section 3(c)(4) of the 2006 CBRRA.</li> </ul>
Chapter 5: Map Modernization Accomplishments and Next Steps	
Appendix A: Glossary	This appendix includes a glossary of terms used throughout the report.
Appendix B: Project Acreage, Structure, and Shoreline Change Metrics	This appendix includes the acreage, structure, and shoreline change metrics associated with the final recommended maps included in appendixes D–K.
Appendix C: 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 boundaries as required by section 4(c)(3)(B) of the 2006 CBRRA.

<i>Report Chapter/Appendix</i>	<i>Description</i>
Appendix D: Summaries of Change, Technical Correction Assessments, and Maps for New Hampshire and Massachusetts	<p>These appendixes D–K include:</p> <ul style="list-style-type: none"> <li>• statewide reference maps and statewide summaries of final recommended changes for each state;</li> <li>• summaries of recommended changes for each of the units, including the extent to which the final recommended boundaries differ from the boundaries on the original maps (as required by section 4(c)(3)(A) of the 2006 CBRRA) and recommendations for the expansion of the CBRS (as required by section 4(c)(3)(D) of the 2006 CBRRA);</li> <li>• technical correction assessments that describe the Service’s findings regarding alleged mapping errors in certain units; and</li> <li>• final recommended CBRS maps created under section 4(a) of the 2006 CBRRA.</li> </ul>
Appendix E: Summaries of Change, Technical Correction Assessments, and Maps for Rhode Island	
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Appendix I: Summaries of Change, Technical Correction Assessments, and Maps for Delaware	
Appendix J: Summaries of Change, Technical Correction Assessments, and Maps for Maryland	<p>This appendix includes copies of the comments received during the public review and comment periods.</p>
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<sup>1</sup> Coastal Barrier Resources Reauthorization Act of 2005, Public Law 109-226, U.S. Statues at Large 120 (2006): 381-384, <https://www.congress.gov/109/plaws/publ226/PLAW-109publ226.pdf>.

<sup>2</sup> Strengthening Coastal Communities Act of 2018, Public Law 115-358, U.S. Statues at Large 132 (2018): 5078-5081, <https://www.congress.gov/115/plaws/publ358/PLAW-115publ358.pdf>.

<sup>3</sup> Disaster Relief Appropriations Act 2013, Public Law 113-2, U.S. Statues at Large 127 (2013): 4-50, <https://www.congress.gov/113/plaws/publ2/PLAW-113publ2.pdf>.



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**Appendix G:** Summaries of Change, Technical Correction Assessments, and Maps for New York

**Appendix H:** Summaries of Change, Technical Correction Assessments, and Maps for New Jersey

**Appendix I:** Summaries of Change, Technical Correction Assessments, and Maps for Delaware

**Appendix J:** Summaries of Change, Technical Correction Assessments, and Maps for Maryland

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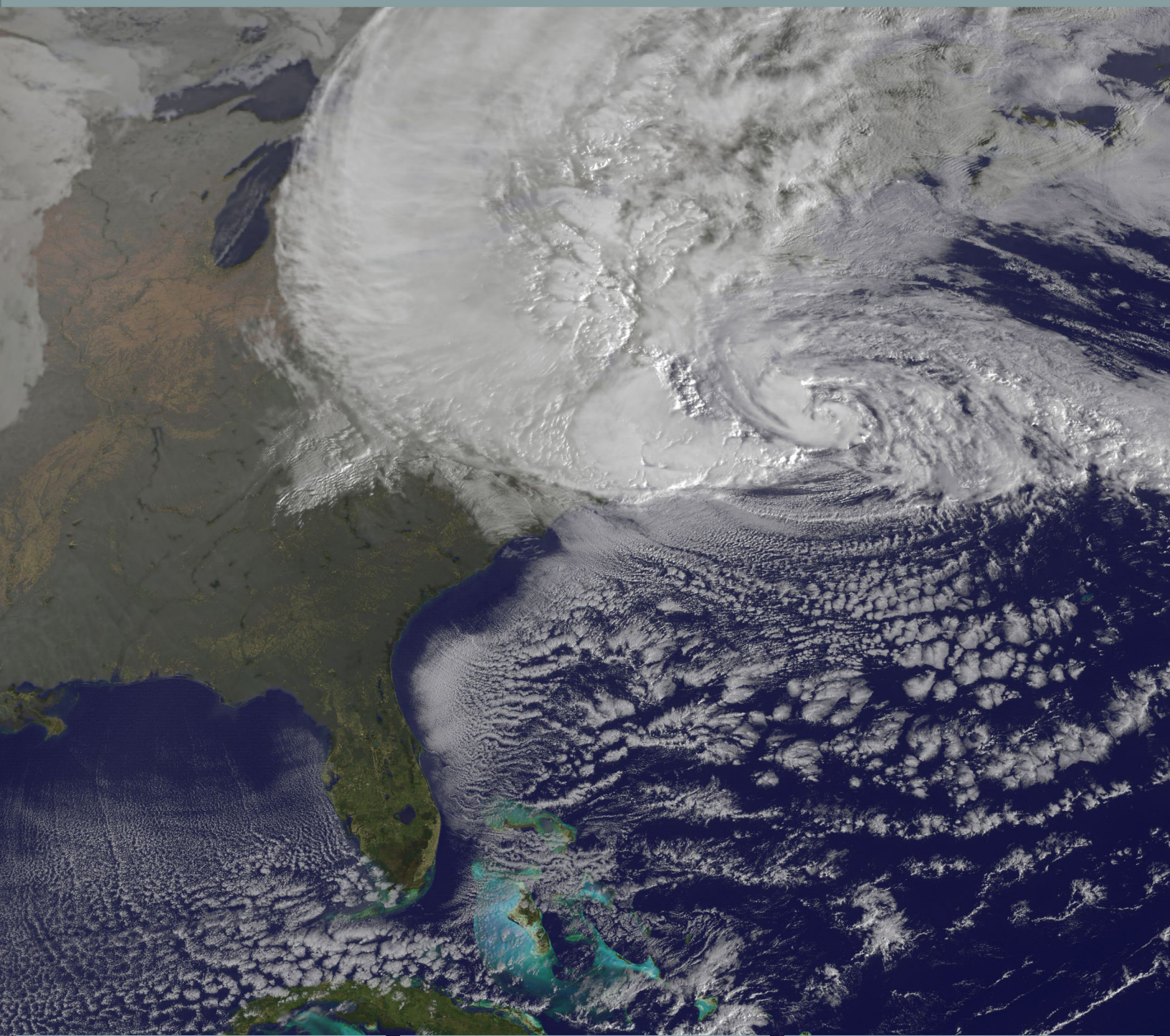
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# **List of Acronyms and Abbreviations**

2000 CBRRA – 2000 Coastal Barrier Resources Reauthorization Act  
2006 CBRRA – 2006 Coastal Barrier Resources Reauthorization Act  
CBIA – Coastal Barrier Improvement Act  
CBRA/act – Coastal Barrier Resources Act  
CBRS/System – John H. Chafee Coastal Barrier Resources System  
Corps/USACE – U.S. Army Corps of Engineers  
CZMA – Coastal Zone Management Act  
Department/DOI – Department of the Interior  
FEMA – Federal Emergency Management Agency  
FIRM – Flood Insurance Rate Map  
GAO – U.S. Government Accountability Office  
GIS – geographic information system(s)  
HUD – U.S. Department of Housing and Urban Development  
NAIP – National Agriculture Imagery Program  
NFHL – National Flood Hazard Layer  
NFIP – National Flood Insurance Program  
NGOs – nongovernmental organizations  
NOAA – National Oceanic and Atmospheric Administration  
NWI – National Wetlands Inventory  
OPA – Otherwise Protected Area  
SCCA – Strengthening Coastal Communities Act of 2018  
Secretary – Secretary of the Interior  
Service/USFWS – U.S. Fish and Wildlife Service  
SFHA – Special Flood Hazard Area  
USDA – U.S. Department of Agriculture  
USGS – U.S. Geological Survey







# Executive Summary

## OVERVIEW OF COASTAL BARRIER RESOURCES SYSTEM

Coastal barriers are inherently storm prone and dynamic systems located at the interface of land and sea. Undeveloped coastal barriers and their associated aquatic habitat (including wetlands, marshes, estuaries, inlets, and nearshore waters) provide numerous benefits to the economy and society. However, development of these areas puts people in harm's way and disrupts the natural movement and functions of the barriers, degrading fish and wildlife habitat and increasing shoreline erosion. With the passage of the Coastal Barrier Resources Act (CBRA) in 1982, Congress recognized that certain actions and programs of the Federal Government have historically subsidized and encouraged development on coastal barriers, and the result has been the loss of natural resources; threats to human life, health, and property; and the expenditure of millions of tax dollars each year.<sup>1</sup>

CBRA removed the federal incentive to develop many of these areas by designating relatively undeveloped coastal barriers along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts as part of the John H. Chafee Coastal Barrier Resources System (CBRS). With some exceptions, most new federal expenditures and financial assistance are prohibited within the CBRS. CBRA does not regulate or prohibit the development of coastal barriers. Development can still occur within these areas, provided that private developers or other nonfederal parties bear the full cost. A 2019 study in the *Journal of Coastal Research* found that CBRA reduced federal coastal disaster expenditures by \$9.5 billion between 1989 and 2013.<sup>2</sup> A study published through PLOS ONE in 2020 evaluated the effectiveness of CBRA in discouraging urban

development on coastal barriers and found that CBRA has been successful in its intention of decreasing development rates and densities of hazard prone coastal areas.<sup>3</sup>

The Secretary of the Interior (Secretary), through the U.S. Fish and Wildlife Service (Service), is responsible for administering CBRA, which includes maintaining and updating the official maps of the CBRS, consulting with federal agencies that propose to spend funds within the CBRS, and making recommendations to Congress regarding changes to the CBRS. Aside from three minor exceptions,<sup>4</sup> only Congress, through new legislation, can modify the boundaries of the CBRS. While the Service has only limited authority to make boundary changes administratively, we do have a mandate to draft revised maps that make recommendations to Congress for changes to the boundaries, including additions to and removals from the CBRS.<sup>5</sup>

The complete set of maps depicting the CBRS was last comprehensively revised in 1990 using now antiquated manual cartographic technologies and base maps. The 1990s-era maps are imprecise, difficult to use, and in some cases contain errors affecting property owners and project proponents.

## AUTHORITY FOR THE PROJECT AND PURPOSE OF THIS REPORT

Devastation in the wake of Hurricane Sandy (which made landfall along the northeast coast of the United States in October 2012 and caused nearly \$75 billion in damages as the fourth costliest storm in U.S. history<sup>6</sup>) revealed a need to address the vulnerability of populations, infrastructure, and resources at risk throughout more than 31,200 miles of the North Atlantic coastal region.<sup>7</sup> The Hurricane Sandy Remapping Project (project) was undertaken to update the CBRS maps for the nine states along the Mid-Atlantic and New England coasts most affected by Hurricane Sandy: New Hampshire, Massachusetts, Rhode Island, Connecticut, New York (Long Island), New Jersey, Delaware, Maryland, and Virginia. We were able to conduct the mapping and

prepare this accompanying report as a result of \$5 million provided in fiscal year 2014 through the Department of the Interior's Hurricane Sandy supplemental disaster appropriations.<sup>8</sup>

This remapping project includes 42 percent of the total existing CBRS units and 16 percent of the total existing acreage of the CBRS and has resulted in 438<sup>9</sup> recommended units for congressional consideration. Using statutory criteria, objective mapping protocols, and a set of guiding principles, the Service completed a comprehensive review of the coastlines for each of the states included in the project. In cases where mapping errors in existing units were found, we support changes to remove the inappropriately designated areas from the CBRS. We also identified relatively undeveloped areas that are appropriate for addition to the CBRS.

The 2006 Coastal Barrier Resources Reauthorization Act (CBRRA)<sup>10</sup> specifies that the Secretary shall carry out a project to create digital versions of all the CBRS maps. Additionally, the 2006 CBRRA requires the Secretary, after providing an opportunity for the submission and consideration of public comments, to submit a report regarding the digital CBRS maps created under the project to the Senate Committee on Environment and Public Works and the House Committee on Natural Resources. The Strengthening Coastal Communities Act of 2018 (SCCA)<sup>11</sup> directs the Service to submit a report to Congress regarding the progress and challenges in the transition from paper to digital maps and a timetable for completing the digitization of all maps related to the CBRS. This report to Congress on the Hurricane Sandy Remapping Project fulfills requirements contained in both the 2006 CBRRA and SCCA.

## RESULTS OF THE PUBLIC REVIEW

As required by the 2006 CBRRA, this report was prepared after providing an opportunity for the submission and consideration of public comments on the proposed changes to the CBRS. [Chapter 2](#) of this report describes the project's public review process. [Chapter 3](#) and appendix C itemize and address the comments received.



We received a total of 2,416 comments during the public comment periods in 2018 and 2019.<sup>12</sup> Comments were received from seven of the nine affected state governments, and these comments were mixed. The Commonwealth of Virginia and the State of Connecticut support expansion of the CBRs. The States of Delaware, New York, and Rhode Island and the Commonwealth of Massachusetts were neutral on expansion; they provided mainly technical comments regarding specific areas. The State of New Jersey opposes expansion to the CBRs and also provided technical comments on specific areas. No comments were received from the States of New Hampshire or Maryland. Most of the comments received from nongovernmental organizations and private individuals expressed support for the expansion of the CBRs. The comments received from individual landowners whose property is affected by the project were generally in support of removals, sought additional removals, or opposed additions.

## PROJECT RESULTS

As required by the 2006 CBRRA, this report contains a summary describing the extent that the boundary lines on the digital maps differ from the boundary lines on the original maps. [Chapter 4](#) provides an overview of the methodology used for this project, describes the types of changes made, and summarizes the results.

Following the close of the public comment periods, the Service prepared the final recommended maps for the project. These maps depict appropriate changes to the boundaries of some units based on comments received during the public review. We also updated the underlying aerial imagery for all the units and reconfigured map panels for certain areas to improve map usability.

The Service's final recommended maps for this project resulted in 438 units that cover a total of 846,918 acres. The final recommended maps would remove 1,361 acres from the CBRs (969 acres of fastland [i.e., land above mean high tide] and 392 acres of associated aquatic habitat [i.e., wetlands and open water]) and add 277,950 acres to the CBRs (11,102 acres of fastland and 266,848 acres of associated aquatic habitat). The final recommended maps would remove 630 acres of privately owned fastland (i.e., private land not held for conservation/recreation) from the CBRs and add 3,240 acres of privately owned fastland to the CBRs. The final recommended maps would remove 910 structures (mostly private residential) from the CBRs and add 274 structures to the CBRs (more than half of which are park related). The final recommended maps would result in a net reclassification of 28,956 acres from System Unit to OPA. The Service's final recommended maps for this project will become effective

only if adopted by Congress through legislation.

The final recommended maps and summaries of change for each unit (including acreage, shoreline, and structure change metrics) are provided in appendixes D–K. The acreage, shoreline, and structure change metrics for each unit in the project are also provided in appendix B. Below is a summary table of the final recommended acreage and structure change metrics for this project.

## MAP MODERNIZATION ACCOMPLISHMENTS AND NEXT STEPS

As required by the 2006 CBRRA and the SCCA, this report contains (in chapter 5):

- a summary and update on the status and implementation of the maps created through the Digital Mapping Pilot Project (pilot project);<sup>13</sup>
- a recommendation to Congress for adoption of the final recommended maps produced by the Service;
- information regarding progress and challenges in the transition from paper to digital maps;
- a strategy and timetable for completion of future mapping efforts; and

### Summary of Final Recommended Acreage and Structure Change Metrics

	Fastland acres		Associated aquatic habitat acres		Total acres		Total structures	
	System Units	Otherwise Protected Areas	System Units	Otherwise Protected Areas	System Units	Otherwise Protected Areas	System Units	OPAs
<b>Addition to the Coastal Barrier Resources System</b>	3,096	8,006	57,810	209,038	60,906	217,044	64	210
	Total: 11,102		Total: 266,848		Total: 277,950		Total: 274	
<b>Removal from the Coastal Barrier Resources System</b>	542	427	264	128	806	555	666	244
	Total: 969		Total: 392		Total: 1,361		Total: 910	
<b>Net reclassified</b>	(7,955)	7,955	(21,001)	21,001	(28,956)	28,956	N/A	N/A
	Total: 0		Total: 0		Total: 0		N/A	
<b>Net change</b>	(5,401)	15,534	36,545	229,911	31,144	245,445	(602)	(34)
	Total: 10,133		Total: 266,456		Total: 276,589		Total: (636)	

- information regarding costs and feasibility of both making the official CBRS maps available in digital format and facilitating data integration into federal, state, and local planning tools.

### Recommendation for Adoption of the Final Recommended Maps

The Service recommends that Congress adopt the final recommended maps produced through the Hurricane Sandy Remapping Project. 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 CBRA's criteria for inclusion within the CBRS. Appendixes D–K contain copies of the final recommended maps. The final recommended maps are available for viewing and download on the Service's website: <http://www.fws.gov/cbra>. The final recommended boundaries can also be viewed and compared to the existing boundaries in the Service's CBRS Projects Mapper: <https://www.fws.gov/cbra/maps-and-data>

### Progress and Challenges in the Transition from Paper to Digital Maps

One of the most significant challenges associated with transitioning from paper to digital maps has been the historical lack of resources dedicated to this effort. Through a partnership with the Federal Emergency Management Agency (FEMA) between 2011 and 2016, we were able to facilitate a digital conversion of the official maps and complete the 5-year review (a statutory requirement to update the maps to account for erosion and accretion)<sup>14</sup> for 92 percent of the CBRS.<sup>15</sup> The CBRS boundaries for the remaining four states were digitized through the Hurricane Sandy Remapping Project, but the official maps for these areas have not yet been replaced (they will be replaced upon adoption of the maps in appendixes D–G<sup>16</sup> of this report). The SCCA requires that we provide a timetable for completing the digitization of all maps related to the CBRS. Upon adoption of the maps included in this report, the entire set of CBRS maps will be digitized.

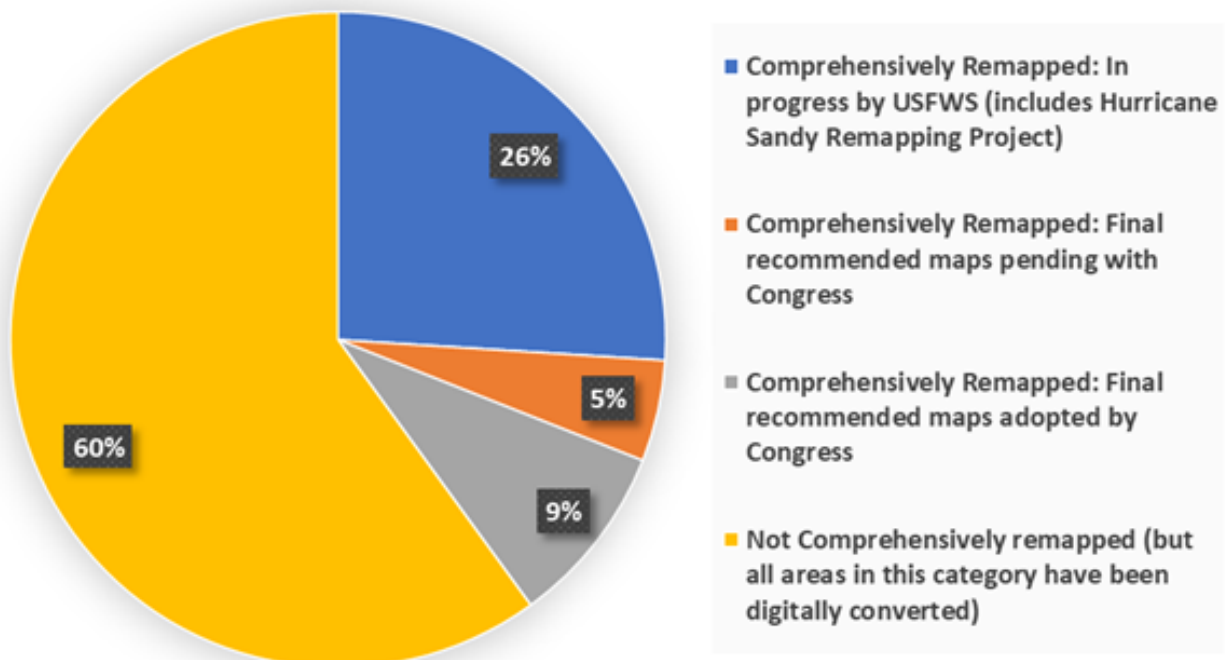
In fiscal year 2014, the Service was allocated \$5 million through the Department's Hurricane Sandy supplemental disaster appropriations. Additionally, in fiscal year 2015, Congress increased appropriations for

CBRS mapping. Since that time, the Service has made significant progress in preparing comprehensively revised maps for the CBRS. Through fiscal year 2021, the Service had prepared comprehensively modernized maps for more than half of the CBRS units (which includes the maps produced through this project) comprising 31 percent of the total CBRS acreage (see pie chart).

### Next Steps for Future Mapping Efforts

The 2006 CBRRA directed the Secretary to prepare digital maps for the entire CBRS. The Service has made significant progress over the past several years in comprehensively remapping much of the CBRS and addressing some of the most egregious shortcomings of the maps, including mapping errors affecting property owners. The estimated cost for completing comprehensively revised maps for the remainder of the CBRS (69 percent of the CBRS acreage) is about \$5 million and would require additional staff to gather and synthesize data, conduct research, do technical geographic information system (GIS) work, carry out a public review and do outreach, and prepare supporting documents. Even

**Comprehensive mapping status of the Coastal Barrier Resources System, by percent acreage as of September 2021**



with an increase in capacity, such an effort would take several years to complete given the various steps in the remapping process. Comprehensive map modernization is a time- and resource-intensive endeavor and may not be necessary for the entire CBRS.

Aside from the pilot project and Hurricane Sandy Remapping Project, the Service's remapping priorities are generally driven by requests from property owners and other interested parties who seek the removal of land from the CBRS. The Service continues to receive such requests. We are developing a strategy that applies the lessons learned through previous mapping efforts to guide future CBRS remapping. Moving forward, the Service intends to (1) continue addressing individual technical correction requests from property owners and other interested parties and (2) conduct on a regular schedule the 5-year review to account for erosion and accretion in these highly dynamic areas for the entire CBRS (this addresses a recommendation made by the U.S. Government Accountability Office [GAO] in 2021<sup>17</sup>).

The Service plans to conduct several small-scale regional projects between 2022 and 2025 entailing a comprehensive review and remapping of approximately 60 total units (which includes 15 units we have received requests for as well as the adjacent units). The Service also plans to begin conducting the next 5-year review cycle for the CBRS in 2022. During the 5-year review process, the Service intends to identify additional units that may warrant comprehensive review and remapping (to help prioritize future projects). Comprehensive map modernization may not be necessary for all areas, and updating the maps via the Service's administrative 5-year review authority will be sufficient in many cases. There are some sparsely populated regions

where development pressures are low, few structures (if any) are present within the units, and/or there is little room for expansion. The Service contends that this approach will allow us to address legitimate mapping errors (and identify eligible additions) in a more cost-effective and equitable manner by prioritizing technical correction reviews and smaller-scale comprehensive remapping projects while also facilitating a more regular update of the official set of CBRS maps through the 5-year review process (which is less time and resource intensive than large-scale comprehensive remapping projects).

### **Feasibility and Cost of Making the CBRS Maps Available in Digital Format and Facilitating CBRS Data Integration**

The official CBRS maps referenced in the law<sup>18</sup> remain the controlling documents for the CBRS. The Service maintains a paper copy of these maps, and digital versions are also available on the Service's website.<sup>19</sup> However, GIS technology and online mappers have become the primary way through which practitioners and the public now interact with spatial information. The digital CBRS data available on the Service's website is complementary to the maps and provides the public with accurate, up-to-date information in an accessible and user-friendly format that is compatible with modern GIS platforms. The digital CBRS data make it much easier to integrate CBRS information into federal, state, and local planning tools.

The Service continues to enhance the accessibility and usability of digital CBRS data for our partners and the public. In addition to providing downloadable digital CBRS boundary data, we have created two interactive mappers to show both the existing boundaries and proposed changes. We also created a CBRS Validation Tool that allows users to, in most

cases, produce a document indicating whether a location is within or outside of the CBRS. These data and tools help improve government efficiency and customer service while also increasing awareness of and compliance with CBRA. The Service spends approximately \$200,000 annually on maintenance and upgrades to the CBRS digital data and mappers and making this information publicly available via the CBRA website.

## **CONCLUSION**

Over its nearly 40-year history, CBRA has been successful in achieving its goals of minimizing the loss of life; wasteful expenditure of federal revenues; and damage to fish, wildlife, and other natural resources associated with coastal barriers. It will continue to be a useful tool in mitigating the ever-increasing hazards associated with climate change and reducing development pressures along the coasts. An important step in solidifying CBRA's conservation legacy is the digitization and modernization of the maps upon which the law is based. The Service and Congress have worked together over the last two decades to make significant improvements in the CBRS maps. The completion of the Hurricane Sandy Remapping Project is a major milestone in that process. Adoption of the revised maps produced through this project will correct decades-old mapping errors affecting more than 900 homes and other structures while at the same time adding hundreds of thousands of acres of qualifying relatively undeveloped areas to the CBRS. We look forward to working with Congress as it considers the final recommended maps contained in this report.

<sup>1</sup> Coastal Barrier Resources, U.S. Code 16 (2018), § 3501(a)(4).

<sup>2</sup> Andrew S. Coburn and John C. Whitehead, "An Analysis of Federal Expenditures Related to the Coastal Barrier Resources Act (CBRA) of 1982," *Journal of Coastal Research* 35, no. 6 (November 2019): 1358–1361, accessed March 25, 2021, <https://doi.org/10.2112/JCOASTRES-D-18-00114.1>.

<sup>3</sup> Kyle Onda et al., "Does Removal of Federal Subsidies Discourage Urban Development? An Evaluation of the US Coastal Barrier Resources Act," *PLOS ONE* 15, no. 6 (June 2020): e0233888, accessed March 25, 2021, <https://doi.org/10.1371/journal.pone.0233888>.



- <sup>4</sup> CBRA authorizes the Secretary to (1) add a parcel of real property to the CBRS if: (a) the owner of the parcel requests, in writing, that the Secretary add the parcel to the CBRS and (b) the parcel is an undeveloped coastal barrier (16 U.S.C. § 3503(d)); (2) add excess federal property to the CBRS following consultation with the Administrator of the U.S. General Services Administration and a determination that the property (or a portion of it) constitutes an undeveloped coastal barrier (16 U.S.C. § 3503(e)); and (3) 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 (this process is known as the 5-year review) 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)).
- <sup>5</sup> *Coastal Barrier Resources*, § 3503 note and § 3503(g).
- <sup>6</sup> “U.S. Billion-Dollar Weather and Climate Disasters,” National Oceanic and Atmospheric Administration (NOAA), National Centers for Environmental Information (NCEI), 2021, accessed March 25, 2021, <https://www.ncdc.noaa.gov/billions/>, DOI: 10.25921/stkw-7w73.
- <sup>7</sup> U.S. Army Corps of Engineers (USACE), North Atlantic Coast Comprehensive Study: Resilient Adaptation to Increasing Risk, Main Report (USACE, 2015), i, accessed February 25, 2021, <https://www.nad.usace.army.mil/CompStudy/>.
- <sup>8</sup> Disaster Relief Appropriations Act 2013, Public Law 113-2, U.S. Statutes at Large 127 (2013): 4-50, <https://www.congress.gov/113/plaws/publ2/PLAW-113publ2.pdf>.
- <sup>9</sup> This does not include the 25 CBRS units that were reviewed through this project and are recommended for deletion from the CBRS, transfer to another unit, or reclassification to another unit type.
- <sup>10</sup> Coastal Barrier Resources Reauthorization Act of 2005, Public Law 109-226, U.S. Statutes at Large 120 (2006): 381-384, <https://www.congress.gov/109/plaws/publ226/PLAW-109publ226.pdf>.
- <sup>11</sup> Strengthening Coastal Communities Act of 2018, Public Law 115-358, U.S. Statutes at Large 132 (2018): 5078-5081, <https://www.congress.gov/115/plaws/publ358/PLAW-115publ358.pdf>.
- <sup>12</sup> The National Audubon Society submitted a written comment letter via [www.regulations.gov](http://www.regulations.gov) that was accompanied by a spreadsheet containing 107 unique comments from individuals and 2,224 additional names of people who supported the Audubon Society’s comments but did not provide unique comments.
- <sup>13</sup> The Service submitted its pilot project report and accompanying 45 draft maps for 65 units (approximately 8 percent of the total acreage within the CBRS) to Congress in 2016. On December 21, 2018, Congress enacted the SCCA (Pub. L. 115-358), which adopted 35 revised maps produced by the Service for 59 CBRS units in Delaware, Florida, North Carolina, and South Carolina. The pilot project maps that were adopted by Congress are now part of the official set of current effective maps for the CBRS. These maps are accessible to the public and are being used by federal agencies, including the Service, to implement CBRA.
- <sup>14</sup> *Coastal Barrier Resources*, § 3503(c).
- <sup>15</sup> Additional information about the digital conversion effort is available in chapter 2 of the Service’s 2016 Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project and on the Service’s website: <https://www.fws.gov/cbra/maps/Digital-Conversion.html>.
- <sup>16</sup> The Service did not prepare digital conversion maps for Massachusetts, Rhode Island, Connecticut, or most of the Atlantic coast of New York because funding for the Hurricane Sandy Remapping Project became available before the digital conversion for those areas was started.
- <sup>17</sup> U.S. Government Accountability Office (GAO), Coastal Barrier Resources Act: Fish and Wildlife Service Should Better Ensure It Carries Out Required Consultation and Mapping Activities, GAO-21-258 (Washington, D.C., 2021), 23, accessed March 25, 2021, <https://www.gao.gov/products/gao-21-258>.
- <sup>18</sup> *Coastal Barrier Resources*, § 3503(a).
- <sup>19</sup> The official CBRS maps are available at: <https://www.fws.gov/cbra/maps/index.html>. The digital CBRS boundary data is available at: <https://www.fws.gov/cbra/maps-and-data>.

# Chapter 1: Introduction

## Overview of the Coastal Barrier Resources System

Coastal barriers are inherently storm prone and dynamic systems located at the interface of land and sea. Undeveloped coastal barriers and their associated aquatic habitat (including wetlands, marshes, estuaries, inlets, and nearshore waters) provide numerous benefits to the economy and society. They serve as natural storm buffers for the mainland, attenuating waves and absorbing floodwaters; filter pollutants and enhance water quality; provide important habitat that sustains threatened and endangered species and maintains recreational and commercial fisheries; support

local economies through extensive recreation and tourism; and provide opportunities for scientific research and education. Development of coastal barriers puts people in harm's way and disrupts the natural movement and beneficial functions of the barriers, degrading fish and wildlife habitat and increasing shoreline erosion. With the passage of the Coastal Barrier Resources Act (CBRA) in 1982, Congress recognized that certain actions and programs of the Federal Government have historically subsidized and encouraged development on coastal barriers, and the result has been the loss of natural resources; threats to human life, health, and property; and the expenditure of millions of tax dollars

each year.<sup>1</sup> Figure 1 shows an aerial view of a breach in a coastal barrier on the Rhode Island shoreline caused by Hurricane Sandy.

CBRA established the John H. Chafee Coastal Barrier Resources System (CBRS), which originally comprised 186 System Units encompassing approximately 453,000 acres of relatively undeveloped lands and associated aquatic habitat along the Atlantic and Gulf of Mexico coasts. Most new federal expenditures and financial assistance that would have the effect of encouraging development are prohibited within System Units of the CBRS (e.g., federally backed flood insurance, infrastructure projects, and disaster assistance). CBRA does not



*Figure 1. Breach at Trustom Pond, Rhode Island, caused by Hurricane Sandy. Trustom Pond had not naturally breached in over a decade prior to Hurricane Sandy.*

*Greg Thompson/USFWS*



regulate or prohibit the development of coastal barriers. Development can still occur within these areas, provided that private developers or other nonfederal parties bear the full cost. In his signing statement on the law, President Reagan said that CBRA “simply adopts the sensible approach that risk associated with new private development in these sensitive areas should be borne by the private sector, not underwritten by the American taxpayer.”<sup>2</sup>

The CBRS was expanded by the Coastal Barrier Improvement Act of 1990 (CBIA) to include additional areas along the Atlantic and Gulf of Mexico coasts, as well as areas along the coasts of the Great Lakes, the U.S. Virgin Islands, and Puerto Rico. The CBIA also added a new type of unit within the CBRS called Otherwise Protected Areas (OPAs). OPAs are predominantly comprised of conservation and/or recreation areas (e.g., national wildlife refuges, state parks, and local conservation areas) and only carry a restriction on most new federal flood insurance. System Units are predominantly comprised of privately owned areas and carry CBRA's full suite of federal funding restrictions. The CBRS now encompasses a total of 870 geographic units (588 System Units and 282 OPAs) covering approximately 3.5

million acres of land and associated aquatic habitat and 2,700 miles of shoreline in 23 states and territories.

The Secretary of the Interior (Secretary), through the U.S. Fish and Wildlife Service (Service), is responsible for administering CBRA, which includes maintaining and updating the official maps of the CBRS, consulting with federal agencies that propose to spend funds within the CBRS, and making recommendations to Congress regarding changes to the CBRS. 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<sup>3</sup>; (2) additions of excess federal property, if such property is determined by the Secretary to constitute an undeveloped coastal barrier<sup>4</sup>; and (3) modifications to the CBRS made by the Secretary at least once every five years to account for changes to the units by natural forces.<sup>5</sup>

While the Service has limited authority to make boundary changes administratively, we do have a mandate to draft revised maps<sup>6</sup> and make recommendations to Congress for comprehensive boundary modifications.<sup>7</sup> When assessing

potential removals from and additions to the CBRS, the Service considers a set of guiding principles and statutory criteria.<sup>8</sup> In cases where mapping errors are found, the Service supports changes to the maps and works with Congress and other stakeholders to create comprehensively revised maps using digital technology. Congress and the Service have worked together over the years to correct errors on the maps and to add new areas appropriate for inclusion within the CBRS. The Hurricane Sandy Remapping Project (project) was undertaken to update the CBRS maps for the nine states along the Mid-Atlantic and New England coasts most affected by Hurricane Sandy.

### Overview of Hurricane Sandy and Its Impacts

Hurricane Sandy made landfall as a post-tropical cyclone on October 29, 2012, near Brigantine, New Jersey, (just to the northeast of Atlantic City) with an estimated wind intensity of 80 miles per hour. After landfall, the cyclone turned toward the west-northwest and slowed, gradually weakening while its center moved through southern New Jersey, northern Delaware, and southern Pennsylvania. An unusual combination of size, hurricane conditions, cold



*Figure 2. Damaged homes along the New Jersey shore after Hurricane Sandy.*

*Greg Thompson/  
USFWS*



Figure 3. Casino Pier amusement park in Seaside Heights, New Jersey, after Hurricane Sandy.

Greg Thompson/USFWS

fronts, and abnormally high spring tide made Sandy particularly potent at landfall. Figure 2 shows homes in New Jersey that were damaged by Hurricane Sandy.

Overall, Hurricane Sandy affected 24 states<sup>9</sup>, with major disaster declarations issued in New Jersey, New York, Connecticut, Rhode Island, Delaware, Maryland, Virginia, West Virginia, New Hampshire, Massachusetts, Pennsylvania, Ohio, and the District of Columbia<sup>10</sup> and caused deadly flooding, mudslides, and destructive winds from the Caribbean to the United States' east coast. Hurricane Sandy killed over 70 people in the Caribbean and approximately 150 people in the U.S. Seventy-two of the U.S. fatalities occurred in the Mid-Atlantic and Northeast, making Sandy the deadliest U.S. cyclone outside of the southern states since Hurricane Agnes in 1972.<sup>11</sup>

New York and New Jersey were the hardest hit states, with the greatest damages and the most fatalities occurring in the New York Metropolitan Area.<sup>12</sup> Because of its massive size, its angle of approach, and its landfall during the spring high tide, Sandy drove a catastrophic storm surge into the New Jersey and New York coastlines. A Federal Emergency Management Agency (FEMA) Mitigation Assessment Team observed that the flooding caused by Hurricane Sandy exceeded the calculated 100-year flood<sup>13</sup> event across much of the

area.<sup>14</sup> Flooding caused widespread damage to structures, critical facilities, and infrastructure in New Jersey and New York (see figure 3). More than 600,000 housing units were destroyed; public transit systems were extensively damaged with flooding of a rail operations center, tunnels, and the subway system; local docks, marinas, restaurants, and fish processing plants suffered millions of dollars of damage; and many drinking water systems and wastewater treatment plants were affected by power loss and damages.<sup>15</sup> Nearly 19,000 small businesses in New Jersey sustained damages of \$250,000 or more, with total business losses estimated at \$8.3 billion.<sup>16</sup> In addition, approximately 8.5 million utility customers in states across the Mid-Atlantic and New England and as far west as Illinois lost power, contributing to the widespread effects of the storm.<sup>17</sup>

The storm surge and coastal flooding associated with Hurricane Sandy also caused damage to natural resources including the eroding of dunes, beaches, and existing natural infrastructure; the breaching of islands (i.e., the creation of new inlets); the washing of sand and sediment inland; and the inundation of wetland habitats.<sup>18</sup> However, the natural resources in Hurricane Sandy's path endured the effects of the storm better than the built environment and in many areas protected developed areas from more severe damage. A 2019 study

published in the Ecological Society of America journal *Ecosphere* evaluated the effects of natural processes and coastal engineering before and after Hurricane Sandy on the piping plover (*Charadrius melodus*), a threatened shorebird. This study found that the piping plover chose to nest in hurricane-created habitats following Hurricane Sandy, which highlights the importance of storm-induced disturbance of the habitats of some species.<sup>19</sup> Additionally, a 2016 study supported by Lloyd's Tercentenary Research Foundation estimated that coastal wetlands prevented \$625 million in direct flood damages during Hurricane Sandy in 2012.<sup>20</sup>

### Federal Assistance Following Hurricane Sandy

The final damage estimate for Sandy was \$74.8 billion (adjusted for inflation using the Consumer Price Index), making it the fourth-costliest U.S. storm behind Hurricane Katrina in 2005 and Hurricanes Harvey and Maria in 2017.<sup>21</sup> On January 29, 2013, President Obama signed the Disaster Relief Appropriations Act (Pub. L. 113-2), which provided approximately \$50 billion in funding to support rebuilding.<sup>23</sup>

The majority of the supplemental appropriations for Hurricane Sandy in this act went to four departments: Housing and Urban Development (HUD), Transportation, Homeland



Security (mostly to FEMA), and the U.S. Army Corps of Engineers (Corps)<sup>24</sup>. Of the \$50 billion in appropriations, approximately \$18 billion was planned for expenditure on infrastructure systems, \$1 billion for economic programs, \$1 billion for natural and cultural resources, \$800 million for federal asset restoration, \$750 million for health and social services, \$300 million for program support and research, and \$28 million for oversight. Approximately \$26 billion was for flexible funding programs for FEMA and at HUD for the Community Development Block Grant–Disaster Recovery program<sup>25</sup>. Approximately \$3.8 billion was provided through Small Business Administration recovery loans and FEMA Individual Assistance to more than 270,000 individuals and 3,900 businesses.<sup>26</sup>

In terms of flood-related fiscal impacts, Sandy resulted in more than 132,000 claims to the National Flood Insurance Program (NFIP) that paid a total of about \$8.8 billion or approximately \$66,500 per claim. Hurricane Sandy is second behind Hurricane Katrina in terms of the number of NFIP claims paid historically and third in total amount paid behind Hurricanes Katrina and Harvey.<sup>27</sup>

### Effects of Climate Change Anticipated in the Region

Since Hurricane Sandy made landfall in 2012, numerous hurricanes and other named storms have made landfall along the U.S. coasts, causing loss of life and hundreds of billions of dollars in damage to property and infrastructure. The U.S. experienced significant damage from Hurricanes Harvey, Irma, and Maria in 2017 and Hurricanes Florence and Michael in 2018. According to the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information, these five storms caused a total estimated damage of over \$325 billion. The 2020 hurricane season broke records with 30 named storms, 13 hurricanes, and 6 major hurricanes. Another record was broken in 2020 when 12 named storms or hurricanes made landfall in the U.S. including Hurricanes Isaias, Laura, Sally, Delta,

and Zeta, which caused property losses in the billions of dollars.<sup>28</sup>

Warming from anthropogenic greenhouse gas emissions will continue to accelerate the rate of climate change whereby increasing ocean water temperatures and the rate of polar ice loss result in direct effects such as sea-level rise.<sup>29</sup> With the rate of sea-level rise increasing, coastal systems and low-lying areas will experience increasingly negative effects including submergence, coastal flooding, and erosion.<sup>30</sup> with some regions more vulnerable than others.<sup>31</sup> Furthermore, with projected population growth and urbanization, the people and assets exposed to coastal risks will increase significantly.<sup>32</sup> Rising temperatures may also lead to an increase in heavy rainfall events in some regions, potentially raising the risk of flooding.<sup>33</sup>

Along the Mid-Atlantic coast, several decades of tide gauge data have shown that sea-level rise rates were three to four times higher than the global average rate.<sup>34</sup> Projections for the Northeast suggest that sea-level rise will be greater than the global average of approximately 0.12 inches (3 millimeters) per year.<sup>35</sup> The sea-level rise rates for the Atlantic coast of the U.S. are increased by land subsidence (sinking) with respect to current sea level.<sup>36</sup> and have led to a 100–200 percent increase in high tide flooding (nuisance flooding) over the last few decades.<sup>37</sup>

As temperatures and sea levels continue to rise, more coastal areas will become hurricane-prone and at risk of flooding. The results of a 2020 study prepared by the First Street Foundation showed that the number of properties in a flood zone will increase nationwide from 14.6 million to 16.2 million by 2050. These figures were calculated without accounting for growth and development suggesting that the actual number of properties in flood zones in 2050 could be even greater with continued development of coastal areas.<sup>38</sup>

Rising sea levels will expose many more coastal communities to chronic high tide flooding, higher storm surges, and associated emergency response costs over the next few decades.<sup>39</sup> With approximately \$1

trillion in national wealth held in coastal real estate.<sup>40</sup> flooding from rising sea levels and storms is likely to destroy (or make unsuitable for use) billions of dollars of property in the U.S. by the middle of this century, with the Atlantic coast facing greater-than-average risk compared to other regions of the country.<sup>41</sup>

New England and the Mid-Atlantic experience unique storms called Nor'easters, which may occur anytime of the year but are most frequent between September and April. When coupled with the Atlantic hurricane season between June and November, the region is susceptible to major storms year-round. Thirty-two percent of beaches in the Northeast and Mid-Atlantic are predicted to overwash during an intense future Nor'easter.<sup>42</sup> and this could increase to more than 80 percent during a Category 4 hurricane.<sup>43</sup>

Between 2004 and 2009, it was estimated that U.S. coastal wetland environments have been lost at an average rate of about 80,160 acres per year.<sup>44</sup> At this rate, by 2100 the United States will have lost an additional 16 percent of coastal wetlands. Sea-level rise in the Atlantic is contributing to the declining health and integrity of Atlantic marshes, with marsh degradation occurring faster in the Atlantic than in the Pacific because of a higher rate of sea-level rise.<sup>45</sup> Figure 4 shows an aerial view of wetlands located in Virginia

In addition to coastal inundation, sea-level rise will also be a driver of changes in habitat and species distribution, as will other effects of climate change such as increased sea surface temperatures and ocean acidification. Additionally, the presence of developed shorelines behind many of these habitats will prevent natural barrier island overwash and migration landward in response to sea level change. Habitat changes may be structural or functional; species that depend on coastal habitats for feeding, nesting, spawning, protection, and other activities could be severely affected if this important habitat is converted or lost.<sup>46</sup>

## Value of CBRA as an Adaptation Strategy

Devastation in the wake of Hurricane Sandy revealed a need to address the vulnerability of populations, infrastructure, and resources at risk throughout more than 31,200 miles of the North Atlantic coastal region.<sup>47</sup> Adaptation to the effects of climate change includes reducing underlying vulnerability and exposure. One mitigation strategy to reduce the intensity of climate change effects is the conservation of natural features such as coastal barriers.<sup>48</sup> Marshes and beaches serve as the first line of defense for coastal property and infrastructure in the face of storms.<sup>49</sup> Coastal barrier ecosystems such as estuaries, deltas, marshes, mangroves, seagrasses, beaches, and reefs provide valuable benefits to the economy and society as they support fisheries, reduce shoreline erosion from waves, contribute to coastal storm risk management/resilience, improve water quality, and create valuable recreation opportunities.<sup>50</sup>

Shoreline-stabilization activities and residential growth along coastal areas may negatively impact coastal-dependent species (resulting in future listings under the Endangered Species Act) and may even threaten the continued existence of coastal barriers themselves.<sup>51</sup> Almost 40 years after adoption, CBRA continues to fulfill its purpose of minimizing 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 by restricting future federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers and by considering the means and measures by which the long-term conservation of these fish, wildlife, and other natural resources may be achieved.<sup>52</sup>

CBRA provides landscape-level conservation benefits for fish, wildlife, and plant resources by reducing the intensity of development. A 2007 U.S. Government Accountability Office (GAO) report reviewed the extent to which development has occurred in CBRS units and the extent to which federal agencies provided financial assistance within CBRS units. This report found that about 97 percent of all CBRS units remained undeveloped or experienced minimal development.<sup>53</sup> A 2019 study published in the *Journal of Coastal Research* analyzed the economic benefits from CBRA and found that CBRA reduced federal coastal disaster expenditures by \$9.5 billion between 1989 and 2013 and forecasts that additional savings will range between \$11 and \$108 billion by 2068 (in 2016 dollars).<sup>54</sup> Furthermore, a study published through *PLOS ONE* in 2020 evaluated the effectiveness of CBRA in discouraging urban development on coastal barriers and found that CBRA has been successful

in its intention of decreasing development rates and densities of hazard-prone coastal areas.<sup>55</sup>

Engineering projects such as beach nourishment and seawalls indirectly encourage development. Research conducted by Eli Lazarus and Evan B. Goldstein discovered that there is a connection between coastal development and beach nourishment projects. They examined areas in Florida and found that houses are larger and more numerous in areas where beach nourishment occurs. They also found that beach nourishment obscures erosion of the shorelines, making them appear more stable than they are.<sup>56</sup> However, because federal expenditures and financial assistance to prevent erosion (or to otherwise stabilize any inlet, shoreline, or inshore area) such as beach nourishment are generally prohibited under CBRA, this will usually have a discouraging effect on development in these areas.

When coastal barrier areas remain undeveloped, communities can avoid or lessen costly expenditures such as: flood control projects (such projects are not necessary where homes and businesses do not exist in hazard-prone areas); mitigation efforts for structures (e.g., flood proofing and elevating structures); emergency services to protect lives (e.g., evacuations, search and rescue); and infrastructure repair and replacement (roads, bridges, sewer, water, electrical service, etc.). When coastal barrier areas remain relatively undeveloped, less-costly, nature-based mitigation measures may suffice to provide adequate protection to conserve the natural ecosystem.

Nature-based mitigation includes efforts such as restoration of wetlands, dunes, and other coastal barriers, all of which make communities more resilient to increased flood risk and are often consistent with the intents and purposes of CBRA. A 2020 report developed by the National Wildlife Federation in partnership with Allied World summarized the latest science on the effectiveness of natural infrastructure<sup>57</sup> in lowering the risks to communities from natural disasters such as flooding and hurricanes. This report found a body of evidence to indicate that natural defenses are both effective and cost-effective



Figure 4. Aerial view of saltwater (intertidal) wetlands that include emergent salt marsh and non-vegetated shoals and sandbars (foreground). Chesapeake Bay coastline of Virginia, 2008.



solutions for risk reduction although communities currently underutilize these natural defenses.<sup>58</sup>

CBRA will continue to be an effective tool as our Nation looks for common-sense, fiscally responsible ways to preserve our important coastal environment and help mitigate the effects of climate change.

### Map Modernization and the Hurricane Sandy Remapping Project

CBRA is a map-based law, and the official CBRS maps were last comprehensively updated more than 30 years ago with the CBIA of 1990. The 1990s-era maps are now technologically outdated and in some cases difficult to interpret. 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.

Congress recognized the need for modernized CBRS maps and, in the 2000 Coastal Barrier Resources Reauthorization Act (CBRA),<sup>59</sup> directed the Secretary to complete a pilot project to produce digital maps for about 10 percent of the entire CBRS. In the 2006 CBRA,<sup>60</sup> Congress directed the Secretary to finalize the pilot project, prepare digital maps for the remainder of the CBRS, and recommend additions to the CBRS through the

map modernization effort. In 2016, the Service transmitted the final recommended pilot project maps and an accompanying report to Congress. In 2018, Congress adopted most of the pilot project maps through the Strengthening Coastal Communities Act (SCCA),<sup>61</sup> which constituted the largest legislative update to the CBRS maps since 1990.

The Hurricane Sandy Remapping Project marks another significant milestone towards fulfilling the statutory requirement to modernize the entire set of CBRS maps. In fiscal year 2014, the Service was allocated \$5 million through the Department of the Interior's (Department) Hurricane Sandy supplemental disaster appropriations<sup>62</sup> to comprehensively update the CBRS maps for the nine states along the Atlantic coast most affected by the storm: Connecticut, Delaware,<sup>63</sup> Maryland, Massachusetts, New Hampshire, New Jersey,<sup>63</sup> New York (Long Island), Rhode Island,<sup>64</sup> and Virginia. This remapping project includes 42 percent of the total existing CBRS units and 16 percent of the total existing acreage of the CBRS and has resulted in 438<sup>65</sup> recommended units (encompassing 846,918 total acres) for congressional consideration. This project constitutes the largest comprehensive map modernization effort the Service has undertaken since it began modernizing the CBRS maps more than 20 years ago.

This report describes the authority for this project and contains a summary of public comments received and the Service's responses to those comments; methodology used to create the final recommended maps; and

results of the project and transmits the Service's final recommended maps to Congress for its consideration. Appendixes D–K of this report include summaries of the recommended changes and the final recommended maps, which were prepared using the best available data, statutory criteria, objective mapping protocols, and Geographic Information Systems (GIS) applications. The revised maps (depicting recommended additions to, removals from, and reclassifications within the CBRS) will only become effective if adopted by Congress through legislation.

Once the revised maps prepared through this project are adopted by Congress, the entire set of official maps will be depicted on updated base maps that are GIS compatible and easy to use. The revised maps will enhance coastal resiliency and sustainability following Hurricane Sandy by improving compliance with CBRA through more reliable maps and data and by adding other qualifying vulnerable coastal areas to the CBRS. The modernization of the maps is a good-government effort that will make the CBRS maps more accessible and user-friendly for public officials, surveyors, real estate agents, developers, and others planning coastal infrastructure projects, habitat conservation efforts, and flood-risk mitigation measures. The Service looks forward to working with Congress to bring the CBRS into the 21st century and address errors affecting hundreds of private property owners along the Mid-Atlantic and New England coasts through the adoption of the maps prepared through this project.

<sup>1</sup> *Coastal Barrier Resources*, U.S. Code 16 (2018), § 3501(a)(4).

<sup>2</sup> Ronald Reagan, "Statement on Signing the Coastal Barrier Resources Act," October 18, 1982, The Public Papers of President Ronald W. Reagan, Ronald Reagan Presidential Library, accessed April 8, 2021, <https://www.reaganlibrary.gov/archives/speech/statement-signing-coastal-barrier-resources-act>.

<sup>3</sup> 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)).

<sup>4</sup> CBRA authorizes the Secretary to add excess federal property to the CBRS following consultation with the Administrator of the U.S. General Services Administration and a determination that the property (or a portion of it) constitutes an undeveloped coastal barrier (16 U.S.C. § 3503(e)).

<sup>5</sup> 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 5-year review.

<sup>6</sup> *Coastal Barrier Resources*, § 3503 note.

<sup>7</sup> *Coastal Barrier Resources*, § 3503(g).

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- <sup>61</sup> Strengthening Coastal Communities Act of 2018, Public Law 115-358, U.S. Statutes at Large 132 (2018): 5078-5081, <https://www.congress.gov/115/plaws/publ358/PLAW-115publ358.pdf>.
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- <sup>63</sup> Six CBRS units located in New Jersey (Units NJ-02/NJ-02P, NJ-03P, NJ-04, NJ-15P, and NJ-16P) are not included in this project because they were included in a previous technical correction project done by the Service. The revised map for these units was adopted by Congress through Pub. L. 114-314 on December 16, 2016.
- <sup>64</sup> Four CBRS units located in Rhode Island (Units RI-04P, RI-05P, RI-06, and RI-07) are not included in this project because they were included in a previous technical correction project done by the Service. The revised map for these units was adopted by Congress through Pub. L. 113-253 on December 18, 2014.
- <sup>65</sup> This does not include the 25 CBRS units that were reviewed through this project and are recommended for deletion from the CBRS, transfer to another unit, or reclassification to another unit type.

## Chapter 2: Public Review Process

Section 4(c)(2) of the 2006 CBRRA requires that the Secretary prepare a report on the digital CBRS maps after providing an opportunity for the submission and consideration of public comments on the proposed CBRS changes. The public review for this project was conducted in two separate batches. The first batch included proposed revisions to the CBRS boundaries for the following states: Delaware, Massachusetts, New Hampshire, and New Jersey. A 120-day public review and comment period was held from March 12, 2018, through July 10, 2018, for the first batch of states. The second batch included proposed revisions to the CBRS boundaries for the following states: Connecticut, Maryland, New York (Long Island), Rhode Island, and Virginia.<sup>1</sup> A 120-day comment period was held from December 18, 2018, through April 17, 2019, for the second batch of states.

This chapter describes the: (1) notification process for the public comment periods; (2) virtual public meetings; and (3) results of the public comment periods. Significant issues raised during the public comment periods that are relevant to more than one CBRS unit are itemized and addressed in chapter 3. Unit-specific and state-specific comments are itemized and addressed in appendix C. The comments received have been reprinted in their entirety in appendix L, and they may also be viewed at <https://www.regulations.gov>.<sup>2</sup>

### Notification Process for the Public Comment Periods

The Service advised the public that draft revised boundaries were available for public review and comment via notices of availability in the *Federal Register* (published on March 12, 2018,<sup>3</sup> for the first batch of states and December 18, 2018,<sup>4</sup> for the second batch of states). The *Federal Register* notices contained background

and methodology for the project, information about the proposed changes, information on how to view the revised boundaries, instructions for registering for the virtual public meetings, and instructions for submitting comments. The Service also issued a press release for each batch of states to help inform the public of the remapping effort and the opportunity to submit comments and participate in the virtual public meetings.

In March 2018, the Service sent letters requesting comments on the first batch to over 600 stakeholders, including Governors of the affected states, members of Congress for the affected states, Chairs and Ranking Members of the House Natural Resources Committee and Senate Environment and Public Works Committee, officials of other federal agencies, county chief elected officials, local planning officials, local and state floodplain managers, state coastal zone managers, conservation area landowners and managers, nongovernmental organizations (NGOs), and other interested parties. In February 2019, the Service sent letters requesting comments on the second batch to over 650 of the same types of stakeholders.

Additionally, the Service made stakeholder outreach toolkits available to local officials upon request. The outreach toolkits were comprised of project fact sheets, flyers for the virtual public meetings, a “Dear Interested Party” letter that could be distributed to property owners, and other information about the project. Local officials were encouraged to use the toolkit to increase awareness of the project and the virtual public meetings within the community. Some local officials used the toolkits to notify affected property owners of the proposed changes.

The Service did not notify individual private property owners concerning the availability of the proposed boundaries for public review (except for individuals who had specifically contacted us in the past concerning a technical correction request). The primary reason the Service does not take on the role of contacting every property owner in the project area is the significant time and expense of compiling mailing addresses for all affected landowners, and the risk of not having the most accurate and up-to-date contact information, particularly in coastal areas where mailing addresses often differ from property addresses. The Federal Government is also subject to restrictions on the collection of information from the public. The Service, however, is committed to conducting effective and practical outreach to affected stakeholders. For that reason, the Service provided timely notification and tools to local municipalities and deferred to their processes in notifying affected community members because localities have the most accurate and up-to-date information on parcel ownership.

### Availability of Proposed CBRS Boundaries and Related Information

In the past, the Service produced static PDFs of draft maps depicting proposed changes to the CBRS. However, in an effort to reduce costs, increase efficiency, and provide a more user-friendly interface for the public to view the proposed changes, the Service created an online CBRS Projects Mapper to dynamically display the proposed CBRS boundaries against an aerial image or other base map in place of static PDFs of the draft maps. The online mapper creates greater transparency in the public review process, allowing users to zoom in closer and obtain more detailed information about the type of change that is proposed for a specific area (e.g., additions, removals, or



reclassifications).

The CBRS Projects Mapper and unit summaries (containing historical changes and proposed changes to the individual units) were accessible from the Service's website during and after the comment periods. Additional materials posted to the Service's website included fact sheets (for the project as a whole and for each state), summaries of proposed changes to each unit, flyers for the virtual public meetings, and shapefiles of the proposed boundaries (which can be used with GIS software). Public comments were accepted at <https://www.regulations.gov> and by mail.

### Virtual Public Meetings

The Service held virtual public meetings for the states included in the first batch of the project via webcast and teleconference on May 8 (Delaware and New Jersey), and May 9 (Massachusetts and New Hampshire), 2018. Each meeting focused on a different geographic area, provided an overview of CBRA and the project, and offered an opportunity for questions and answers by the public. The meetings were attended by federal, state, and local officials; private individuals; NGOs; and congressional staff. The presentation

slides from these meetings were posted on the Service's website and made available for download.

Three public meetings were scheduled for January 2019 for the states included in the second batch of the project. However, these meetings were cancelled due to a 35-day lapse in federal appropriations affecting the Department. In place of the meetings, a recorded presentation was made available on the Service's website in February 2019, and the public was invited to contact the Service with any questions not answered by the presentation.

### Results of the Public Comment Periods

Throughout the public comment periods, the Service responded to numerous inquiries concerning the project from members of Congress, local and state officials, federal agencies, and the public. We received 192 unique written comments related to this project or the CBRS during the comment periods. An additional 2,224 individuals signed on to a comment letter submitted by the National Audubon Society, for a total of 2,416 comments.<sup>5</sup> Unit-specific comments were received for about 20 percent of the 430 total proposed units in this project. Eight comments received

did not directly relate to this project or the CBRS (e.g., comments about wildfire management) and are not included in the count. Comments unrelated to this project or the CBRS are not addressed in this report.

Comments were received from seven of the nine affected state governments, and these comments were mixed. The Commonwealth of Virginia and the State of Connecticut support expansion of the CBRS. The States of Delaware, New York, and Rhode Island and the Commonwealth of Massachusetts were neutral on expansion; they provided mainly technical comments on specific areas. The State of New Jersey opposes expansion to the CBRS and also provided technical comments on specific areas. No comments were received from the States of New Hampshire or Maryland. The majority of the comments received from NGOs and private individuals expressed support for the expansion of the CBRS. About 7 percent of the comments received were from individual landowners whose property is affected by the project (generally in support of removals, seeking additional removals, or in opposition to additions). See figure 5 and 6 for additional information regarding the comments received.

<sup>1</sup> Though the Massachusetts units were primarily included in the first batch of this project, a minor portion (about three acres) of Rhode Island Unit D01 in the second batch is located in Massachusetts. Therefore, Massachusetts had areas included in both comment periods.

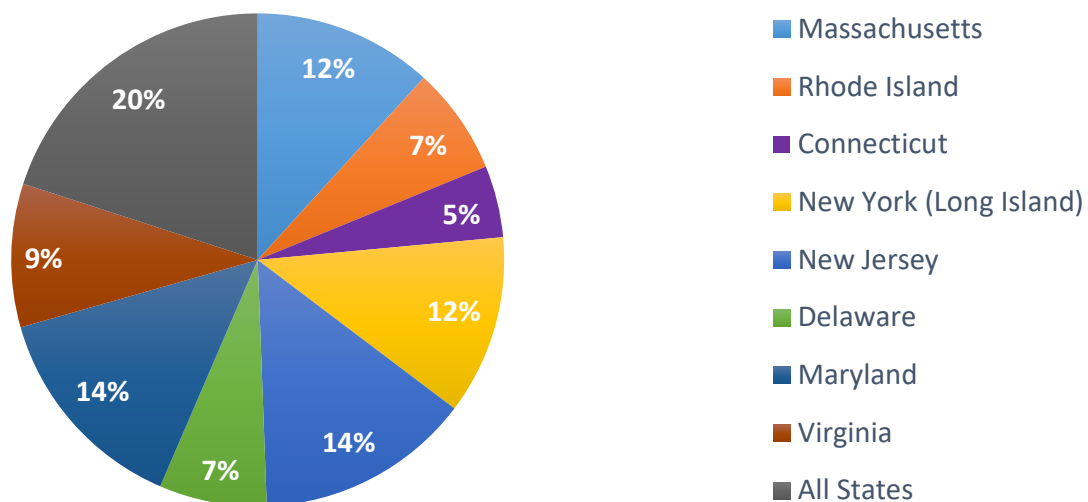
<sup>2</sup> Batch 1 comments are accessible at <https://www.regulations.gov/document/FWS-HQ-ES-2018-0004-0001>. Batch 2 comments are accessible at <https://www.regulations.gov/document/FWS-HQ-ES-2018-0034-0001>.

<sup>3</sup> USFWS, "John H. Chafee Coastal Barrier Resources System; Hurricane Sandy Remapping Project for Delaware, Massachusetts, New Hampshire, and New Jersey," *Federal Register* Vol. 83, no. 48 (March 12, 2018): 10739-10747, <https://www.federalregister.gov/documents/2018/03/12/2018-04889/john-h-chafee-coastal-barrier-resources-system-hurricane-sandy-remapping-project-for-delaware>.

<sup>4</sup> USFWS, "John H. Chafee Coastal Barrier Resources System; Hurricane Sandy Remapping Project for Connecticut, Maryland, Massachusetts, New York, Rhode Island, and Virginia," *Federal Register* Vol.83, no. 242 (December 18, 2018): 64861-64869, <https://www.federalregister.gov/documents/2018/12/18/2018-27322/john-h-chafee-coastal-barrier-resources-system-hurricane-sandy-remapping-project-for-connecticut>.

<sup>5</sup> The National Audubon Society submitted a written comment letter via [www.regulations.gov](https://www.regulations.gov) that was accompanied by a spreadsheet containing 107 unique comments from individuals and 2,224 additional names of people who supported the Audubon Society's comments but did not provide unique comments.

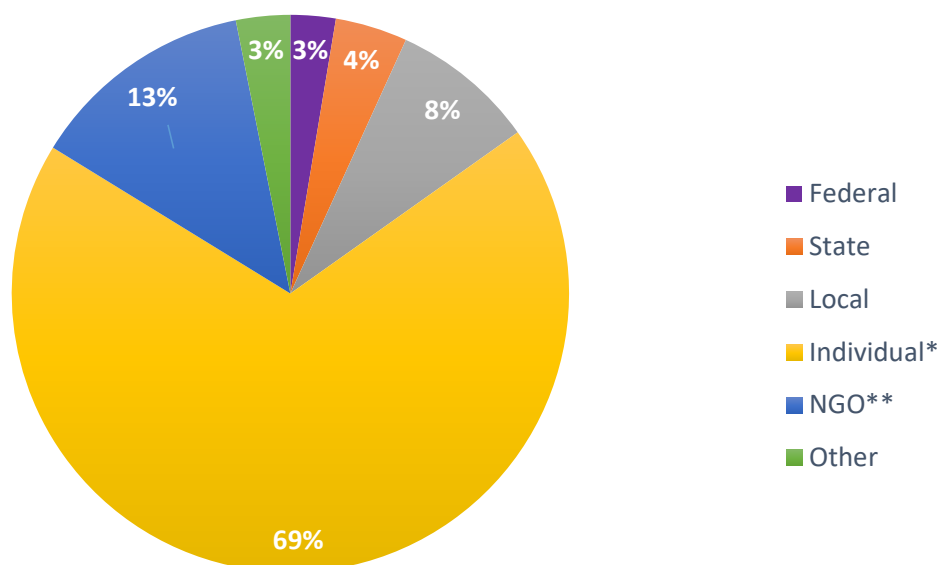
### Percentage of Comments Received by State\*



\*No comments were received for the State of New Hampshire

Figure 5. Percentage of comments received concerning each state.

### Percentage of Comments by Commenter Type



\*Includes unique written comments from 107 individuals that were collected and submitted by the National Audubon Society

\*\*A written comment from the National Audubon Society was accompanied by a spreadsheet containing names of 2,224 additional people who supported their comments. These 2,224 individuals are not included in this pie chart

Figure 6. Percentage of comments by commenter type.

# Chapter 3: Summary of Public Comments and Service Responses

Section 4(c)(3)(B) of the 2006 CBRRA requires that this report contain a summary of the comments received from Governors, other government officials, and the public regarding the digital maps. This chapter contains a summary of the substantive overarching comments received during the public comment periods for this project and the Service's responses to those comments. [Table 1](#) provides summary information regarding these issues. Comments that are specific to individual CBRS units in this project or relevant to only one state are addressed in appendix C. Copies of the comments received during the public review periods are found in appendix L. Comments received during the comment period that are unrelated to this mapping project or the CBRS are not addressed in this report.

## (1) Support for Map Modernization and Expansion of the CBRS

**Comments Received:** The Service received comments in support of the CBRS, map modernization, and in some cases expansion of the CBRS from: the Commonwealth of Virginia; the Massachusetts Office of Coastal Zone Management; the Town of Southampton, New York; Thomas B. Evans, Jr. (former member of Congress and one of the coauthors of the 1982 CBRA); and several NGOs, including the American Littoral Society, American Flood Coalition, Association of State Floodplain Managers, Association of State Wetland Managers, R Street Institute, Chesapeake Bay Foundation, Connecticut Fund for the Environment/Save the Sound, Environmental Defense Fund, Environmental Advocates of NY, National Wildlife Refuge Association, The Nature Conservancy, Natural Resources Defense Council,

National Audubon Society, Audubon Maryland–DC, Audubon Connecticut, Audubon New York, New Jersey Audubon, Monmouth County Audubon Society, The Pew Charitable Trusts, Reinsurance Association of America, Save the Bay, The National Wildlife Federation, Florida Wildlife Federation, Delaware Nature Society, Surfrider Foundation, Theodore Roosevelt Conservation Partnership, and Southern Environmental Law Center. Additionally, 2,331 individual supporters of the National Audubon Society urge the Service to recommend that Congress enact legislation adopting the changes (including expansions) to the CBRS identified in the Hurricane Sandy Remapping Project.

Many of these organizations specifically commented that they supported the map modernization process. One commenter indicated that modernized maps make it clearer which areas are impacted by

**Table 1. Summary of Substantive Overarching Comments and Responses**

<i>Number</i>	<i>Issue</i>	<i>Page number</i>
1	<a href="#">Support for Map Modernization and Expansion of the CBRS</a>	13
2	<a href="#">Multiple Layers of Protection on Areas within the CBRS</a>	14
3	<a href="#">Extending the CBRS to Include Marsh and Wetland Migration Corridors</a>	14
4	<a href="#">Inclusion of Areas of Limited Flood Risk within the CBRS</a>	14
5	<a href="#">Proposed Legislative Amendments to CBRA's Exceptions</a>	15
6	<a href="#">Modification of System Unit Designations to Facilitate Shore Protection Projects</a>	16
7	<a href="#">Designation of Aquatic Ecosystems as OPA to Facilitate Restoration Projects</a>	17
8	<a href="#">Potential for Reclassifying OPAs to System Units in the Future</a>	18
9	<a href="#">National Environmental Policy Act Compliance for Proposed Additions to the CBRS</a>	19
10	<a href="#">Notification of CBRS Boundary Modification to All Affected Property Owners</a>	19
11	<a href="#">Effects on Flood Insurance for Properties Newly Mapped within the CBRS</a>	19
12	<a href="#">CBRA and Projects Involving Sand Mining and Beach Nourishment</a>	21
13	<a href="#">Subjectivity of CBRA Consultations</a>	22
14	<a href="#">Living Shoreline and Tidal Marsh Restoration Projects in the Vicinity of CBRS Units</a>	22
15	<a href="#">CBRA Consistency for Projects under the Coastal Zone Management Act</a>	23
16	<a href="#">Aquaculture within the CBRS</a>	23



CBRA, clarifying eligibility for the NFIP and federal recovery grants following disaster declarations. Commenters noted their support for the expansion of the CBRS as a common-sense tool to disincentive development and redevelopment in areas subject to repeated flooding and intense storms, particularly in light of ongoing sea-level rise and climate change that is exacerbating those issues. Commenters acknowledged the reduced intensity of development in CBRS areas serves to save lives, preserve the storm protection value of coastal barrier areas, save taxpayer dollars, and conserve important habitat for fish and wildlife.

The Service also received comments from local and state officials in New Jersey and the Corps in opposition to the expansion of the CBRS. Those comments are addressed in issues 2, 6, and 7 and in appendix C (for unit-specific issues).

**Service Response:** The Service agrees that CBRA has been effective in reducing the intensity of development within the CBRS and serves to save lives, preserve the storm protection value of coastal barrier areas, save taxpayer dollars, and conserve important habitat for fish and wildlife. The Service concurs that modernizing the CBRS maps has many benefits. 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. 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.

## (2) Multiple Layers of Protection on Areas within the CBRS

**Comments Received:** The Service received comments from state and local officials in New Jersey questioning the need for expansion of the CBRS units in wetlands, marshes, estuaries, inlets, and nearshore waters that are already protected through various state laws, zoning ordinances,

planning and management programs, and regulations. The commenters state that new CBRS designations are redundant and unnecessary due to the protection of these areas by state and local governments.

**Service Response:** 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.<sup>1</sup> All other qualifying 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.<sup>2</sup>

The Service contends that the inclusion of areas within the CBRS gives them a distinct (and in some cases an additional) layer of protection that serves to discourage future development. Additionally, the findings of a study published through *PLOS ONE* in 2020 indicate that “while [CBRA] and other protections are independently associated with reductions in development and development intensity, when parcels have both types of policies applied, they experience even lower development intensity on average.”<sup>3</sup>

The Service recommends that areas subject to certain regulations and/or zoning designations (e.g., areas of special environmental concern, inlet hazard areas, dune districts, setbacks) continue to be included within System Units of the CBRS.

## (3) Extending the CBRS to Include Marsh and Wetland Migration Corridors

**Comments Received:** Several conservation organizations (including the Southern Environmental Law Center, the National Audubon Society, Audubon Connecticut, and Audubon New York) requested that the Service explore extending the CBRS to include marsh and wetland migration corridors, which are areas that are projected to become salt marsh in the future as sea levels rise and current upland and wetlands areas become inundated. Commenters indicated that it is important to reduce development

pressures in these areas to maintain room for salt marshes to migrate.

**Service Response:** The impacts of sea-level rise and storm surge due to climate change will greatly increase the risk associated with developing coastal barriers and increase the value of these areas as fish and wildlife habitat and cost-effective buffers to protect mainland communities against coastal storm damage. CBRA removes the federal financial incentive to develop ecologically sensitive and unstable coastal barrier areas (i.e., by restricting most new federal funding for flood control projects, disaster assistance, and flood insurance). The Service has a mandate to make recommendations to Congress for expansions to the CBRS.<sup>4</sup> Consistent with the statutory purposes, the Service considers the means and measures by which the long-term conservation of these areas could be achieved.<sup>5</sup> The Service may explore changes that could be made in future mapping of the units to address the migration of wetlands (part of the associated aquatic habitat of coastal barriers) inland due to climate change and sea-level rise (see [figure 7](#)). However, the Service did not consider this concept in the preparation of the final recommended maps included in appendixes D–K of this report.

## (4) Inclusion of Areas of Limited Flood Risk within the CBRS

**Comments Received:** Several commenters requested that areas be removed from (or not added to) the CBRS due to their limited flood risk, no known history of flooding, and/or flood and erosion control infrastructure (e.g., bulkheads). In some cases, commenters noted that specific properties are not within a FEMA mapped Special Flood Hazard Area (SFHA) and therefore should not be included within the CBRS.

**Service Response:** The SFHAs mapped on FEMA's Flood Insurance Rate Maps (FIRMs) are areas that have a 1-percent annual chance of flooding in a given year; and these areas are designated for flood insurance rating purposes. FIRMs “do not provide a depiction of the overall flood risk that includes the impacts of more intense events.”<sup>6</sup> Areas that are

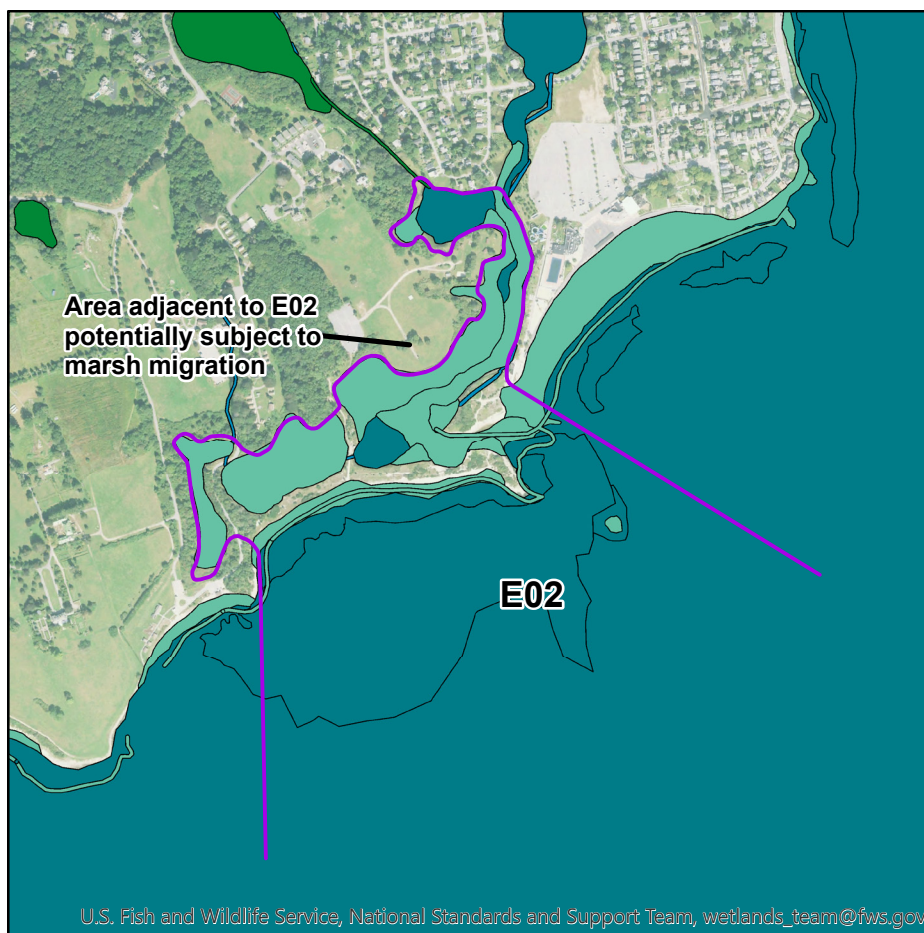


Figure 7. An area adjacent to Connecticut Unit E02 that is not currently wetlands but may be subject to marsh migration. The National Wetlands Inventory, which delineates the extent and classification of wetlands in the U.S., is depicted as blue and green shaded polygons.

not mapped within the SFHA may still be vulnerable to storm surge.<sup>7</sup> There is no direct relationship between the SFHAs mapped on FEMA's FIRMs and the CBRS boundaries; areas are not required to be in an SFHA or have a history of flooding to be included within the CBRS (see figure 8). Additionally, given the natural hazards that generally affect coastal barrier areas, erosion control structures (e.g., bulkheads and revetments) are commonly constructed throughout the CBRS. The presence of such structures does not preclude CBRS designation and is not grounds for removal from the CBRS.

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 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).<sup>8</sup>
- (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 from the CBRS unless there is clear and compelling evidence that an error in boundary delineation was made.

#### (5) Proposed Legislative Amendments to CBRA's Exceptions

**Comments Received:** Several communities in New Jersey, the New Jersey Department of Transportation, and the New Jersey Department of Environmental Protection (NJ DEP) submitted comments requesting that CBRA's exceptions in section 6 of CBRA (16 U.S.C. § 3505) be amended to allow federal funding for an expanded array of activities. The comments requested the following exception amendments:

- federal funding of beach nourishment projects for protection of life and property;
- federal funding of coastal resiliency projects;
- federal funding of preexisting waterfront structures such as bulkheads, docks, and piers in a declared emergency;
- no time limit on federal funding for debris and sediment removal in an emergency;
- federal funding for maintenance dredging of state navigable boating channels; and



- federal flood insurance or disaster assistance of pre-existing structures and properties that have been included within the CBRS.

The Service also received comments from some organizations in opposition to CBRA amendments that would allow for sand mining within the CBRS to support beach nourishment projects. Those comments are addressed in issue 12.

**Service Response:** Only Congress has the authority to make changes to the statute itself. The Secretary of the Interior, through the Service, is responsible for administering CBRA, which includes interpreting CBRA's limitations and exceptions through the consultation process. The Service does this in a manner that is consistent with the act's statutory language and legislative history.

The prohibitions and exceptions under CBRA<sup>9</sup> have not been amended since 1990, when the law was reauthorized and the CBRS was significantly expanded through the CBIA. Congress subsequently reauthorized the CBRA twice without any clarification to the prohibitions or exceptions.

### (6) Modification of System Unit Designations to Facilitate Shore Protection Projects

**Comments Received:** The Service received comments from the Corps' North Atlantic Division and Philadelphia District encouraging modification of the current System Unit designations so that it can continue to protect existing development and human lives through beach nourishment projects while protecting natural resources. The North Atlantic Division requested that additions to the CBRS be designated as OPA rather than System Unit, as OPAs restrict only federal flood insurance. Additionally, the State of New Jersey commented that the proposed mapping changes for the CBRS units in New Jersey threaten the ability of the NJ DEP and the Corps to construct and/or maintain federal projects that protect New Jersey from natural disasters. Coastal storm risk reduction and environmental restoration projects along the New Jersey coast are often conducted in partnership with the Corps and the municipality in which the project is occurring. Even projects that are operated and maintained by the State of New Jersey and/or a municipality may be eligible for federal funding when there is

damage caused by a federally declared disaster. The commenters strongly encouraged the Service to reconsider the proposed changes in light of the impacts to projects and the increase in risk to human life and properties.

**Service Response:** Section 4(c)(3) (D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>10</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat and identifies appropriate removals. When identifying additions to the CBRS, the Service considers existing on-the-ground projects to the extent that they impact the current development status of a coastal barrier. The additions to and removals from the CBRS that the Service recommended through this project are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>11</sup> for this project).

Regarding the classification of areas as OPA rather than System Unit, the Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of an OPA)<sup>12</sup> at the time it is (or was) first included within the CBRS (see figure 9).<sup>13</sup> Therefore, areas that are not predominantly held for conservation and/or recreation are usually classified as System Units.

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization),

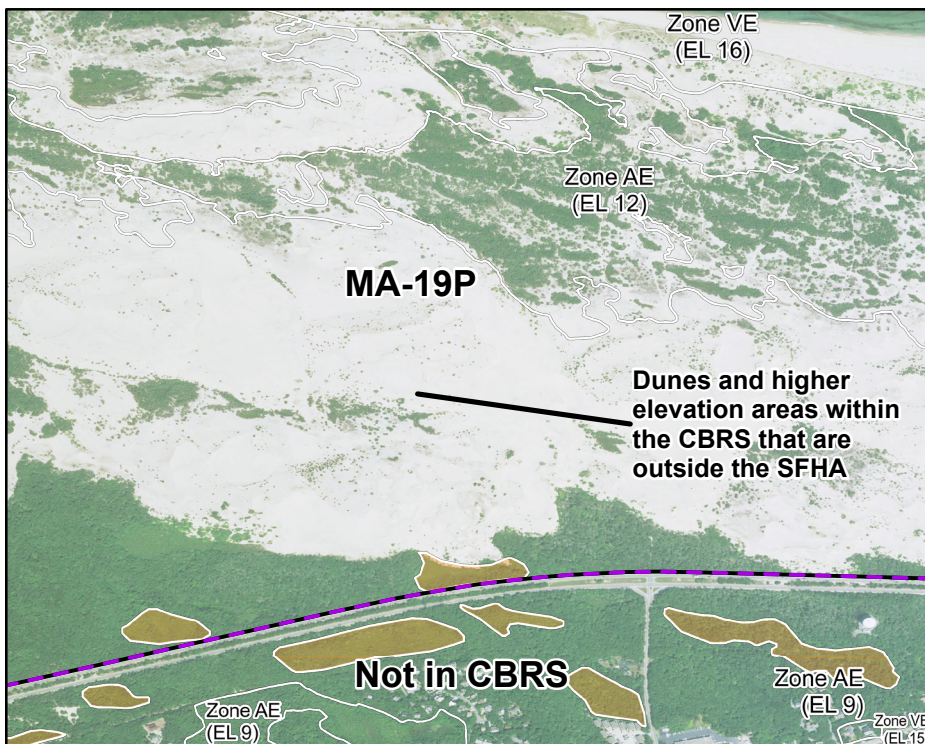


Figure 8. Massachusetts Unit MA-19P includes a large dune field and areas of higher elevation that are not within the Special Flood Hazard Area (SFHA). The SFHA, which is depicted as the blue shaded areas and labeled with flood zone information, was obtained from FEMA's National Flood Hazard Layer.



and they are each dependent upon a number of factors. Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>14</sup> for assistance with CBRA compliance.

### (7) Designation of Aquatic Ecosystems as OPA to Facilitate Restoration Projects

**Comments Received:** The Corps' North Atlantic Division (whose jurisdiction includes the coastal areas from Maine to Virginia) commented that its mission areas include restoration of aquatic habitats such as marsh islands, oyster reefs, and submerged aquatic vegetation. The Corps noted that there is an exception in CBRA 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. However, this exception also requires projects to be consistent with the purposes of CBRA, which include minimizing the loss of human life. The Corps noted that the possibility exists that not all aquatic ecosystem restoration projects will minimize the loss of human life.

The Corps also noted that additions to System Units (particularly in Maryland and Virginia) may limit opportunities for aquatic habitat restoration. The Corps stated that it supports the use of OPAs, which carry restrictions on flood insurance without precluding restoration projects for the protection of coastal communities. The Corps requested that additions to the CBRS be designated as OPAs rather than System Units, as OPAs restrict

only federal flood insurance and would not affect restoration projects.

**Service Response:** There is an exception under CBRA for the enhancement of fish and wildlife resources and habitats affecting System Units.<sup>15</sup> That exception also requires projects to be consistent with the purposes of CBRA, which are

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...by restricting future Federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers, by establishing the John H. Chafee 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.<sup>5</sup>

It is the Service's opinion that federal agencies need not demonstrate that habitat restoration projects specifically reduce the loss of human life to meet the requirements of the exception. The intent of the legislation is to minimize loss of human life by restricting future expenditures and

financial assistance that have the effect of encouraging development of coastal barriers. If it can be shown that the habitat restoration project is not likely to result in increased development of coastal barriers, and therefore there is no additional risk to human life resulting from the restoration project, then it may satisfy the "minimize loss of human life" condition under the exception.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>10</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The additions to the CBRS that the Service recommended through this project are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>11</sup> for this project). Regarding the designation of areas as OPA rather than System Unit, the Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of

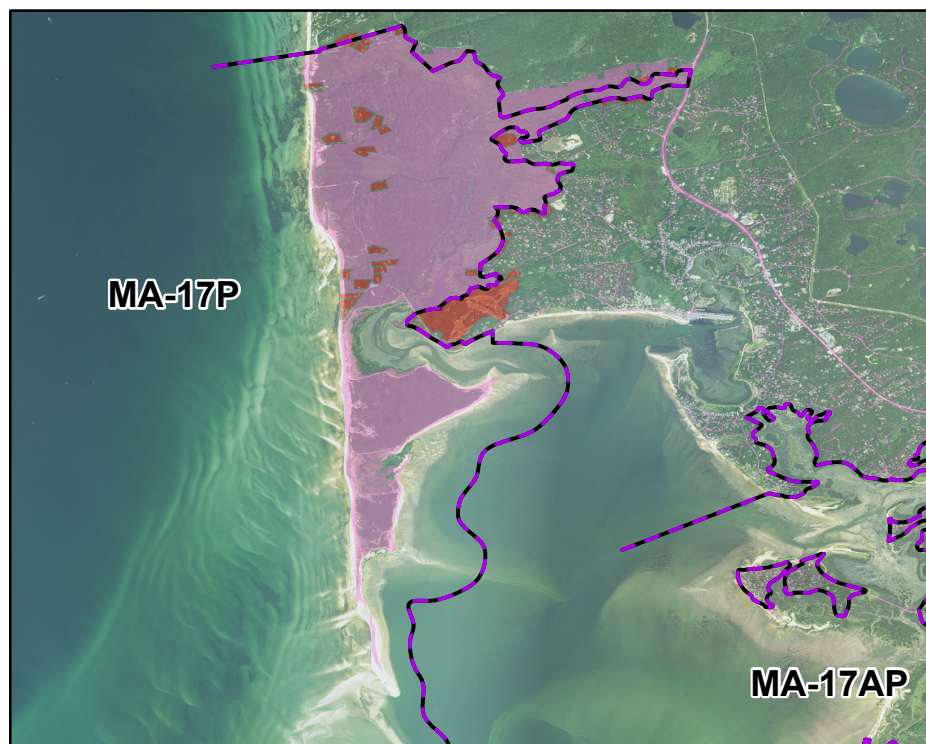


Figure 9. The area within Massachusetts Unit MA-17P is predominantly held for conservation and/or recreation (shaded in pink). Private property is shaded in red.

an OPA)<sup>12</sup> at the time it is (or was) first included within the CBRs. Therefore, areas that are not predominantly held for conservation and/or recreation are usually designated as System Units. It is important to note that most changes to the CBRs, including reclassifications from OPAs to System Units (or vice versa), require congressional action to become effective.

The Service recognizes that System Unit designations may restrict federal expenditures for coastal storm risk management projects. The Corps stated that adding more acreage to OPAs and revising designations of portions of System Units to OPAs is an appropriate avenue of preventing development along vulnerable coastlines, through prohibition of federal flood insurance. However, a study published in the journal *Earth's Future* in 2016 found indications of a positive feedback between nourishment and development that compounds coastal risk.<sup>16</sup> This study completed a comprehensive, parcel-scale analysis of all shorefront single-family homes in the State of Florida and found that houses in nourishing zones are significantly larger and more numerous than in nonnourishing zones. This result suggests that beach nourishment used to protect existing structures and communities may attract further development in vulnerable areas, thus requiring greater need for future sand replenishment or more drastic stabilization measures.

### **(8) Potential for Reclassifying OPAs to System Units in the Future**

**Comments Received:** The Service received comments from the Corps' Philadelphia District and state officials in New Jersey and Delaware stating concerns about the potential for reclassifying OPAs to System Units in the future. The commenters state that due to the limitations on federal funding, any future reclassification of areas to System Unit would have an adverse impact on beneficial projects (e.g., construction of upland islands, dunes, and storm surge berms for resiliency purposes). If OPAs are converted to System Units in the future, they ask that an exception

be made to allow federal funding for resiliency projects undertaken in these areas.

**Service Response:** The CBRs include two types of units, System Units and OPAs. System Units contain areas that were relatively undeveloped and predominantly privately owned at the time of designation, though they may also contain areas held for conservation and/or recreation. Most new federal expenditures and financial assistance, including federal flood insurance, are prohibited within System Units. OPAs are predominantly comprised of conservation and/or recreation areas such as national wildlife refuges, state and national parks, and local and private conservation areas, though they may also contain privately owned areas not held for conservation and/or recreation. The only federal spending prohibition within OPAs is on federal flood insurance, while System Units carry CBRA's full suite of restrictions on federal expenditures.

In carrying out this project, the Service considered the qualifying coastal barrier feature and generally delineated the boundaries of both System Units and OPAs using the same protocols, criteria, and guiding principles. The Service then determined the unit type classification (for proposed additions) and reclassification (for existing units) in accordance with the protocols outlined in chapter 4 of this report and the March 12, 2018, *Federal Register* notice,<sup>11</sup> which described the methodology for this project. The unit type classification (i.e., System Unit versus OPA) is based on whether the unit was predominantly held for conservation and/or recreation at the time of designation. However, the Service accommodates requests from landowners for voluntary additions to the CBRs as well as reclassifications from OPA to System Unit.<sup>17</sup>

During the data mining and research phase of the project, the Service conducted outreach with conservation/recreation area landowners and/or managers in certain cases where input was needed regarding the CBRs unit type classification for a particular conservation and/or recreation area. If the landowners did not concur with System Unit status of an area

that met the definition of the term "otherwise protected"<sup>12</sup> at the time of System Unit designation (either for existing System Units or proposed additions), the conservation/recreation area was classified as OPA to the extent practicable. Where landowners concurred with System Unit status, the conservation/recreation area was proposed for reclassification (or addition) to a System Unit. However, some of the proposed reclassifications from OPA to System Unit (or new additions of certain conservation/recreation areas to System Units) that were originally identified through this project are no longer recommended because of input received from the property owners during the comment periods for the project. Changes between the proposed and final recommended boundaries for specific areas are noted in appendixes D–K of this report.

In the future, the Service will continue to apply objective mapping protocols, statutory criteria, and a set of guiding principles for assessing modifications to the CBRs.<sup>18</sup> It is important to note that most changes to the CBRs, including reclassifications from OPAs to System Units, require congressional action to become effective.

Regarding federal funding for resiliency projects in System Units, federal expenditures and financial assistance for erosion control are generally prohibited under CBRA. The Service cannot make special exceptions for resiliency projects undertaken in areas that are reclassified from OPA to System Unit, but will continue to evaluate whether such projects meet the criteria of the existing CBRA exceptions for habitat restoration and nonstructural shoreline stabilization.<sup>19</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>14</sup> for assistance with CBRA compliance.



## (9) National Environmental Policy Act Compliance for Proposed Additions to the CBRS

**Comments Received:** Three communities in New Jersey commented that the Service has a responsibility to provide an analysis of impacts of the specific proposed changes to the CBRS in Stone Harbor, New Jersey, on the natural, cultural, and social-economic environments. The comment letter also requests an evaluation of alternatives to the proposed action and consultation with the communities under 40 CFR 1506.2 (which is intended to eliminate duplication between the National Environmental Policy Act [NEPA] and comparable state and local requirements). The commenters contend that without this full analysis, the proposed action will result in adverse consequences.

**Service Response:** Since 1982 when CBRA was enacted, the Service has completed two Environmental Impact Statements, which analyzed the environmental impacts of the actions related to the creation and the expansion of the CBRS.<sup>20</sup> The Service's recommendations for additions to, removals from, and reclassifications within the CBRS that are prepared through the comprehensive map modernization process pursuant to the 2006 CBRRA and the environmental impacts of such changes to the CBRS are substantively the same as those examined in previous NEPA documents; therefore, this CBRS remapping project does not warrant additional analysis to comply with NEPA. There have been no significant changes in the criteria and mapping protocols used by the Service to prepare these recommendations to Congress since CBRA was enacted in 1982.

## (10) Notification of CBRS Boundary Modification to All Affected Property Owners

**Comments Received:** The Service received comments from local officials in New Jersey and New York requesting that all property owners of parcels affected by this remapping project be notified of the proposed changes.

**Service Response:** The Service notified over 1,250 stakeholders (including members of Congress; Governors; federal, state, and local officials; and NGOs) in the project area to inform them of the opportunity to provide comments on the proposed boundaries and participate in virtual public meetings. Additionally, the Service made stakeholder outreach toolkits available to local officials upon request. The outreach toolkits were comprised of: project fact sheets, flyers for the virtual public meetings, a "Dear Interested Party" letter that could be distributed to property owners, and other information about the project. Local officials were encouraged to use the toolkit to increase awareness of the project and the virtual public meetings within the community. The Service sent out 14 toolkits to stakeholders who requested them (mostly local governments), several of which used the toolkits to notify affected property owners of the proposed changes.

The Service did not notify individual private property owners concerning the availability of the proposed boundaries for this project (except for those individuals who specifically contacted us in the past concerning a technical correction request). The primary reason the Service does not take on the role of contacting every property owner in the project area is the significant time and expense of compiling mailing addresses for all affected landowners, and the risk of not having the most accurate and up-to-date contact information, particularly in coastal areas where mailing addresses often differ from property addresses. The Federal Government is also subject to restrictions on the collection of information from the public. The Service, however, is committed to conducting effective and practical outreach to affected stakeholders. For that reason, the Service provided timely notification and tools to local municipalities and deferred to their processes in notifying affected community members because localities have the most accurate and up-to-date information on parcel ownership.

## (11) Effects on Flood Insurance for Properties Newly Mapped within the CBRS

**Comments Received:** The Service received the following questions about flood insurance from a state official in Delaware:

- (A) Will properties newly mapped into the CBRS still be eligible for federal flood insurance?
- (B) How will an insurance agent, surveyor, or floodplain administrator know whether an area is newly mapped within the CBRS or has been within the CBRS since its original designation?
- (C) Will FEMA's FIRMs have a new designation date?

### **Service Response:**

- (A) Federal flood insurance is administered through FEMA's NFIP. CBRA prohibits new federal flood insurance within the CBRS, though it is still available for buildings constructed (or permitted and under construction) before the area's flood insurance prohibition date (the date on which the prohibition on federal flood insurance within the area took effect). However, if an existing insured structure within the CBRS is substantially improved or damaged after the prohibition date, the federal flood insurance policy cannot be renewed. Therefore, existing structures added to the CBRS through the Hurricane Sandy Remapping Project would remain eligible for federal flood insurance until they are substantially improved or damaged. If an undeveloped portion of a property is included within the CBRS but structures on that property are located completely



outside of the CBRS, then the property owner would not be prohibited from obtaining federal flood insurance on those structures (see [figure 10](#)).

- (B) In 2018, the Service released a new CBRS prohibitions geospatial dataset that contains flood insurance prohibition dates for each area within the CBRS, and System Unit establishment dates for each area within a System Unit. These data show how CBRS areas have grown over time and are available in a variety of formats.<sup>21</sup> This dataset is also available through the CBRS Mapper on our website. New areas added to the CBRS through legislation adopted by Congress will be labeled with a new flood insurance prohibition date (the date of the enabling legislation) in the CBRS Mapper (see [figure 11](#)).

Additionally, there is a CBRS Validation Tool in the CBRS Mapper that allows users (including but not limited to property owners and buyers; insurance and real estate agents; lenders; flood determination providers; floodplain managers; engineers and surveyors; and local, state, and federal officials) to create their own CBRS documentation for specific properties. This documentation indicates whether a specific area is within or outside of the CBRS and provides any pertinent dates needed for flood insurance and other purposes (see [figure 12](#)). Additional information is available on the Services website at: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>.

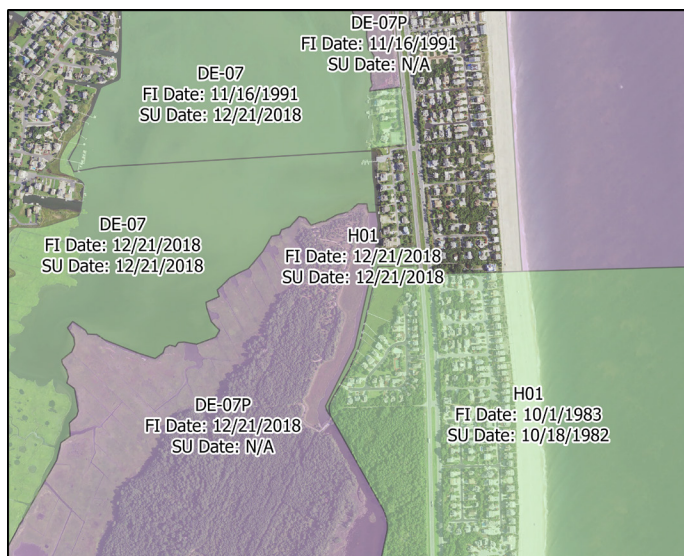
- (C) The official CBRS maps are maintained by the Service and are the definitive source for the location of the CBRS boundaries. Because of CBRA's restrictions on federal flood insurance, CBRS boundaries and flood insurance prohibition dates have also historically been shown on FEMA's FIRMs, but, as of 2019, they are no longer shown on static legacy FIRMs. The most up-to-date CBRS boundaries and prohibition date data can be found on the Service's CBRS Mapper and in CBRS digital data sources. While the CBRS boundaries and prohibition dates have been removed from FEMA's FIRMs, CBRS data continue to be delivered via Web Map Service (WMS) in FEMA's National Flood Hazard Layer (NFHL) Viewer.

We notify local officials (including building officials, floodplain administrators, and elected officials) and other stakeholders when revised CBRS maps are made effective. Additionally, any interested parties (e.g. insurance agents, surveyors) can also subscribe to the Service's electronic mailing listserv which provides subscribers with updates when there are changes to the boundaries of the CBRS or other news items related to CBRA. For more information on subscribing, please visit <https://www.fws.gov/program/coastal-barrier-resources-act/contact-us>.



*Figure 10. Undeveloped portions of several Town of Westport property parcels (shown in yellow) are recommended for addition to Massachusetts Unit C34. A structure on a property that is partially within the CBRS remains eligible for federal flood insurance so long as the structure itself is outside of the unit.*

Figure 11. Public Law 115-358 dated December 21, 2018, added new areas to Delaware Units DE-07 and DE-07P, and these areas are labeled in the CBRS Mapper with the 2018 flood insurance prohibition date (FI Date) and System Unit date (SU Date) if applicable.



## (12) CBRA and Projects Involving Sand Mining and Beach Nourishment

**Comments Received:** The Service received several comments regarding CBRA and projects involving sand mining and beach nourishment. Several communities in New Jersey commented that no provision in CBRA prohibits federal funding or financial assistance for projects that remove sand from within a CBRS unit for use in nourishing or replenishing a beach that is not within the CBRS but is located adjacent to a unit. These communities also commented that several of CBRA's exceptions should allow such projects. Comments received from the State of New Jersey also advocate for sand mining to be allowed within the CBRS using federal funds.

Comments were also received from several conservation organizations such as the American Littoral Society, The National Wildlife Federation, Natural Resources Defense Council, New Jersey Audubon, Delaware Nature Society, Florida Wildlife Federation, National Audubon Society, Association of State Floodplain Managers, and Association of State Wetland Managers addressing the use of federal funds for sand mining within the CBRS for beach nourishment projects outside of the CBRS. These organizations are opposed to such activities. The National Audubon Society was also generally opposed to sand mining, dredging, and removal operations, which can have harmful impacts on the coastal environment and wildlife, including significant habitat loss and other negative impacts that threaten fish and wildlife; reduction in the ability of coastal barriers to provide storm surge protection for upland communities; and disruption of sand movement and sand supplies.

These comments all pertain to matters of law and policy rather than CBRS mapping. For additional information, please see the submitted comments, which are reprinted in appendix L of this report.

Figure 12. Documentation from the CBRS Validation Tool in the CBRS Mapper for a structure located within First Landing State Park in Virginia Unit VA-61P.





**Service Response:** CBRA generally prohibits federal expenditures within the CBRS for erosion control or shoreline stabilization projects.<sup>22</sup> However, CBRA also contains limited exceptions to that prohibition.<sup>23</sup> From 1994 through 2019, the Service had advised federal agencies that the CBRA exception for “nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system”<sup>24</sup> could not be applied to the removal of sand from within the CBRS to support beach nourishment projects that occur outside of the CBRS. In October of 2019, the Department revisited its interpretation of this CBRA exception and determined that sand from within the CBRS may be used to nourish beaches outside of the CBRS, provided that the federal funding agency consults with the Service and the project meets the requirements of the exception and is consistent with the purposes of CBRA.<sup>25</sup> In July 2021, the Department reviewed the 2019 interpretation<sup>26</sup> and reinstated the legal interpretation that was in effect from 1994–2019 as the better interpretation of the statutory text based on CBRA’s plain language, structure, and legislative history.<sup>27</sup>

Therefore, federally funded actions and projects that seek to dredge sand from within the CBRS for nonstructural shoreline stabilization outside of the CBRS are not eligible for consideration under the CBRA exception for nonstructural projects for shoreline stabilization. Federal agencies may contact their local Ecological Services Field Office to determine how this interpretation will affect specific projects. Additional information is available in a Frequently Asked Questions document available on our website at: <https://www.fws.gov/media/frequently-asked-questions-nonstructural-shoreline-stabilization-projects>.

There are other exceptions in CBRA that may also apply to dredging and beach nourishment projects. Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service’s local Ecological Services Field Offices. Due to the case-by-case nature of consultations,

the Service cannot provide generalized responses to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>14</sup> for assistance with CBRA compliance.

### (13) Subjectivity of CBRA Consultations

**Comments Received:** The Corps’ Philadelphia District and the NJ DEP commented that the approval for CBRA exceptions through consultation with the Service is subject to individual interpretation and cannot be relied upon by local and state officials to protect existing life and property.

**Service Response:** There are exceptions to CBRA’s limitations on federal expenditures that may be applicable to federally funded projects within the CBRS, and they are each dependent upon a number of factors.<sup>23</sup> The Service strives to be consistent in its interpretation of these exceptions during the consultation process. However, projects have varying impacts on fish and wildlife resources depending upon the circumstances, such as the project location and the specific activities to be undertaken. Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service’s local Ecological Services Field Offices. Project proponents are encouraged to contact the appropriate field office<sup>14</sup> for assistance with CBRA compliance.

The Service has developed a flow chart to assist federal agencies in determining whether a CBRA consultation is necessary and an interagency CBRA consultation template to help facilitate the process. Federal agencies may submit the template and any additional documentation to the appropriate field office to fulfill CBRA’s consultation requirement. Any response from the Service to a CBRA consultation request is in the form of an opinion only and the Service has no authority to prevent the funding agency from undertaking the project. The responsibility for complying with CBRA and the final decision

regarding the expenditure of funds for a particular action or project rests with the federal funding agency. The consultations flow chart, template, and additional information concerning the CBRA consultations process is available on the Service’s website at <https://www.fws.gov/service/coastal-barrier-resources-act-project-consultation>.

### (14) Living Shoreline and Tidal Marsh Restoration Projects in the Vicinity of CBRS Units

**Comments Received:** The Service received comments from the Chesapeake Bay Foundation expressing the expectation that potential living shoreline<sup>28</sup> and tidal marsh restoration projects in the vicinity of existing and proposed CBRS units should be able to receive federal financial support under CBRA. The Foundation believes that such projects would not have the effect of encouraging development and would not be considered as infrastructure under CBRA’s prohibitions. In addition, the Foundation recognizes that such projects would not be prohibited in OPAs.

**Service Response:** CBRA prohibits most new federal expenditures and financial assistance for any purpose within the CBRS, including “the carrying out of any project to prevent the erosion of, or to otherwise stabilize, any inlet, shoreline, or inshore area.”<sup>29</sup> In section 6 of CBRA, there 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, stabilization projects for fish and wildlife habitats, and recreational projects.”<sup>15</sup> There is also an exception for “nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system.”<sup>24</sup> Under each of these exceptions, the project must also be consistent with the purposes of CBRA<sup>25</sup> to be eligible for federal funding. Natural and nature-based measures for shoreline stabilization such as living shorelines that protect and/or enhance habitat may be considered under one or both exceptions. Determinations



regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>14</sup> for assistance with CBRA compliance.

The commenter is correct that there are no CBRA prohibitions affecting federal funding or financial assistance for shoreline stabilization projects and/or restoration projects within OPAs. The only prohibition within OPAs is on federal flood insurance.

### (15) CBRA Consistency for Projects under the Coastal Zone Management Act

**Comments Received:** Three communities in New Jersey commented that they believe that under section 6(a)(6)(C) of CBRA, projects consistent with the Coastal Zone Management Act (CZMA) of 1972 are exempt from CBRA's prohibition on federal expenditures and financial assistance. The commenters add that because beach nourishment projects are entirely consistent with the CZMA, then they must be exempt from CBRA's prohibitions.

**Service Response:** The Service disagrees with this interpretation of the CBRA exception for projects under the CZMA; any project that is consistent with the CZMA is not automatically allowable under CBRA. The exception in section 6(a)(6)(C) of CBRA is for "projects under chapter 2003 of title 54 and the Coastal Zone

Management Act of 1972 (16 U.S.C. § 1451 et seq.)" that are also consistent with the purposes of CBRA.<sup>25</sup> This exception applies specifically to grant programs and other forms of federal expenditures or financial assistance made by the NOAA under the CZMA and does not extend to projects funded by other agencies. Examples of expenditures under the CZMA that may be allowable under this exception (following consultation between NOAA and the Service) include the acquisition of areas for National Estuarine Research Reserves, the construction and maintenance of National Estuarine Research Reserve facilities, and resource management improvement grants. NOAA is responsible for consulting with the Service to determine whether on-the-ground projects and activities that they fund within the CBRS under the CZMA are consistent with the purposes of CBRA prior to committing funds. A fact sheet regarding CBRA and the CZMA is available on the Service's website at: <https://www.fws.gov/cbra/Limitations-and-Exceptions.html>.

### (16) Aquaculture within the CBRS

**Comments Received:** The NJ DEP identified two Aquaculture Development Zones (ADZs) in the offshore portions of existing CBRS areas (see figure 13). ADZs are "unique shellfish lease areas that have been identified for structural aquaculture development,"<sup>30</sup> which streamline the state and federal permitting process required for shellfish. The structural shellfish cultivation activities authorized in ADZs by the permits include, but are not limited to, the use of rack and bag systems, intertidal and floating long lines, cages, trays, and spat collecting devices. The NJ DEP stated that shellfish aquaculture is vital to the economy in New Jersey's coastal communities and is concerned the CBRS designation could impact the ability of shellfish farmers to obtain federal funding for the loss of gear in the event of a storm because of CBRA's limitations on federal expenditures.



Figure 13. Oyster floats in the Choptank River along Maryland's Eastern Shore serve as a floating reef and provide habitat to many fish and invertebrate species.

**Service Response:** When CBRA was enacted, Congress found that coastal barriers and the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters provide “habitats which are essential spawning, nursery, nesting, and feeding areas for commercially and recreationally important species of finfish and shellfish, as well as other aquatic organisms such as sea turtles.”<sup>31</sup> Additionally, Congress declared that one of the purposes of this act was

to minimize...the damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic and Gulf coasts and along the shore areas of the Great Lakes by restricting future Federal expenditures and financial assistance which have the effect of encouraging development of

coastal barriers, by establishing the John H. Chafee 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.<sup>5</sup>

Section 5 of CBRA (16 U.S.C. § 3504) prohibits most new federal expenditures or new financial assistance, as defined in 16 U.S.C. § 3502(3), for any purpose within System Units of the CBRS. Section 6 of CBRA (16 U.S.C. § 3505) contains many different exceptions to CBRA's limitations on federal expenditures; however, there is no exception for the provision of federal financial assistance for aquaculture.

Determinations regarding whether specific projects or actions meet one of

the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. However, the responsibility for complying with CBRA (including determinations regarding whether particular activities meet CBRA's definition of the term “financial assistance”) and the final decision regarding the expenditure of funds for a particular action or project rests with the federal funding agency. Given that the final decision lies with the federal funding agency, we advise the NJ DEP's Bureau of Shellfisheries to initiate discussions regarding this matter with any federal agency that may provide federal funds in this situation for additional guidance. If a federal agency believes that one of CBRA's exceptions does apply, that agency should initiate a consultation with the Service to obtain an opinion.

<sup>1</sup> *Coastal Barrier Resources*, § 3503 note.

<sup>2</sup> 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.” U.S. Department of the Interior, Coastal Barriers Task Force, Preliminary Draft Criteria for Defining and Delineating Protected Coastal Barriers (Washington, D.C.: U.S. Department of the Interior, November 1982).

<sup>3</sup> Kyle Onda et al., “Removal of Federal Subsidies,” 14.

<sup>4</sup> This mandate is found in section 4(c)(3)(D) of the 2006 CBRRA (Pub. L. 109-226).

<sup>5</sup> *Coastal Barrier Resources*, § 3501(b).

<sup>6</sup> “Two Coastal Flood Maps: Flood Insurance Rate Maps vs. Storm Surge Inundation Maps,” Federal Emergency Management Agency, U.S. Army Corps of Engineers, and National Oceanic and Atmospheric Administration, accessed April 21, 2021, [https://www.iwr.usace.army.mil/Portals/70/docs/frmp/FRMP%20Summer%202014/CoastalFloodMapsFactsheet\\_Final.pdf](https://www.iwr.usace.army.mil/Portals/70/docs/frmp/FRMP%20Summer%202014/CoastalFloodMapsFactsheet_Final.pdf).

<sup>7</sup> According to NOAA, storm surge is an abnormal rise in seawater level generated by a storm, over and above the normal predicted astronomical tide; is caused primarily by the strong winds of a storm pushing a huge volume of water onto the shore; and can penetrate many miles inland. Storm surge is a complex phenomenon, and its severity is affected by the storm's intensity, the forward speed and size of the storm, the angle of its approach to the coast, atmospheric pressure, the slope of the ocean bottom, and the shape and characteristics of coastal features such as bays and estuaries. NOAA, “What is storm surge?” National Ocean Service website, last modified February 26, 2021, accessed April 13, 2021, <https://oceanservice.noaa.gov/facts/stormsurge-stormtide.html>.

<sup>8</sup> *Coastal Barrier Resources*, § 3503(g)(1).

<sup>9</sup> *Coastal Barrier Resources*, § 3504 and § 3505.

<sup>10</sup> Coastal Barrier Resources Reauthorization Act of 2005, Public Law 109-226, U.S. Statutes at Large 120 (2006): 381-384, <https://www.congress.gov/109/plaws/publ226/PLAW-109publ226.pdf>.

<sup>11</sup> USFWS, “Remapping Project for Delaware, Massachusetts, New Hampshire, and New Jersey,” 10739-10747.

<sup>12</sup> As defined by the CBIA, the term “otherwise protected” means within the boundaries of an area established under federal, state, or local law or held by a qualified organization (defined under the Internal Revenue Code, 26 U.S.C. § 170(h)(3)), primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. Areas that do not meet the CBIA definition of the term “otherwise protected” include areas zoned or regulated by state or local governments for the purpose of restricting the nature or density of development, but where such regulation does not necessarily reflect the intent of the property owners to protect the area for conservation and/or recreation in perpetuity.

<sup>13</sup> Additional information regarding the Service's protocols for determining CBRS unit type classification is outlined in chapter 4 of this report and the initial *Federal Register* notice (83 FR 10739) for this project.

<sup>14</sup> Field office contact information is available at: <https://www.fws.gov/service/coastal-barrier-resources-act-project-consultation>.

<sup>15</sup> *Coastal Barrier Resources*, § 3505(a)(6)(A).

<sup>16</sup> Scott B. Armstrong et al., “Indications of a Positive Feedback between Coastal Development and Beach Nourishment,” *Earth’s Future* 4 (2016): 626–635, accessed May 18, 2021, <https://doi.org/10.1002/2016EF000425>.

<sup>17</sup> *Coastal Barrier Resources*, § 3503(d).

<sup>18</sup> In 1982, 1985, and 2018, the Department published guidance for delineating CBRS unit boundaries in the *Federal Register* (47 FR 35696 [August 16, 1982]; 50 FR 8698 [March 4, 1985]; and 83 FR 10739 [(March 12, 2018)]). The following Department and Service reports also contain criteria, protocols, and guiding principles for CBRS mapping: 1982 Undeveloped Coastal Barriers: Report to Congress; 1983 Final Environmental Statement: Undeveloped Coastal Barriers; Volume 1 of the 1988 Report to Congress: Coastal Barrier Resources System with Recommendations as Required by Section 10 of Public Law 97-348, the Coastal Barrier Resources Act of 1982; 1988 Final Supplemental Legislative Environmental Impact Statement on the Proposed Changes to the Coastal Barrier Resources System; and 2016 Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.

<sup>19</sup> *Coastal Barrier Resources*, § 3505(a)(6)(A) and (G).

<sup>20</sup> The Department’s two published Environmental Impact Statements are U.S. Department of the Interior, Coastal Barriers Task Force, Final Environmental Statement: Undeveloped Coastal Barriers (Washington, D.C.: U.S. Department of the Interior, May 1983) and U.S. Department of the Interior, Final Supplemental Legislative Environmental Impact Statement on the Proposed Changes to the Coastal Barrier Resources System (Washington, D.C.: U.S. Department of the Interior, 1988).

<sup>21</sup> More information on the available formats may be found at: <https://www.fws.gov/cbra/maps-and-data>.

<sup>22</sup> *Coastal Barrier Resources*, § 3504(a)(3).

<sup>23</sup> *Coastal Barrier Resources*, § 3505.

<sup>24</sup> *Coastal Barrier Resources*, § 3505(a)(6)(G).

<sup>25</sup> The purposes of CBRA are 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 by restricting future federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers and by considering the means and measures by which the long-term conservation of these fish, wildlife, and other natural resources may be achieved. *Coastal Barrier Resources*, § 3501(b).

<sup>26</sup> The 2019 interpretation was reviewed pursuant to Executive Order 13990, “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,” which directs agency heads to “immediately review all existing regulations, orders, guidance documents, policies, and any other similar agency actions promulgated, issued, or adopted between January 20, 2017, and January 20, 2021, that are or may be inconsistent with, or present obstacles to, the policy set forth in section 1 of this order.” Joseph R. Biden Jr., Executive Order 13990, “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,” *Federal Register* 86, no. 14 (January 25, 2021): 7037, <https://www.federalregister.gov/documents/2021/01/25/2021-01765/protecting-public-health-and-the-environment-and-restoring-science-to-tackle-the-climate-crisis>.

<sup>27</sup> Shannon Estenoz, Assistant Secretary for Fish and Wildlife and Parks, to Principal Deputy Director, U.S. Fish and Wildlife Service, “Coastal Barrier Resources Act Section 6(a)(6)(G) Exception” (official memorandum, Washington, DC: Department of Interior, 2021), <https://www.fws.gov/cbra/documents/20210715-CBRA-AS-FWP-Memo-to-FWS-Principal-Deputy-Director.pdf>.

<sup>28</sup> Living shoreline refers to a range of shoreline stabilization techniques which attempt to control erosion and flooding by recreating or enhancing natural shorelines using vegetation and other natural or organic materials either alone or in combination with some type of harder shoreline structure, like oyster reefs, rock sills, or anchored large wood logs.

<sup>29</sup> *Coastal Barrier Resources*, § 3504(a).

<sup>30</sup> NJ DEP, Division of Fish and Wildlife, Shellfish Aquaculture Leasing Policy of the Atlantic Coast Section of the New Jersey Shellfisheries Council (New Jersey Division of Fish and Wildlife, March 2019), 11, accessed May 19, 2021, [https://www.nj.gov/dep/fgw/pdf/marine/shellfish\\_leasing\\_policy\\_atlantic.pdf](https://www.nj.gov/dep/fgw/pdf/marine/shellfish_leasing_policy_atlantic.pdf). This leasing policy is a planning and guidance document designed to assist with the development of policies for managing shellfish aquaculture leases in New Jersey’s Atlantic coastal tidal waters.

<sup>31</sup> *Coastal Barrier Resources*, § 3501(a)(1)(B).



# Chapter 4: Overview of Project Methodology and Results

Section 4(c)(3)(A) of the 2006 CBRRA requires a report that describes the extent to which the boundary lines on the digital maps differ from the boundary lines on the original maps. This chapter provides an overview of the methodology used for this project and summarizes the results of the project including: (1) types of changes to the CBRS boundaries and unit type classifications; (2) preparation of the final recommended maps; and (3) the total number of acres, shoreline miles, and structures affected by the final recommended maps. The final recommended maps and summaries of change for each unit (including acreage, shoreline, and structure change metrics) are provided by state in appendixes D–K. The acreage, shoreline, and structure change metrics for each unit are also provided in appendix B.

## Types of Changes to CBRS Boundaries and Unit Type Classifications

The Service applied statutory criteria, objective mapping protocols, and a set of guiding principles in the preparation of final recommended maps for the CBRS units included in this project. In 1982 and 1985, the Department published guidance for delineating CBRS unit boundaries in the *Federal Register*.<sup>1</sup> The following Department and Service reports also contain criteria, protocols, and guiding principles for CBRS mapping: 1982 *Undeveloped Coastal Barriers: Report to Congress*;<sup>2</sup> 1983 *Final Environmental Statement: Undeveloped Coastal Barriers*;<sup>3</sup> Volume 1 of the 1988 *Report to Congress: Coastal Barrier Resources System*;<sup>4</sup> 1988 *Final Supplemental Legislative Environmental Impact Statement on the Proposed Changes to the Coastal Barrier Resources System*;<sup>5</sup> and 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital*

*Mapping Pilot Project*.<sup>6</sup> The methodology used to prepare the proposed boundaries for this project is described in detail in the 2018 notices of availability the Service published in the *Federal Register*.<sup>7</sup>

The different types of changes recommended through this project include modifications to the CBRS boundaries to reflect geomorphic change; alignment with geomorphic, development, and cultural features; additions to and removals from the CBRS; and modifications to CBRS boundaries in channels. Additionally, CBRS unit type classifications (and reclassifications) were determined according to a standard protocol described in the section titled “CBRS Unit Type Classification.”

## Modifications to Reflect Geomorphic Change

CBRA requires that at least once every five years the Service review the CBRS maps and make modifications to unit boundaries to account for changes caused by natural forces such as accretion and erosion.<sup>8</sup> This type of change can be made by the Service administratively; however, it is also incorporated into ongoing CBRS mapping efforts like this project for efficiency and cost-saving purposes. The boundaries of System Units<sup>9</sup> and OPAs<sup>10</sup> in this project were modified where appropriate to account for natural changes that have occurred since the maps were last updated (see figure 14).

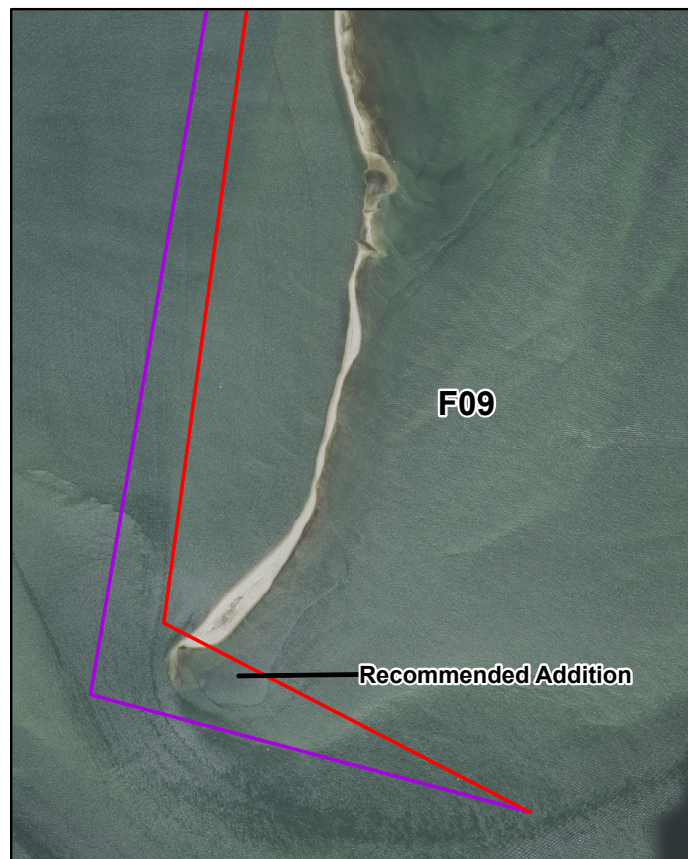


Figure 14. The boundary of the southernmost segment of New York Unit F09, shown in red, was intended to include the sand spit on the southern end of Gardiners Island. Over time, this sand spit has accreted outside the unit, and therefore, the final recommended boundary shown in purple is modified to once again include the entire sand spit within the unit.



### Alignment with Geomorphic Features

CBRS boundaries (or portions thereof) are often intended to follow geomorphic features such as a shoreline or the interface between wetlands and fastlands (land above mean high tide). This mapping convention applies mostly to System Units, though there are cases where OPA boundaries follow geomorphic features. The boundaries of System Units and OPAs in this project were modified where appropriate to align with underlying geomorphic features (see [figure 15](#)).

### Alignment with Development Features

CBRS boundaries (or portions thereof) are often intended to follow development features, such as 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 (see [figure 16](#)). This mapping convention applies mostly to System Units, though there are cases where OPA boundaries follow development features. The boundaries of System Units and OPAs in this project were modified where appropriate to align with development features.

### Alignment with Cultural Features

CBRS boundaries (or portions thereof) are often intended to follow cultural features such as political boundaries (e.g., state, county, and town boundaries) or conservation/recreation area boundaries. Both System Units and OPAs follow cultural features; however, this mapping convention applies especially to OPAs, which often coincide with the boundaries of the underlying conservation and/or recreation areas (although there are exceptions). The boundaries of System Units and OPAs in this project were modified where appropriate to align with cultural features (see [figure 17](#)).

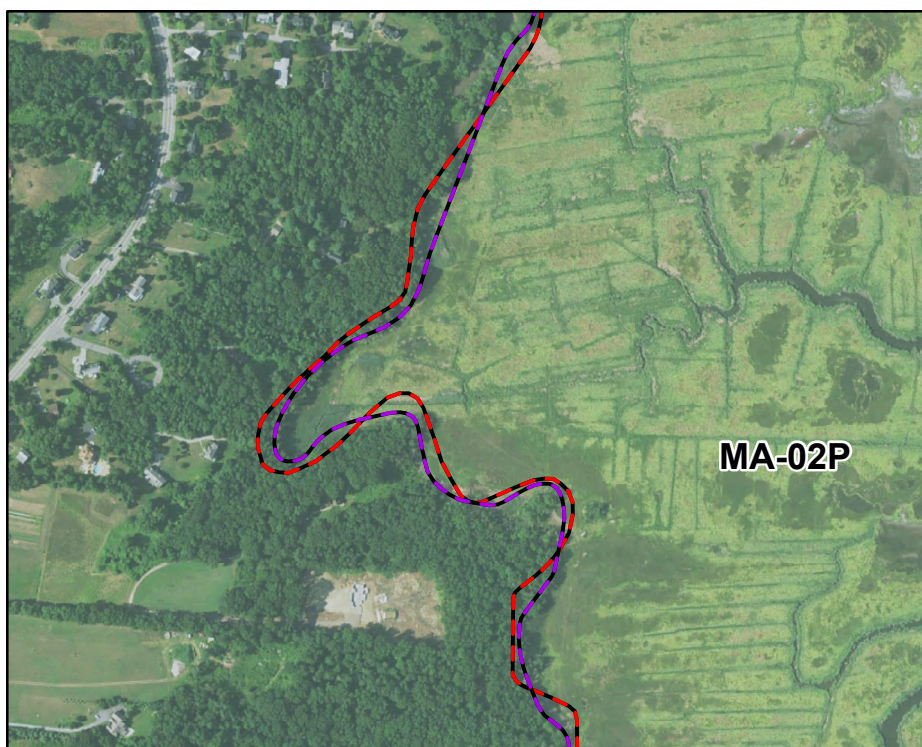


Figure 15. The boundary of Massachusetts Unit MA-02P, shown in red, was intended to follow the wetland/fastland interface in this area. The final recommended boundary shown in purple is modified to align with this underlying geomorphic feature as depicted on the 2018 base map imagery.

### Additions to the CBRS

In carrying out this project, the Service found areas of undeveloped fastland and associated aquatic habitat that are not currently within the CBRS but are appropriate for inclusion (either as additions to existing units or as entirely new units). 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 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 whether inclusion of the area within the CBRS is rationally related to the purposes of 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 or complement of infrastructure on the ground exceed the threshold for the area to be considered undeveloped)<sup>11</sup> and/or
- (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., whether the CBRS boundary lines on the maps precisely follow the underlying features they were intended to follow on the ground).

The boundaries of System Units and OPAs in this project were modified where appropriate to add (either as entirely new units or as additions to existing units) undeveloped fastland and associated aquatic habitat to the CBRS (see [figure 18](#)). Such additions to the CBRS are consistent with section 4(c)(3)(D) of the 2006 CBRRA<sup>12</sup>



which directs the Secretary to make recommendations for expansion of the CBRS. The unit type classification (i.e., System Unit versus OPA) was determined according to the protocol described in the section titled “CBRS Unit Type Classification.”

Additionally, the Service accommodates requests from landowners for voluntary additions to the CBRS or reclassifications of conservation/recreation areas from OPA to System Unit status. Voluntary additions to the CBRS can be made by the Service administratively (16 U.S.C. § 3503(d)); however they are also incorporated into ongoing CBRS mapping efforts like this project for efficiency and cost-saving purposes.

## Removals from the CBRS

In carrying out this project, the Service found areas that were inappropriately included within the CBRS and constitute technical mapping errors. When assessing whether an area may be appropriate for removal from the CBRS, the Service considered 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 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). When assessing whether an area may be appropriate for removal, the Service also considers the following criteria: 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)<sup>11</sup>; and/or

- (3) 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 boundaries of System Units and OPAs in this project were modified where appropriate to remove areas that were inappropriately included within the CBRS and constitute technical mapping errors (see [figure 19](#)).

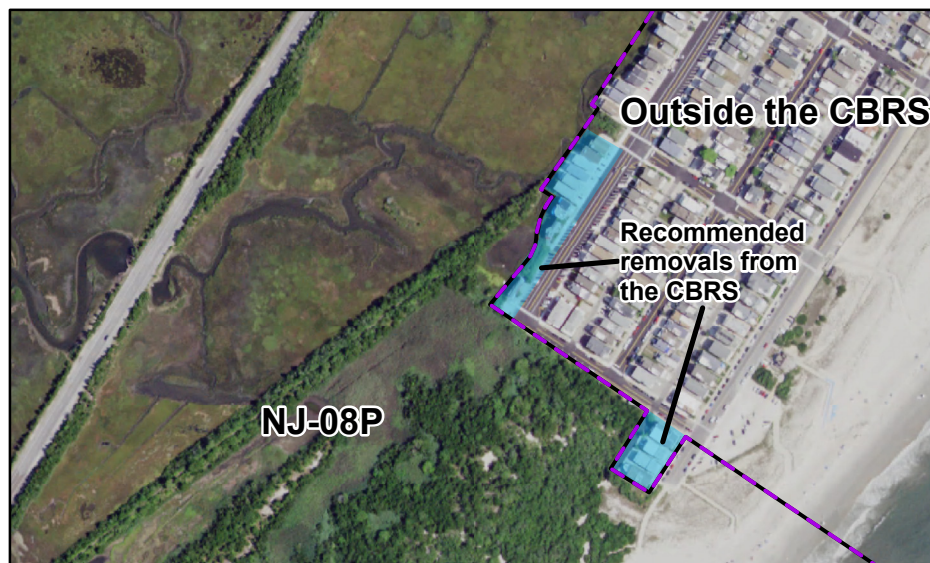
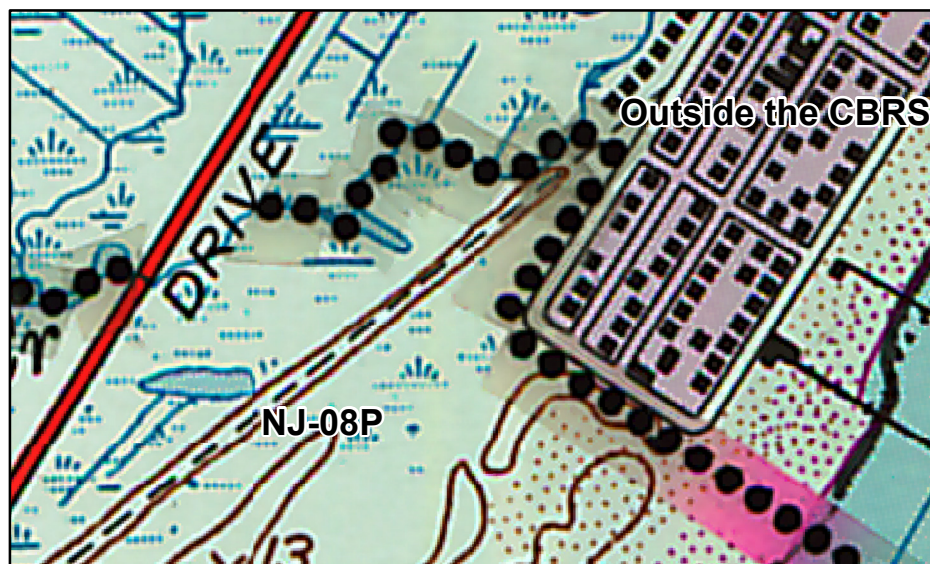


Figure 16. The 1990 map for New Jersey Unit NJ-08P (first image of the Figure 16 set) shows a portion of the boundary following the edges of roads at the 1990 break in development on the southern end of Ocean City, New Jersey. The development on the ground at the time was not depicted accurately on the 1977 base map. The Service’s final recommended boundary, shown in purple, would remove several residential structures (shaded in blue) from Unit NJ-08P (second image of the Figure 16 set). These structures were on the ground in 1990 when the area was first included within the CBRS.



Figure 17. The boundary of New York Unit NY-41P shown in red, was intended to follow the boundary of the National Wildlife Refuge in this area. The final recommended boundary shown in purple is modified to align more precisely with this cultural feature.

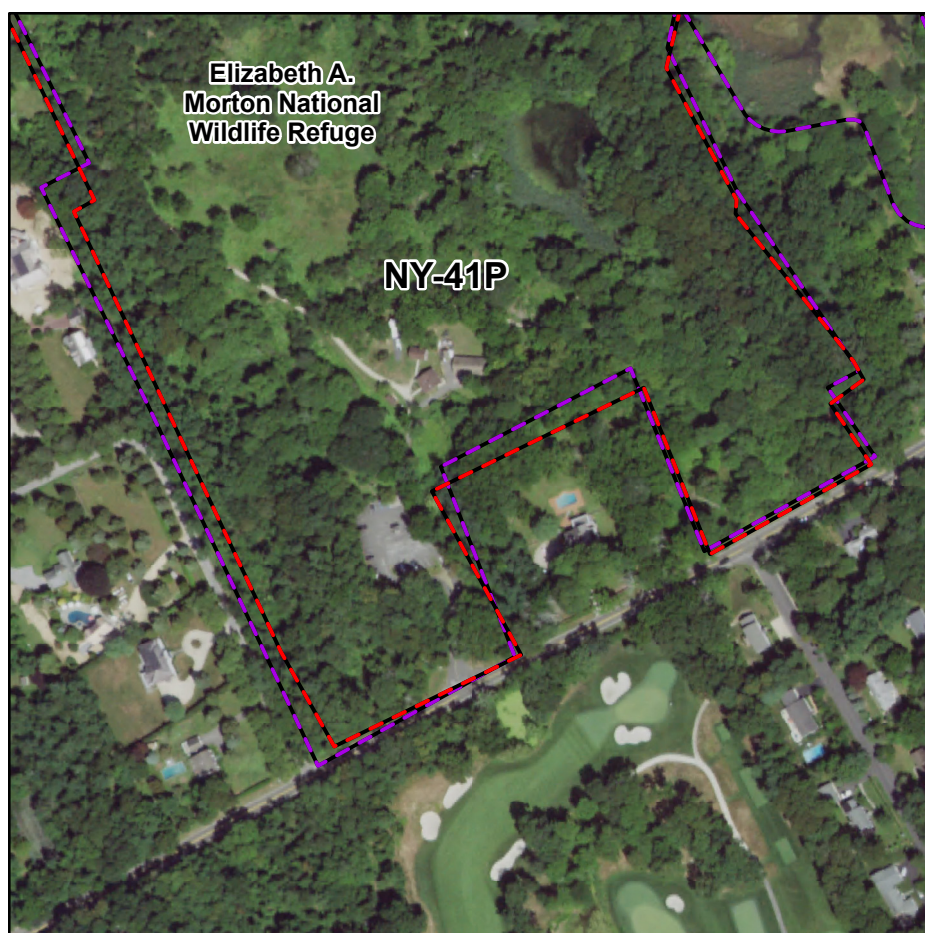
### Modifications to CBRS Boundaries in Channels

In carrying out this project, the Service noted that the CBRS unit boundaries following channels in some cases include the entire channel and in other cases include none of the channel within the unit. The boundaries of System Units and OPAs in this project were modified where appropriate to include the entire extent of the channel within the unit (see figure 20). In cases where a System Unit and an OPA share a coincident boundary that follows a channel located between the two units, the entire channel is generally included within the System Unit. In cases where two System Units or two OPAs fall within a channel, the coincident boundary is placed at the center of the channel. A buffer (of about 20 feet) has generally been applied along developed shorelines (i.e., where structures and/or infrastructure such as bulkheads and roads are very close to and run parallel to or are coincident with the shoreline) to ensure that existing development and infrastructure located on the shoreline is not inadvertently included within the CBRS.

### CBRS Unit Type Classification

In carrying out this project, the Service considered the qualifying coastal barrier feature and delineated the unit boundaries in accordance with standard protocols, criteria, and guiding principles, regardless of whether the area is (or was previously) owned or managed for conservation and/or recreation. In other words, the boundaries of both System Units and OPAs were generally drawn using the same protocols, criteria, and guiding principles. The Service then determined the unit type classification (for proposed additions) and reclassification (for existing units) in accordance with the following protocols.

The unit type classification (i.e., System Unit versus OPA) is based on



whether the unit was predominantly held for conservation and/or recreation at the time of designation and has been modified where appropriate and practicable. Such unit type modifications for areas that are currently within the CBRS are referred to as “reclassifications.” The reclassified areas are either added to an existing adjacent unit of the same

type or assigned a new unit number. The following considerations were applied for unit type classification and reclassification in this project.

- **Areas not Held for Conservation/ Recreation within OPAs**

Areas that are not held for conservation/recreation may be included within OPAs if they

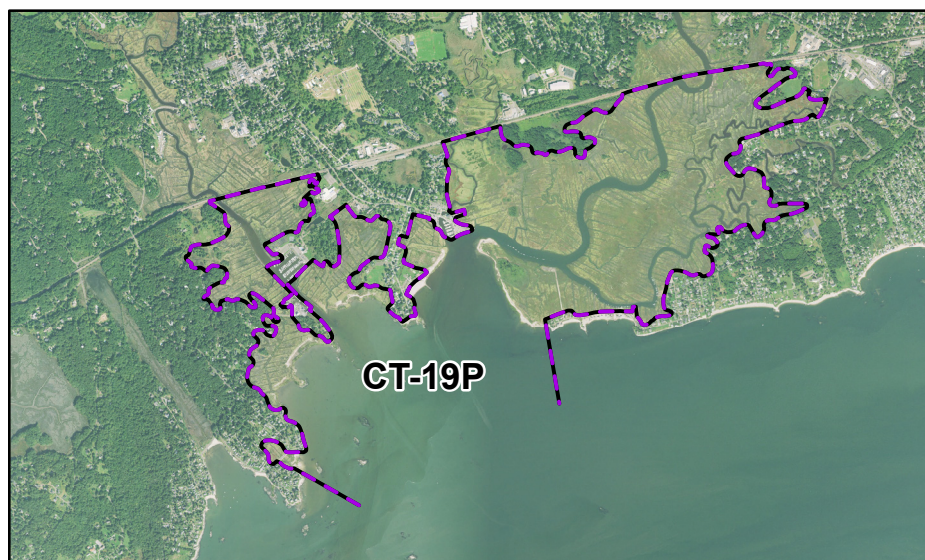


Figure 18. Connecticut Unit CT-19P (located in Guilford) is one of several entirely new units recommended for addition to the CBRS.



are (1) interspersed with and/or adjacent to a larger conservation/recreation area, and (2) located in coastal barrier areas that were undeveloped according to CBRA's statutory development criteria<sup>11</sup> at the time they were included within the CBRS (or are currently undeveloped in the case of proposed additions). Additionally, privately held inholdings (developed or undeveloped private tracts that are contained within the exterior boundaries of the conservation and/or recreation area) may also be included within OPAs.

### • Conservation/Recreation Areas within System Units

#### Held for Conservation/Recreation Prior to CBRS Designation

Areas that are held for conservation/recreation may be included within System Units if they are (1) interspersed with and/or adjacent to a larger area that is not held for conservation/recreation and (2) were undeveloped according to the CBRA's statutory development criteria<sup>11</sup> at the time they were included within the CBRS (or are currently undeveloped in the case of proposed additions).

For conservation/recreation areas greater than 10 acres, the Service coordinated with the landowners (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 classifies such areas as OPA to the extent practicable. However, minor conservation/recreation areas (i.e., fastland and wetlands smaller than 10 acres) and certain areas of open water would be impractical from a mapping perspective to delineate separately as an OPA and therefore may be included within System Units. Outreach was generally not conducted for these minor areas during the initial stakeholder outreach phase of the project.<sup>13</sup> Descriptions of such minor areas within System Units are included in the set of unit summaries in appendixes

D–K of this report that describe the Service's final recommended changes to the CBRS.

The Service's records indicate that some conservation/recreation areas were intentionally added to the CBRS as System Units in the past. The Service generally did not seek concurrence from conservation/recreation area owners (regardless of size) when there is evidence of such prior intent, including letters from the stakeholder in the record indicating that the organization supported inclusion of the property within the System Unit in the past or records of specific changes to the Department's recommended maps made by the congressional committees that reviewed them prior to their enactment.

#### Held for Conservation/Recreation After Area Designated as CBRS

If an area is dedicated to conservation and/or recreation after its initial inclusion within a System Unit, it is generally not reclassified to an OPA.

The CBRS unit type classifications were modified where appropriate to align with the protocols described.

#### No Modification

Twenty-three of the units in this project have no recommended boundary modifications. This scenario only occurs in cases where the coastal barrier areas associated with the unit have not significantly changed in such a way that requires a boundary modification, and where no mapping errors were identified.

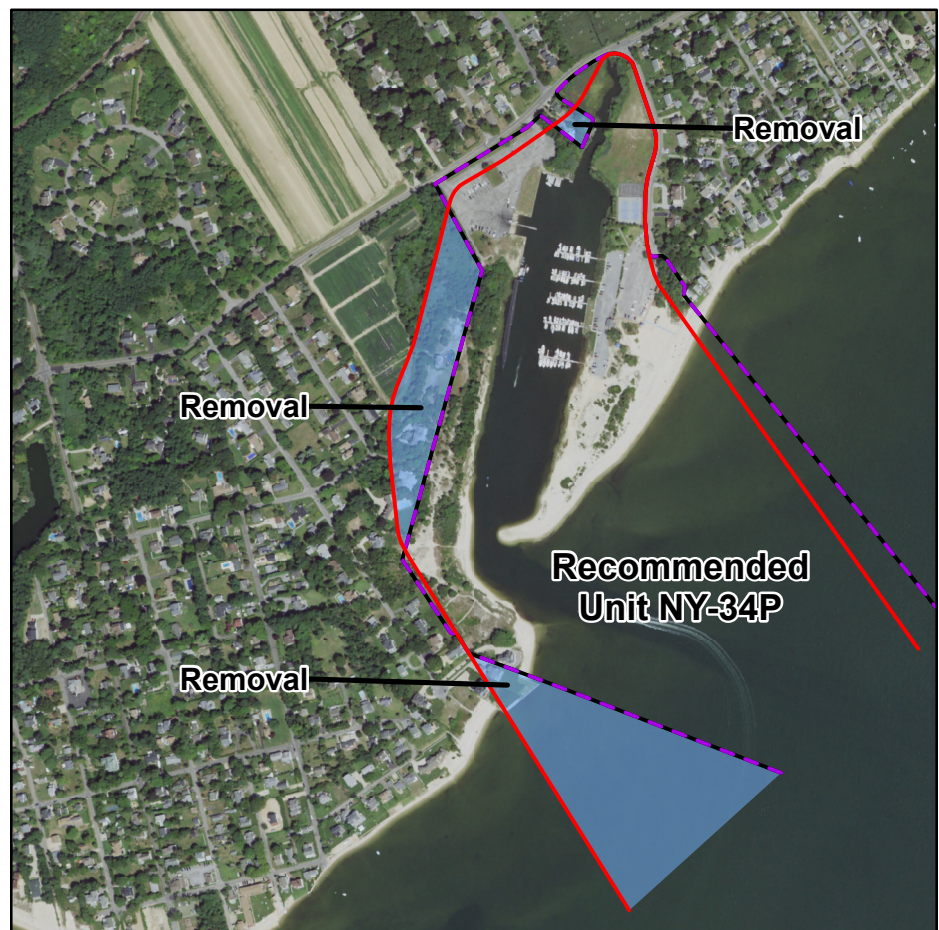


Figure 19. The three blue shaded areas are currently within New York Unit NY-34 (the remainder of which is recommended to be reclassified entirely to OPA Unit NY-34P) and are recommended for removal from the CBRS because they were inappropriately included within the CBRS. The existing boundary is red, and the final recommended boundary is purple.



## Deleted Units

Two of the existing units included in this project are recommended for deletion from the CBRS in their entirety; Units MD-25 and VA-54. In the case of Unit MD-25, the barrier spit within the unit has eroded away entirely and the unit is now mostly open water (see [figure 21](#)). In the case of Unit VA-54, there is only one acre of fastland within the unit, and it was developed at the time of designation in 1990. Therefore, this area did not qualify for inclusion within the CBRS. For additional information on these units, please see their respective summaries of final recommended changes in appendixes J and K.

## Preparation of the Final Recommended Maps

Following the close of the public comment periods, the Service prepared the final recommended maps for this project. These maps depict appropriate changes to the boundaries of some units based on comments received during the public review periods. The Service also updated the underlying aerial imagery for all the units and reconfigured map panels for certain areas to help improve the usability of the maps.



Figure 20. The western boundary of Connecticut Unit E04, shown in red, does not include the channel at the mouth of the Patchogue River. The final recommended boundary, shown in purple, is modified at this location to include the entire width of the channel within the CBRS.



Figure 21. The 1980 image on the left shows the presence of a barrier spit in Maryland Unit MD-25. As is evident in the 2018 image on the right, the spit has eroded away. Therefore, this unit is recommended for deletion in its entirety because historical imagery shows that in the past 15 years the spit has not reappeared.



### ***Modifications to the Boundaries Based on Comments***

Approximately 8 percent of the units were modified to address comments where appropriate according to CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols. These modifications include changes in unit type classification as well as additions to and removals from the CBRS that differ from what was originally proposed. Unit-specific comments are itemized and addressed in appendix C of this report. The changes between the proposed and final recommended boundaries are documented in the summaries of change for each unit in appendixes D–K.

### ***Updated Base Map Imagery***

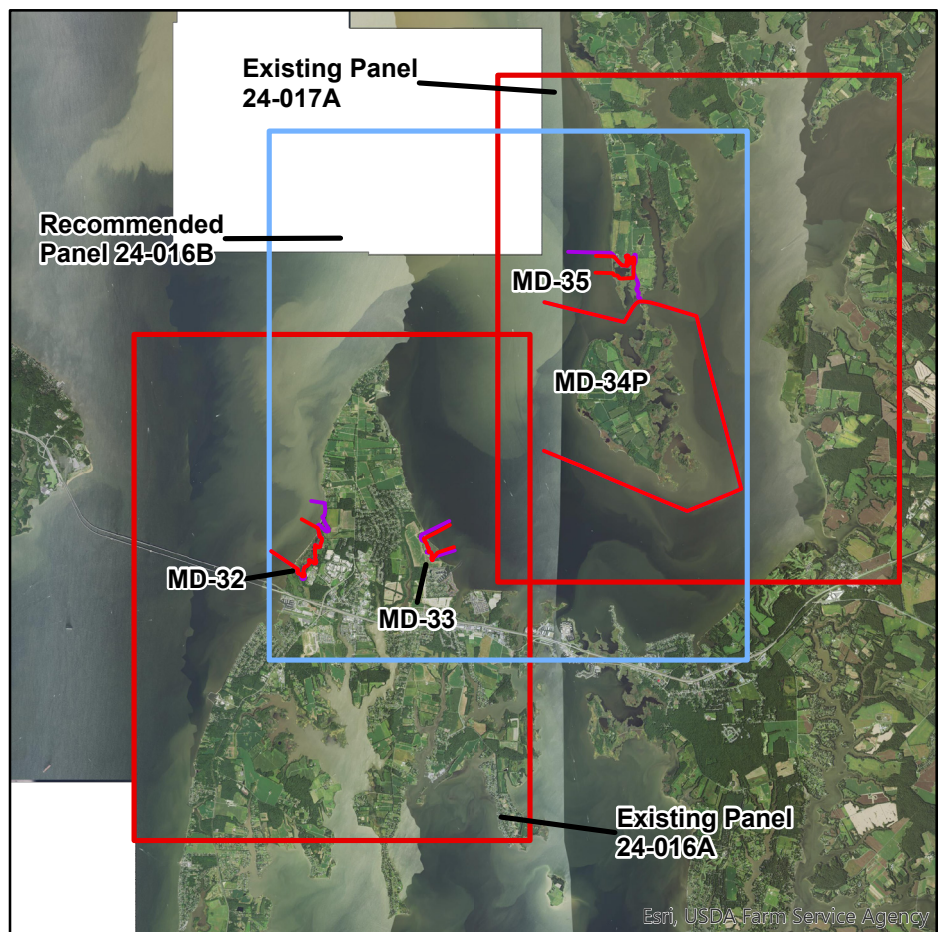
The imagery initially used to prepare the proposed boundaries for this project was dated 2015 and 2016.<sup>14</sup> The Service has used more recent imagery, dated 2018 and 2019,<sup>15</sup> for the final recommended maps. The source and date of the base map(s) for each unit are printed on the title block of each map in appendixes D–K. Minor boundary modifications were made to some of the units in the project to better fit the updated base map imagery (see [figure 22](#)).

### ***Reconfigured Map Paneling***

Each official CBRS map in this project 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 (including within this 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. Many of the map panels have been shifted and/or combined through this project to eliminate overlaps and depict all CBRS units that exist within the spatial extent of a given map panel (see [figure 23](#)). In cases



*Figure 22. In the 2016 image on the left, the proposed boundary for Massachusetts Unit C31B, shown in green, includes an undeveloped area (shaded in blue) in the proposed addition to the CBRS. On the right, the 2018 image shows that a residential structure has now been constructed in the same area. Therefore, the final recommended boundary for the unit, shown in purple, is modified to avoid adding the structure to the CBRS.*



*Figure 23. Existing CBRS map panels 24-016A and 24-017A (shown in red) were combined into recommended panel 24-016B (shown in blue).*



where overlaps were unavoidable, a note was placed over areas where CBRS units exist but are shown on a different map panel. The result of this change is that the spatial extent of many of the final recommended maps is different than the extent of the current effective maps. 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.

Final Recommended Acreage, Shoreline, and Structure Change Metrics

The net changes for this project were quantified by assessing the differences in acreage, shoreline, and structures between the existing and final recommended boundaries. The final recommended maps for this project resulted in 438 units (encompassing a total of 846,918 acres). If adopted by Congress through legislation, the revised maps contained in appendixes D–K<sup>16</sup> would remove 1,361 acres from the CBRS (969 acres of fastland and 392 acres of associated aquatic habitat) and add 277,950 acres to the CBRS (11,102 acres of fastland and 266,848 acres of associated aquatic habitat). The final recommended maps would remove 630 acres of privately owned fastland (i.e., private land not held for conservation/recreation) from the CBRS and add 3,240 acres of privately owned fastland to the CBRS.



Figure 24. Maryland Unit MD-59 shows the areas comprised of fastland (land above mean high tide), which is generally where structures would be built, and associated aquatic habitat (wetlands and open water), which may also include highly dynamic sandy beaches.

The final recommended maps would remove 910 structures (mostly private residential) from the CBRS and add 274 structures to the CBRS (more than half of which are park-related). The final recommended maps would result in a net reclassification of 28,956 acres from System Unit to OPA. Table 2 summarizes the overall acreage, shoreline, and structure

change metrics associated with the final recommended maps contained in appendixes D–K.

Additional details regarding acreage, shoreline, and structure change metrics are included in appendixes B and D–K of this report.

Table 2. Summary of Final Recommended Acreage and Structure Change Metrics

	Fastland acres		Associated aquatic habitat acres		Total acres		Total structures	
	System Units	Otherwise Protected Areas	System Units	Otherwise Protected Areas	System Units	Otherwise Protected Areas	System Units	Otherwise Protected Areas
Addition to the Coastal Barrier Resources System	3,096	8,006	57,810	209,038	60,906	217,044	64	210
	Total: 11,102		Total: 266,848		Total: 277,950		Total: 274	
Removal from the Coastal Barrier Resources System	542	427	264	128	806	555	666	244
	Total: 969		Total: 392		Total: 1,361		Total: 910	
Net reclassified	(7,955)	7,955	(21,001)	21,001	(28,956)	28,956	N/A	N/A
	Total: 0		Total: 0		Total: 0		N/A	
Net change	(5,401)	15,534	36,545	229,911	31,144	245,445	(602)	(34)
	Total: 10,133		Total: 266,456		Total: 276,589		Total: (636)	



### Acreage Calculations

The Service calculates the approximate acreage of the CBRs units to help assess the areal extent of the units and to quantify proposed changes.<sup>17</sup> The total acreage of a CBRs unit is comprised of fastland (land above mean high tide) and associated aquatic habitat (wetlands and open water) (see figure 24). To calculate acreage for this project, the wetland/fastland acreage breakdown of the units was derived from the Service's National Wetlands Inventory (NWI) data.<sup>18</sup> A shoreline was delineated (as described in the section titled "Shoreline Calculations") to be used in conjunction with the boundaries of the unit to calculate acreage, and only areas landward of this shoreline were included in the calculation. The associated aquatic habitat acreage numbers include open water landward of the coastal barrier but not nearshore or offshore waters seaward of the shoreline. The offshore acreage of the units is not calculated because a fixed seaward boundary for the units is generally not drawn due to the highly dynamic nature of the littoral zone.

Although acreage for offshore areas is not calculated, the entire sand sharing system on the seaward side, including the beach and nearshore area, is included within the CBRs units (see figure 25). 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 1 mile seaward of the shoreline, whichever is nearer the coastal barrier.

### Shoreline Calculations

The Service calculates the shoreline of the units to help assess the linear extent of the CBRs and to facilitate the calculation of the acreage of the units as just described. For the purposes of this 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 along the seaward side of the unit as interpreted from the base imagery (see figure 26). Additionally, the shoreline boundary spans any inlets and/or other dividing water bodies within each unit. In some cases, highly convoluted shorelines

were generalized. Due to the complexities of shoreline delineations, acreage numbers (rather than shoreline miles) are the most reliable way to quantify proposed changes to the CBRs for individual units.

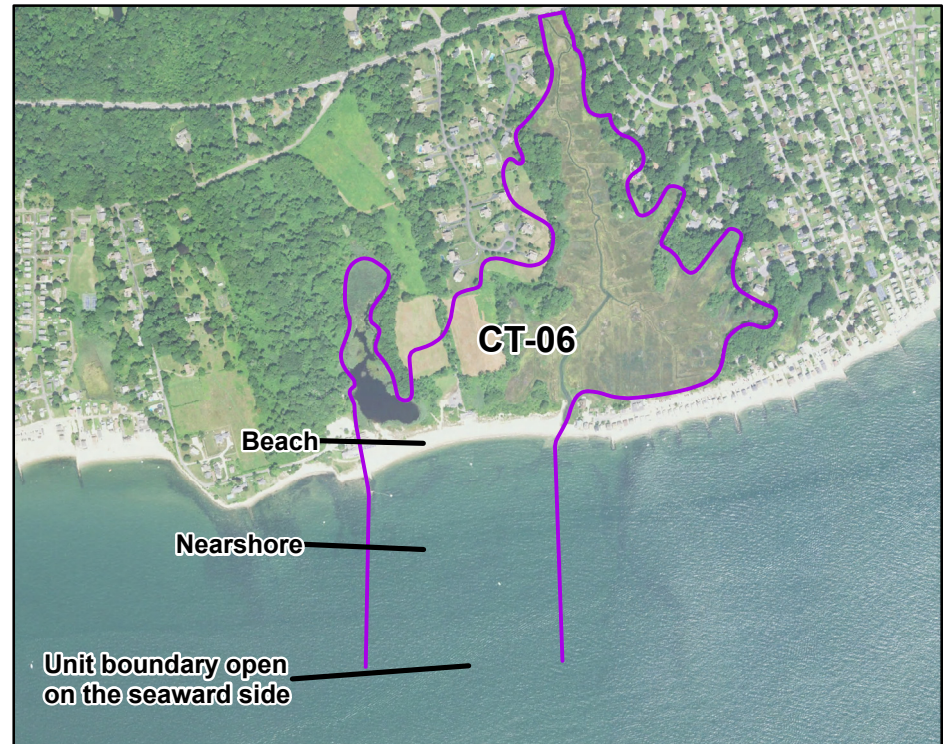


Figure 25. The sand-sharing system including the beach and nearshore area of a unit is included within the CBRs. The seaward side is generally left open and the offshore extent is not delineated on the CBRs maps.

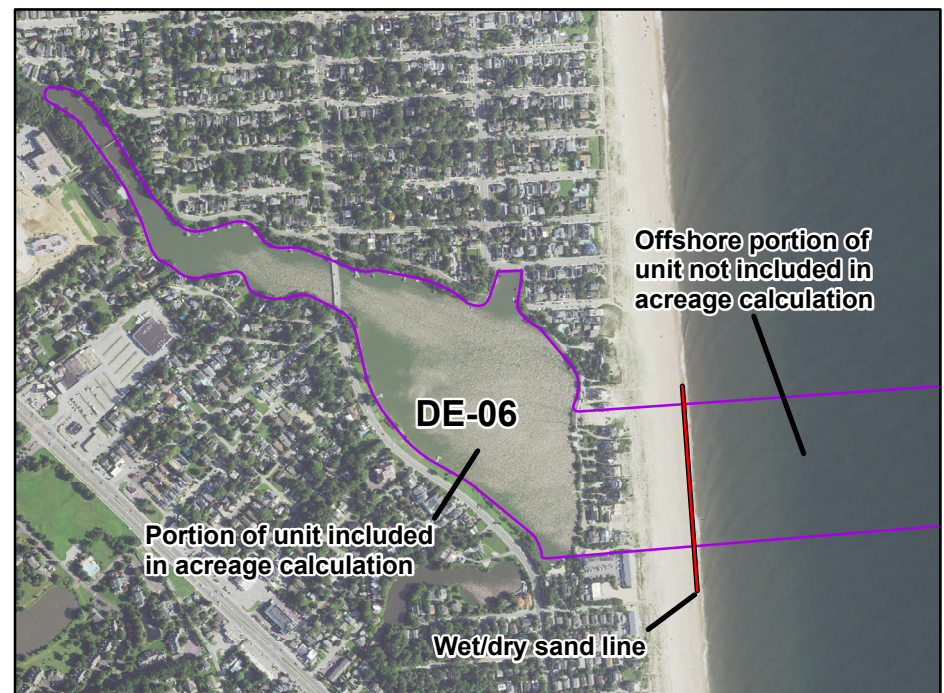


Figure 26. Only the portion of the unit landward of the wet/dry sand line (shaded in purple) is included in the acreage calculation.

- <sup>1</sup> U.S. Department of the Interior; Office of the Secretary, “Federal Flood Insurance Prohibition for Undeveloped Coastal Barriers; Proposed Identification,” Federal Register Vol. 47, no. 158 (August 16, 1982): 35696-35715, <https://www.loc.gov/item/fr047158/> and U.S. Department of the Interior; Office of the Secretary, “Availability of Draft Maps of Areas Under Consideration for Inclusion in the Coastal Barrier Resources System,” Federal Register Vol. 50, no. 42 (March 4, 1985): 8698-8702, <https://www.loc.gov/item/fr050042/>.
- <sup>2</sup> U.S. Department of the Interior; Undeveloped Coastal Barriers: Report to Congress, (Washington, D.C.: U.S. Department of the Interior, 1982).
- <sup>3</sup> U.S. Department of the Interior; Final Environmental Statement.
- <sup>4</sup> U.S. Department of the Interior; Coastal Barriers Study Group, Report to Congress: Coastal Barrier Resources System with Recommendations as Required by Section 10 of Public Law 97-348, the Coastal Barrier Resources Act of 1982, Vol. 1 (Washington, D.C.: U.S. Department of the Interior, 1988).
- <sup>5</sup> U.S. Department of the Interior; Final Supplemental Legislative Environmental Impact Statement.
- <sup>6</sup> USFWS, Digital Mapping Pilot Project.
- <sup>7</sup> USFWS, “Remapping Project for Delaware, Massachusetts, New Hampshire, and New Jersey,” 10739-10747 and USFWS, “Remapping Project for Connecticut, Maryland, Massachusetts, New York, Rhode Island, and Virginia,” 64861-64869.
- <sup>8</sup> 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 5-year review.
- <sup>9</sup> System Units (one of the two types of CBRS units) contain areas that were relatively undeveloped at the time of their designation within the CBRS. System Units are predominantly comprised of privately owned areas, though they may also contain areas that are held for conservation and/or recreation. The boundaries for areas included within System Units are generally intended to follow geomorphic, development, or cultural features. Most new federal expenditures and financial assistance, including federal flood insurance, are prohibited within System Units. As of the date of publication of this report, the CBRS includes 588 System Units encompassing approximately 1.4 million acres of land and associated aquatic habitat.
- <sup>10</sup> OPAs (one of the two types of CBRS units) are predominantly comprised of conservation and/or recreation areas such as national wildlife refuges, state and national parks, local conservation areas, and private conservation areas, though they may also contain private areas that are not held for conservation and/or recreation. OPAs are denoted with a “P” at the end of the unit number (e.g., FL-64P, P10P). The boundaries of these units are generally intended to coincide with the boundaries of conservation or recreation areas such as state parks and national wildlife refuges. The only federal spending prohibition within OPAs is on federal flood insurance. As of the date of publication of this report, the CBRS includes 282 OPAs encompassing approximately 2.1 million acres of land and associated aquatic habitat.
- <sup>11</sup> Coastal Barrier Resources, § 3503(g)(1).
- <sup>12</sup> Coastal Barrier Resources Reauthorization Act of 2005.
- <sup>13</sup> The initial stakeholder outreach process for the project is described in 83 FR 10739 and 83 FR 64861.
- <sup>14</sup> 2015: Delaware, Maryland, New Jersey, and New York; 2016: Connecticut, Massachusetts, New Hampshire, Rhode Island, and Virginia.
- <sup>15</sup> 2018: Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, Rhode Island, and Virginia; 2019: New Jersey and New York.
- <sup>16</sup> This does not include the 25 CBRS units that were reviewed through this project and are recommended for deletion from the CBRS, transfer to another unit, or reclassification to another unit type.
- <sup>17</sup> The methodology for calculating acreage was improved between the proposed and final recommended phases for the first batch of states included in this project (Delaware, Massachusetts, New Hampshire, and New Jersey). The Service determined that merging the individual NWI wetland habitat polygons into one comprehensive wetland polygon produced more accurate results. The existing acreage reported for some units has been updated using this new methodology. This change in methodology resulted in minor differences in the existing acreage reported for some of the units at the proposed phase of the project and the current final recommended phase.
- <sup>18</sup> Fastland and wetland acreage numbers included in this Hurricane Sandy Remapping Project 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 time frame 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, National Wetlands Inventory, Wetlands Layer Metadata (Washington, D.C: U.S. Fish and Wildlife Service, May 2021), accessed May 19, 2021, [https://www.fws.gov/wetlands/Data/metadata/FWS\\_Wetlands.xml](https://www.fws.gov/wetlands/Data/metadata/FWS_Wetlands.xml).



# Chapter 5: Map Modernization Accomplishments and Next Steps

The 2006 CBRRA requires a report that contains the following: recommendations for Congress to adopt the final recommended digital maps created under this project (section (4)(c)(3)(C)); a summary and update on the implementation and use of the digital maps created under the Digital Mapping Pilot Project (pilot project) (section (4)(c)(3)(E)); and a description of the feasibility of and the amount of funding necessary for:

- (1) making all the CBRs maps available to the public in digital format and
- (2) facilitating the integration of digital CBRs boundaries into federal, state, and local planning tools (section (4)(c)(3)(F)).

Additionally, section 3 of the SCCA requires a report regarding the progress and challenges in the transition from paper to digital maps and a timetable for completing digitization of all maps related to the CBRs.

This chapter contains (1) a summary and update on the status and implementation of the maps created through the pilot project; (2) a recommendation to Congress for adoption of the final recommended maps produced by the Service; (3) information regarding progress and challenges in the transition from paper to digital maps; (4) next steps and a timetable for future mapping efforts; and (5) information regarding costs and feasibility of making the official CBRs maps available in digital format and facilitating data integration into federal, state, and local planning tools.

## Status and Implementation of the Digital Mapping Pilot Project Maps

The Service submitted its pilot project report and accompanying 45 draft maps for 65 units (approximately 8 percent of the total acreage within

the CBRs) to Congress in 2016. On December 21, 2018, Congress enacted the SCCA, which adopted 35 revised maps produced by the Service for 59 CBRs units in Delaware, Florida, North Carolina, and South Carolina. The SCCA constitutes the largest legislative update to the CBRs since 1990.

Fifty-seven of the units included in this legislation were mapped through the pilot project, and two of the units were mapped through a separate technical correction effort. The pilot project maps for Units NC-06/NC-06P, S04, S05, S06, and S07 in North Carolina and Louisiana were not included in the SCCA and have not been adopted as of the date of publication of this report in April of 2022.<sup>1</sup> Additionally, there are four CBRs units that were originally part of the pilot project but were removed because their comprehensively revised maps were adopted by Congress prior to the publication of the 2016 report.<sup>2</sup>

The pilot project maps that were adopted by Congress are now part of the official set of current effective maps for the CBRs. These maps are accessible to the public and are being used by federal agencies, including the Service, to implement CBRA.

## Recommendation for Adoption of the Final Recommended Maps

The Service recommends that Congress adopt the final recommended maps produced through the Hurricane Sandy Remapping Project. 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 CBRA's criteria for inclusion within the CBRs. These comprehensively revised maps were prepared using modern cartographic tools and techniques, and draft versions for

each area were reviewed by federal, state, and local officials and other interested stakeholders through a public comment period. The Service assessed the comments received during the public comment periods and made appropriate adjustments to the draft revised boundaries based on statutory criteria, objective mapping protocols, and the best available data. The Service produced unit summaries that describe the extent to which the boundary lines on the final recommended maps differ from the existing controlling maps. The final recommended maps and unit summaries for the project are printed in appendixes D–K of this report. The final recommended maps and related information can also be found on the Service's website.<sup>3</sup>

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 all of the final recommended maps 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.

## Progress and Challenges in the Transition from Paper to Digital Maps

The complete set of maps depicting the CBRs was last comprehensively revised in 1990 using now-antiquated manual cartographic technologies and base maps. The 1990s era-maps are (1) imprecise (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

### John H. Chafee Coastal Barrier Resources System (CBRS) Comprehensive Map Modernization Process

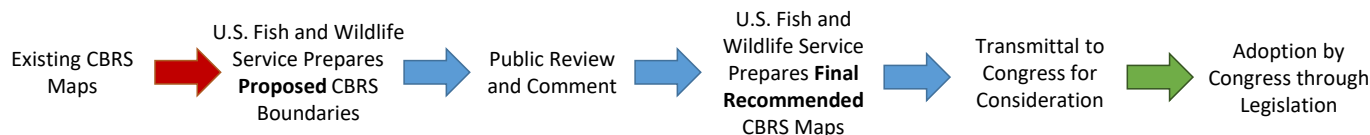


Figure 27. Comprehensive map modernization process.

with the GIS commonly used today); and (3) in some cases contain errors affecting property owners and project proponents.

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 units. In the 2006 CBRRA, Congress directed 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 Service's comprehensive map modernization approach (see figure 27) 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.

One of the most significant challenges associated with transitioning from paper to digital maps has been the historical lack of resources dedicated to this effort. 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 and cost-effective digital conversion of the official maps. Through the digital

conversion effort, the existing CBRS boundaries were 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 and (using the Service's 5-year review authority) were modified to reflect any natural changes (such as erosion and accretion) that have occurred on the ground since the maps were last updated.<sup>4</sup> In 2016, the Service completed digital conversion maps for 19 of the 23 states and territories that contain CBRS units, covering 92 percent of the total CBRS acreage. The CBRS boundaries for the remaining four states were digitized through the Hurricane Sandy Remapping Project, but the official maps for these areas have not yet been replaced (they will be replaced upon adoption of the maps in appendixes D–G of this report).<sup>5</sup> The SCCA requires that we provide a timetable for completing the digitization of all maps related to the CBRS. Upon adoption of the maps included in this report, the entire set of CBRS maps will be digitized.

In fiscal year 2014, the Service was allocated \$5 million through the Department's Hurricane Sandy supplemental disaster appropriations.<sup>6</sup> Additionally, in fiscal year 2015, Congress increased appropriations for CBRS mapping. Since that time, the Service has made significant progress in preparing comprehensively revised maps for the CBRS. Through fiscal year 2021, the Service had prepared comprehensively modernized maps for more than half of the CBRS units (which includes the maps produced through this project) comprising 31 percent of the total CBRS acreage (see figure 28).

### Next Steps for Future Mapping Efforts

The 2006 CBRRA directed the Secretary to prepare digital maps for the entire CBRS. The Service has made significant progress over the past several years in comprehensively remapping much of the CBRS and addressing some of the most egregious shortcomings of the maps including mapping errors affecting property owners. The estimated cost for completing comprehensively revised maps for the remainder of the CBRS (69 percent of the CBRS acreage) is about \$5 million and would require additional staff to gather and synthesize data, conduct research, do technical GIS work, carry out a public review and do outreach, and prepare supporting documents. Even with an increase in capacity, such an effort would take several years to complete given the various steps in the remapping process. Comprehensive map modernization is a time- and resource-intensive endeavor and may not be necessary for the entire CBRS.

Aside from the pilot project and Hurricane Sandy Remapping Project, the Service's remapping priorities are generally driven by requests from property owners and other interested parties who seek the removal of land from the CBRS. The Service continues to receive such requests. We are developing a strategy that applies the lessons learned through previous mapping efforts to guide future CBRS remapping. Moving forward, the Service intends to (1) continue addressing individual technical correction requests from property owners and other interested parties and (2) conduct the 5-year review to account for erosion and accretion in these highly dynamic areas for the entire CBRS on a regular schedule (this addresses a recommendation made by the GAO in 2021<sup>7</sup>).



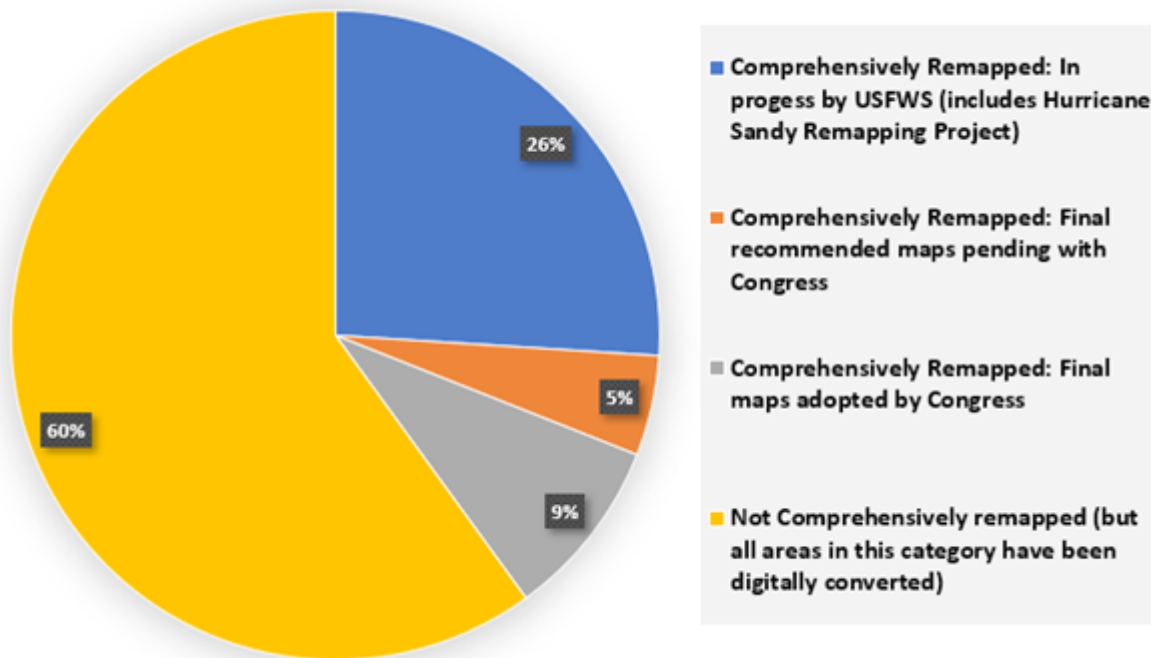


Figure 28. Comprehensive mapping status of the Coastal Barrier Resources System, by percent acreage as of September 2021.

The Service plans to conduct several small-scale regional projects between 2021 and 2025 entailing a comprehensive review and remapping of approximately 60 total units (which includes 15 units we have received requests for as well as adjacent units). The Service also plans to begin conducting the next 5-year review cycle for the CBRS in 2022. During the 5-year review process, the Service intends to identify additional units that may warrant comprehensive review and remapping (to help prioritize future projects). Comprehensive map modernization may not be necessary for all areas, and updating the maps via the Service's administrative 5-year review authority will be sufficient in many cases. There are some sparsely populated regions where development pressures are low, few structures (if any) are present within the units, and/or there is little room for expansion. The Service contends that this approach will allow us to address legitimate mapping errors (and identify eligible additions) in a more cost-effective and equitable manner by prioritizing technical correction reviews and smaller scale comprehensive remapping projects while also facilitating a more regular update of the official set of CBRS maps through the 5-year review process (which is less time and resource intensive than large-scale comprehensive remapping projects).

### Feasibility and Cost of Making the CBRS Maps Available in Digital Format and Facilitating CBRS Data Integration

#### *Relationship between the Paper and Digital Maps*

The official CBRS maps referenced in 16 U.S.C. § 3503(a) remain the controlling documents for the CBRS, and the Service maintains a paper copy of these maps. The digital CBRS data are complementary to the maps and provide the public with accurate, up-to-date information in an accessible and user-friendly format that is compatible with modern GIS platforms used by most federal agencies, state and local governments, and the private sector. The official maps will continue to be available within the Service's Headquarters office, in addition to the digital CBRS data that are made available on the Service's CBRA website.

Because many CBRS boundaries have specific relationships to features visible on the base map, the digital CBRS data are most reliable when paired with the orthoimagery that was used in the boundary digitization process.<sup>8</sup> The digital CBRS data inherit the spatial accuracy of the base orthoimagery that was used in their creation and may appear not to fit other images properly

(see figure 29). Commonly used orthoimagery for CBRS mapping is from the U.S. Department of Agriculture's National Agriculture Imagery Program (NAIP).<sup>9</sup> NAIP imagery has a stated horizontal accuracy of  $\pm 20$  feet. To illustrate the aforementioned horizontal accuracy of the digital CBRS data ( $\pm 20$  feet), the Service publishes a "CBRS Buffer Zone" data layer that provides a visual representation of the possible area of uncertainty for a boundary (depicted in figure 29). The Service recommends that users of the CBRS Mapper or other digital CBRS data seek an official determination from the Service for any property or project site that falls within the buffer. This is because the Service does not control the underlying image with which the user may be viewing the data, and this image may differ from the one used to create or digitize the boundaries. The CBRS Buffer Zone is available through the CBRS Mapper and other digital CBRS data sources.

#### *Availability of Official CBRS Maps in Digital Format*

In 2006, scanned versions of the official CBRS maps were first made available to the public through the Service's website. Since that time, the Service has improved the CBRA website significantly to make the maps

easier for the public to access and use. All the effective CBRS maps and digital CBRS data are available on the Service's website.<sup>10</sup> Additionally, the Service's interactive CBRS Mapper<sup>11</sup> application facilitates users in viewing the CBRS boundaries against recent aerial imagery (without the use of GIS software) and identifying the appropriate official CBRS map for their area.

### Facilitating CBRS Data Integration

While the static official maps are available online, GIS technology and online mappers have become the primary way through which practitioners and the public now interact with spatial information. The Service continues to enhance the accessibility and usability of digital CBRS data for our partners and the public. In 2008, the Service created an approximate digital CBRS boundary dataset (accurate to within about 150 feet) for use in GIS applications, which was made available for download on the Service's website. In 2014, the Service began replacing that approximate digital boundary data with more precise data as it was produced through the digital conversion effort and comprehensive map modernization projects (described in the section titled "Progress and Challenges in the Transition from Paper to Digital Maps"). In 2017, the Service's entire CBRS digital boundary dataset was upgraded to be accurate to within

about 20 feet and was published as a web mapping service through ArcGIS Online.<sup>12</sup> The Service also makes digital CBRS boundary data available at federal data repositories such as the Federal Government's open data website Data.gov<sup>13</sup> and NOAA's Digital Coast.<sup>14</sup>

In 2012, immediately following Hurricane Sandy, the Service created a CBRS Mapper application that allows the public to view the digital CBRS boundaries without the need for GIS software. As of 2018, the CBRS Mapper now includes the CBRS Validation Tool, which is an automated tool accessible through the CBRS Mapper that allows any user (e.g., property owners and buyers; insurance and real estate agents; lenders; flood determination providers; floodplain managers; engineers and surveyors; and local, state, and federal officials) to select a particular location and, in most cases,<sup>15</sup> produce a document that indicates whether that location is within or outside of the CBRS. For locations within the CBRS, the documentation produced by the tool indicates the flood insurance prohibition date and the System Unit establishment date (where applicable). This documentation can be used to either obtain flood insurance through the NFIP for eligible structures or to otherwise document a location's status within or outside of the CBRS for other purposes (e.g., real estate transactions or applications for federal financial assistance).

In 2018, the Service also created the CBRS Projects Mapper to display draft revised CBRS boundaries (such as those produced through this project). Users can compare the draft revised boundaries in the CBRS Projects Mapper to the existing boundaries. This mapper creates greater transparency in the public review process for revised CBRS boundaries, allowing users to zoom in, change base maps, and obtain more detailed information about the type of change that is proposed for a specific area (e.g., additions, removals, or reclassifications) than was possible in the past using static draft maps.

The digital CBRS data fulfill an important need for GIS compatible information, and the CBRS Mappers make the data easily accessible to the public. These data and tools help improve government efficiency and customer service while also increasing awareness of and compliance with CBRA. The digital CBRS data make it much easier to integrate CBRS information into federal, state, and local planning tools than it has been in the past. Several state and local governments have added CBRS data to their interactive mappers in recent years.

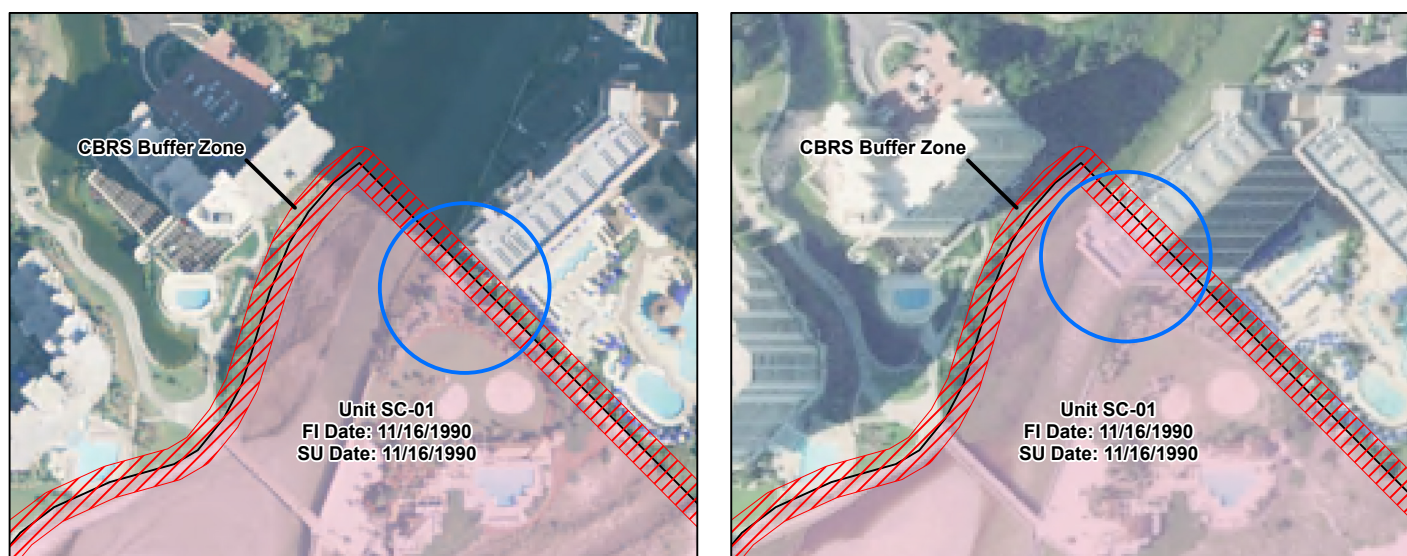


Figure 29. Figure 29. The south end of the high rise building in the blue-circled area (first image of the Figure 29 set) is outside of South Carolina Unit SC-01 as shown on the 2013 base imagery of the official CBRS map for this unit. The same high rise appears to be in the unit on a 2017 image (second image of the Figure 29 set). The CBRS Buffer Zone depicts an area covering 20 feet on either side of the CBRS boundary and provides a visual representation of the possible area of uncertainty for a boundary.



***CBRS Data Integration with FEMA's Flood Hazard Information***

The official CBRS maps are maintained by the Service and are the definitive source for the location of the CBRS boundaries. However, given CBRA's restrictions on federal flood insurance, FEMA has historically shown CBRS boundaries on its coastal FIRMs as a courtesy to users. When the CBRS maps are modified through an act of Congress, the Service promptly updates the official maps and makes the new maps and digital data publicly available within days through the CBRA website and the CBRS Mapper. However, due to the length of time required to perform a coastal study, it is not feasible for FEMA to update the FIRMs<sup>16</sup> to coincide with the CBRS revisions<sup>17</sup> in a timely and seamless manner. It often takes years to reflect the changes to the CBRS on the FIRMs. Because of the prohibitions on NFIP coverage (and other federal expenditures) within the CBRS, property owners, buyers, or developers who use outdated information can face significant financial impacts, such as expensive force-placed private flood insurance (i.e., a policy imposed on the property owner by a lender to protect its own financial interests).

FEMA and the Service have worked collaboratively to update the delivery of CBRS data to the public. As of February 15, 2019, CBRS boundaries and flood insurance prohibition dates are no longer depicted on static, legacy FIRMs. Communities with effective FIRMs that show CBRS boundaries have received a Letter of Map Revision<sup>18</sup> indicating that their maps have been revised to remove this information. The most up-to-date CBRS boundaries and prohibition date data can be found on the Service's CBRS Mapper and via the CBRA website. While the CBRS boundaries and prohibition dates have been removed from FEMA's FIRMs, CBRS data are now delivered via web map service on a number of platforms, including the NFHL Viewer.<sup>19</sup> The Service has conducted outreach to encourage users of FEMA data in other systems independent from the NFHL Viewer to incorporate either the Service's CBRS Web Map Service or downloadable data into their systems.

***Opportunities for Improved CBRS Data Integration***

The Federal Government currently has no mechanism to mandate CBRS disclosure when land is bought or sold or at the time of permitting for construction, and the Service is regularly contacted by property owners who purchased land and/or built a home without any knowledge of the CBRS designation affecting their property. The Service encourages federal, state, and local officials as well as private and nongovernmental entities to integrate CBRS data into their GIS platforms and other information systems so that it is readily available to community officials, developers, property owners, prospective buyers, and others. We also encourage public officials to consider including CBRS information in building permit forms, planning documents, and outreach materials.

***Costs Associated with Making Digital CBRS Data Available to the Public***

While the Service has completed the initial process of digitizing the CBRS boundaries from the official maps and making them accessible to the public in a variety of formats, there are continuing annual maintenance costs. These maintenance costs include: keeping the digital data and CBRS mapper current with the latest technology, making any changes that are necessary to account for legislative or administrative updates to the boundaries, and the costs associated with hosting the data online and maintaining the Service's CBRA website. Additionally, the Service is continually improving the CBRS mappers and datasets that help federal agencies facilitate compliance with the CBRA. The Service spends approximately \$200,000 annually on maintenance and upgrades to the CBRS digital data and mappers and making this information publicly available via the CBRA website.

***Conclusion***

Over its nearly 40-year history, the act has been successful in achieving its goals of minimizing the loss of life; wasteful expenditure of federal revenues; and damage to fish, wildlife, and other natural resources associated with coastal barriers. A 2019 study in the *Journal of Coastal Research* found that between 1989 and 2013, CBRA reduced federal coastal disaster expenditures by about \$9.5 billion.<sup>20</sup> The same study forecasts that additional savings will range between \$11 billion and \$108 billion by 2068. A 2020 study published through *PLOS ONE* found that CBRA is associated with reduced development rates and provides similar levels of protection as protected areas such as parks.<sup>21</sup> The Service has confidence that CBRA will continue to be a useful tool in mitigating the ever-increasing hazards associated with climate change and reducing development pressures along the coasts.

An important step in solidifying CBRA's conservation legacy is the digitization and modernization of the maps upon which the law is based. The Service and Congress have worked together over the last two decades to make significant improvements in the CBRS maps. When the Digital Mapping Pilot Project was first authorized in 2000, the official maps were available to the public only as hard copies. They could either be viewed in person at our Headquarters office or in nearly two dozen field offices or ordered via mail. Today, the boundaries are accessible from anywhere in a digital format that can be integrated into any mapper and consumed by automated systems to help inform local officials, property owners and prospective buyers, realtors, insurance agents, federal officials, and others of CBRS designations. In the past, it could take many months to obtain an official determination regarding whether a property is within the CBRS. Now most users can obtain such information in minutes using the CBRS Validation Tool in the CBRS Mapper.

The adoption of the maps produced as part of the pilot project through the SCCA was the first major accomplishment in our effort to comprehensively modernize the CBRS maps. The completion of the Hurricane Sandy Remapping Project is the next major milestone in that process. Adoption of the revised

maps produced through this project will correct decades-old mapping errors affecting approximately 900 homes and other structures while at the same time adding hundreds of thousands of acres of qualifying relatively undeveloped areas to the CBRS. The revised maps will also provide more accurate information for

use in planning coastal infrastructure projects, habitat conservation efforts, and flood risk mitigation measures. The Service looks forward to working with Congress to bring the maps for the Mid-Atlantic and New England coasts into the 21st century and make the CBRS even more relevant in the future.

<sup>1</sup> The pilot project final recommended maps and related information are accessible at: <https://www.fws.gov/project/digital-mapping-pilot-project>. The maps and unit summaries are also printed in appendix C of the Service's 2016 Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project.

<sup>2</sup> 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.

<sup>3</sup> The Hurricane Sandy Remapping Project final recommended maps and related information are accessible at: <https://www.fws.gov/cbra/maps-and-data>.

<sup>4</sup> Additional information about the digital conversion effort is available in chapter 2 of the Service's 2016 Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project and on the Service's website: <https://www.fws.gov/project/digital-conversion-and-5-year-review>.

<sup>5</sup> The Service did not prepare digital conversion maps for Massachusetts, Rhode Island, Connecticut, or most of the Atlantic coast of New York because funding for the Hurricane Sandy Remapping Project became available before the digital conversion for those areas was started.

<sup>6</sup> Disaster Relief Appropriations Act 2013.

<sup>7</sup> GAO, Coastal Barrier Resources Act: Fish and Wildlife Service Should Better Ensure It Carries Out Required Consultation and Mapping Activities, GAO-21-258 (Washington, D.C., 2021), 23, accessed March 25, 2021, <https://www.gao.gov/products/gao-21-258>.

<sup>8</sup> For additional information, see the metadata for the digital CBRS data at: <https://www.fws.gov/cbra/maps-and-data>.

<sup>9</sup> To learn more about NAIP, go to: <https://www.fws.gov/cbra/maps-and-data>.

<sup>10</sup> The official CBRS maps are available at: <https://www.fws.gov/cbra/maps/index.html>. The digital CBRS boundary data are available at: <https://www.fws.gov/cbra/maps-and-data>.

<sup>11</sup> The CBRS Mapper is available at: <https://www.fws.gov/cbra/maps-and-data>.

<sup>12</sup> 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>.

<sup>13</sup> [Data.gov](https://www.data.gov) is the central repository for data created by federal agencies. [Data.gov](https://www.data.gov) was created in 2009 to make federal data available to the public with the goal of a more transparent and accountable government. The U.S. General Services Administration manages this website, which can be accessed at: <http://www.data.gov>.

<sup>14</sup> NOAA's Digital Coast website, which was created in 2007, provides coastal data, information, and tools for coastal practitioners. The website was created primarily for the coastal management community and the data on the site are most relevant to that audience. The Digital Coast can be accessed at: <https://coast.noaa.gov/digitalcoast>.

<sup>15</sup> The CBRS Validation Tool will not provide in/out CBRS documentation for locations that are within the CBRS Buffer Zone (i.e., areas within about 20 feet of a CBRS boundary). Such locations require a CBRS Property Determination letter from the Service. Property determinations are completed by the Service after consulting the official CBRS maps.

<sup>16</sup> A Flood Insurance Rate Map (FIRM) is the official flood insurance map of a community on which FEMA has delineated the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations (BFEs), and the risk premium zones applicable to the community.

<sup>17</sup> In February of 2019, more than 50 percent of the FEMA FIRM panels depicting CBRS areas were either already outdated or affected by proposed changes to the CBRS.

<sup>18</sup> A Letter of Map Revision (LOMR) is FEMA's modification to an effective FIRM, or Flood Boundary and Floodway Map (FBFM), or both.

<sup>19</sup> The NFHL is a geospatial database that contains current effective flood hazard data (FEMA provides the flood hazard data to support the NFIP). The NFHL Viewer is a tool that allows users to explore the current digital effective flood hazard data in a map. From the NFHL Viewer, you may view, download, and print flood maps for a particular location.

<sup>20</sup> Coburn and Whitehead, "Federal Expenditures Related to CBRA," 1360.

<sup>21</sup> Kyle Onda et al., "Removal of Federal Subsidies," 14.



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# APPENDIX A: Glossary

**Accessory structure (or outbuilding):** A structure which is on the same parcel of property as a principal structure and the use of which is incidental to the use of the principal structure. For example, a residential structure may have a detached garage or storage shed for garden tools as accessory structures. Other examples of accessory structures include boathouses, small pole barns, storage sheds, and similar buildings.

**Accretion:** An accumulation of sediments along a shoreline.

**Addition:** An area currently not within the Coastal Barrier Resources System (CBRS) that is proposed/recommended for addition and is identified in the CBRS Projects Mapper and described on the Summary of Proposed/Final Recommended Changes.

**Aquaculture:** As defined by the National Oceanic and Atmospheric Administration (NOAA), aquaculture is the breeding, raising, and harvesting of fish, shellfish, and aquatic plants in all types of water environments.<sup>1</sup>

**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 measurement of the depth of water in oceans, rivers, or lakes and 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.

**Beach nourishment:** The process of placing large quantities of sand or sediment from a source area (offshore or inland) onto or directly adjacent to a beach as a way of combating coastal erosion and increasing beach width. Nourished beaches require constant maintenance and a large financial investment (most of which comes from public funding).

**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.

**Buffer:** Space generally about 20 feet between the boundary and the feature it is intended to follow. Buffers are used to avoid the inadvertent inclusion of existing structures and infrastructure that run parallel to or are coincident with the shoreline (such as bulkheads), while maintaining the relationship between the boundaries and the underlying features that they are intended to follow.

**CBRS Buffer Zone:** A data set created by the U.S. Fish and Wildlife Service (Service) that depicts an area extending about 20 feet on either side of the CBRS boundary and is intended to illustrate the stated horizontal accuracy of the digital boundaries against the various base maps in the CBRS Mapper. The CBRS boundaries viewed using the mapper are subject to misrepresentations beyond the Service's control, including misalignments of the boundaries with third party base layers and misprojections of spatial data. If a particular property or structure falls partially or completely within the CBRS Buffer Zone, interested parties are advised to contact the Service for an official CBRS Property Determination as to whether the property or structure is located within the CBRS, because it is too close to determine using the CBRS Mapper alone. The CBRS Buffer Zone is also available as a downloadable shapefile on the Service's website: <https://www.fws.gov/program/cbra/maps-and-data>.

**CBRS Mapper:** An interactive tool that allows the public to view the effective CBRS boundaries in a digital format without the need for GIS software and to download the official CBRS maps. The CBRS Mapper can be accessed from the Service's website at <https://www.fws.gov/program/cbra/maps-and-data>.

**CBRS Projects Mapper:** An interactive tool to display draft revised CBRS boundaries. Users can compare the draft revised boundaries to the existing boundaries, zoom in, change base maps, and obtain more detailed information about the type of change that is proposed for a specific area (e.g., additions, removals, and reclassifications). The CBRS Projects Mapper can be accessed from the Service's website at <https://www.fws.gov/program/cbra/maps-and-data>.

**Coastal barrier:** Consistent with the Coastal Barrier Resources Act (CBRA), the Service defines "coastal barrier" as a depositional geologic feature (such as a bay barrier, tombolo, barrier spit, or barrier island) that is subject to wave, tidal, and wind energies and protects landward aquatic habitats from direct wave attack; and all associated aquatic habitats, including the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters.

**Coastal Barrier Improvement Act (CBIA) (Pub. L. 101-591):** This law, enacted in 1990, reauthorized 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 CBRS, and made these areas ineligible for most new federal expenditures and financial assistance. The purposes of this law are to minimize the loss of human life, wasteful expenditure of federal revenues, and the damage to fish, wildlife, and other natural resources associated with coastal barriers by restricting future federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers, and by considering the means and measures by which the long-term conservation of these fish, wildlife, and other natural resources may be achieved.

**Coastal Barrier Resources Reauthorization Act of 2000 (2000 CBRRA) (Pub. L. 106-514):** This law, enacted in 2000, reauthorized 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 (2006 CBRRA) (Pub. L. 109-226):** This law, which was actually enacted in 2006, reauthorized 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.

**Consultation** (or **CBRA consultation**): The process under CBRA (16 U.S.C. § 3505(a)) required of a federal agency to consult with the Secretary, through the Service, prior to making federal expenditures or financial assistance available within the CBRS for any of the exceptions to CBRA's prohibitions. The Service's response to a CBRA consultation request is in the form of a non-binding opinion only, and the responsibility for complying with CBRA and the final decision regarding the expenditure of funds for a particular action or project rests with the federal funding agency.

**Density of Development:** To be considered "undeveloped" under CBRA, a coastal barrier must have a density of no more than one structure for every five acres of fastland (i.e., land above mean high tide) (16 U.S.C. § 3503(g)(1)(A)).



**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.

**Final recommended:** This term refers to the comprehensively revised draft maps prepared by the Service for congressional consideration (referred to as “final recommended maps”) or the draft revised CBRS boundaries that have been produced following a public review process and appear on the final recommended maps. The final recommended boundaries may also be viewed through the online “CBRS Projects Mapper.”

**Financial assistance:** As defined by CBRA (16 U.S.C. § 3502(3)), “financial assistance” means any form of loan, grant, guaranty, insurance, payment, rebate, subsidy, or any other form of direct or indirect federal assistance other than (1) deposit or account insurance for customers of banks, savings and loan associations, credit unions, or similar institutions; (2) the purchase of mortgages or loans by the Government National Mortgage Association, the Federal National Mortgage Association, or the Federal Home Loan Mortgage Corporation; (3) assistance for environmental studies, planning, and assessments that are required incident to the issuance of permits or other authorizations under federal law; and (4) assistance pursuant to programs entirely unrelated to development, such as any federal or federally assisted public assistance program or any federal old-age survivors or disability insurance program.

**Five-year review:** CBRA (16 U.S.C. § 3503(c)) requires that at least once every five years, the Secretary (through the Service) review the maps of the CBRS and make modifications to the boundaries of the units to account for changes caused by natural forces such as accretion and erosion.

**Flood insurance prohibition date:** The date on which the prohibition on federal flood insurance first took effect for a given area. The Federal Emergency Management Agency’s (FEMA) National Flood Insurance Program (NFIP) uses this date to determine whether a structure located within the CBRS is eligible for federal flood insurance. Federal flood insurance is available within the CBRS for structures that were constructed (or permitted and under construction) before the area’s flood insurance prohibition date (which is generally tied to the date that the area was first established as either a System Unit or OPA, but may differ in some cases). If an existing insured structure within the CBRS is substantially improved or damaged (i.e., over 50 percent of the structure’s market value), its federal flood insurance policy cannot be renewed. See [FEMA’s Flood Insurance Manual](#) for additional information.

**Flood Insurance Rate Map (FIRM):** The official flood insurance map of a community on which FEMA has delineated the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations (BFEs), 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 relating to the form of the Earth or the forms of its surface.

**Infrastructure:** As used by CBRA (16 U.S.C. § 3503(g)(1)(B)), “infrastructure” consists of (1) a road, with a reinforced road bed, to each lot or building site in the area; (2) a wastewater disposal system sufficient to serve each lot or building site in the area; (3) electric service for each lot or building site in the area; and (4) a fresh water supply for each lot or building site in the area.

**Inholding:** Developed or undeveloped private tract of land that is not held for conservation or recreation purposes by its owner(s), and is contained within the exterior boundaries of an area held primarily for wildlife refuge, sanctuary, recreation, or natural resource conservation purposes.

**John H. Chafee Coastal Barrier Resources System (CBRS or System):** A geographic system, established by CBRA (16 U.S.C. § 3503(a)) in 1982, that consists of the undeveloped coastal barriers and other areas located on the coasts of the U.S. that are identified and 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.

**Living shoreline:** Living shoreline refers to a range of shoreline stabilization techniques, which attempt to control erosion and flooding by recreating or enhancing natural shorelines using vegetation and other natural or organic materials either alone or in combination with some type of harder shoreline structure, like oyster reefs, rock sills, or anchored large wood logs.

**Metadata (or “data about data”):** 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):** The Service is the principal U.S. federal agency tasked with providing information to the public on the status and trends of the Nation’s wetlands. The National Wetlands Inventory is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of U.S. wetlands. NWI data are used by natural resource managers, within the Service and throughout the Nation, to promote the understanding, conservation, and restoration of wetlands.

**Orthoimage (or orthophoto):** An aerial photograph in which displacements (distortions) caused by terrain relief and camera tilts have been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Unlike an aerial photograph, an orthoimage has a uniform scale, so it can be used as a base map onto which other map information is overlaid. It is possible to measure directly on an orthoimage, just like other maps.

**Otherwise Protected Area (OPA):** One of the two types of units within the CBRS. OPAs are predominantly comprised of areas established under federal, state, or local law, or held by a qualified organization (defined under the Internal Revenue Code [26 U.S.C. 170(h)(3)]), primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. However, they may also contain privately-owned areas that are not held for conservation and/or recreation. OPAs are denoted with a “P” at the end of the unit number and are depicted in green in the CBRS Mapper. The only federal spending prohibition within OPAs is on federal flood insurance, with an exception for park-related structures.

**Outbuilding (see accessory structure)**

**Property determination:** An official letter from the Service that indicates whether a specific property or project site is located within or outside of the CBRS. The Service’s determination is based upon materials provided by the requester and the official CBRS map of the area. The Service’s response letter contains an in/out determination and the prohibition date for federal flood insurance if the property is located within the CBRS. Additional information is available at <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>.

**Proposed:** This term refers to the draft revised boundaries that propose modifications to the CBRS, which are prepared by the Service for public review. The proposed boundaries may be viewed by the public through the online “CBRS Projects Mapper.”

**Reclassification (from System Unit to OPA or from OPA to System Unit):** An area that is proposed/recommended to change from its current unit designation type (such as System Unit) to the other unit type (such as OPA). This type of change is often based 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.

**Removal:** An area currently within the CBRS that is proposed/recommended for removal and is identified in the CBRS Projects Mapper and described on the Summary of Proposed/Final Recommended Changes.

**Resilience:** Defined by the National Research Council (NRC) as “the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events.”<sup>2</sup>

**Sand mining:** Dredging or excavating material (usually sand) from a borrow or mining site for a beach nourishment project.



**Special Flood Hazard Area (SFHA):** The area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. These areas are designated on FEMA's FIRMs for flood insurance rating purposes and generally have no direct relationship to the CBRS boundaries.

**Stakeholder Outreach Toolkits:** A tool developed by the Service to assist local officials in increasing awareness within their communities of proposed changes to the CBRS and any planned virtual public meetings. The outreach toolkits are made available to local officials upon request and are generally comprised of fact sheets, flyers for any virtual public meetings, a "dear interested party" letter that could be distributed to property owners, and other information about the CBRS project.

**Storm surge:** According to NOAA, storm surge is an abnormal rise in seawater level generated by a storm, over and above the normal predicted astronomical tide; is caused primarily by the strong winds of a storm pushing a huge volume of water onto the shore; and can penetrate many miles inland. Storm surge is a complex phenomenon, and its severity is affected by the storm's intensity, the forward speed and size of the storm, the angle of its approach to the coast, atmospheric pressure, the slope of the ocean bottom, and the shape and characteristics of coastal features such as bays and estuaries.<sup>3</sup>

**Strengthening Coastal Communities Act of 2018 (SCCA) (Pub. L. 115-358):** This law, enacted in December 2018, amended CBRA to give effect to 35 revised maps produced by the Service depicting 59 CBRS units in Delaware, Florida, North Carolina, and South Carolina. These maps constitute the largest legislative update to the CBRS since 1990. Fifty-seven of these units were mapped through the Service's Digital Mapping Pilot Project, and two of these units were mapped through a separate effort. The Act requires the Service to post digital versions of all of the CBRS maps to the Internet. The Act also directs the Service to submit a report to Congress regarding the progress and challenges in the transition from paper to digital maps and a timetable for completion of the digitization of all maps related to the CBRS.

**Structure:** As defined by CBRA (16 U.S.C. § 3503(g)(2)), a "structure" is a walled and roofed building (other than a gas or liquid storage tank) that is principally above ground and affixed to a permanent site, (including a manufactured home on a permanent foundation) and covers an area of at least 200 square feet.

**Substantially Damaged Building:** As defined by FEMA, this is a building that has incurred damage of any origin whereby the cost of restoring the building to its before damaged condition would equal or exceed 50% of the market value of the building before the damage occurred.<sup>4</sup>

**Substantially Improved Building:** As defined by FEMA, this is a building that has undergone reconstruction, rehabilitation, addition, or other improvement, the cost of which equals or exceeds 50% of the market value of the building before the "start of construction" of the improvement.<sup>5</sup>

**System Unit:** One of the two types of units within the CBRS. System Units contain areas that are relatively undeveloped at the time of their designation within the CBRS, and are predominantly comprised of privately-owned areas, though they may also contain areas that are held for conservation and/or recreation. System Units are depicted in pink in the CBRS Mapper. Most new federal expenditures and financial assistance, including federal flood insurance, are prohibited within System Units.

**System Unit establishment date:** The date on which prohibitions on federal expenditures and financial assistance besides flood insurance (e.g., dredging and disaster assistance) went into effect. This is the date that FEMA uses to determine whether a road, structure, or facility is an "existing facility" as defined by its regulations implementing CBRA and the Stafford Act (44 CFR Part 206.342(c)). Additionally, this is the date used to determine whether federal navigation channels and related structures were authorized prior to the date on which the area was included in a System Unit (16 U.S.C. 3505(b)). In most cases, the System Unit prohibition date is the same as the flood insurance prohibition date. However, these dates differ in areas that were first designated in 1982 and also in areas that have been reclassified from OPA to System Unit.

**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.

**Technical correction assessment:** A technical correction assessment is prepared in cases where an interested party specifically requests an assessment for a particular property or area to determine whether a technical mapping error exists, and the property or area in question is appropriate for removal from the CBRS. An assessment may also be prepared in cases where the submitted public comments request removal of a specific area from the CBRS. The technical

correction assessment generally includes an overview of the technical correction process, a description of the area(s) in question, and the Service's findings on whether a mapping error exists for each particular area.

**Transfer** (from System Unit to System Unit or from OPA to OPA): An area that is proposed/recommended to change from its current unit number to another unit number. This is generally done to simplify the mapping of an area where there are adjacent units of the same unit type. There is no change to the prohibitions of an area that is transferred from one unit number to another so long as they are the same type of unit.

**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:** Maps published by the U.S. Geological Survey (USGS) depicting elevation contours and other physical and cultural features. Topographic quadrangles from USGS's 7.5-minute series were used as the base maps for the original set of CBRS maps produced in 1982, as well as the maps adopted in the CBIA of 1990.

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<sup>1</sup> NOAA, "What is aquaculture?" National Ocean Service website, last modified February 26, 2021, accessed April 13, 2021, <https://oceanservice.noaa.gov/facts/aquaculture.html>.

<sup>2</sup> National Research Council, *Disaster Resilience: A National Imperative* (Washington, DC: The National Academies Press, 2012), 16, accessed April 13, 2021, <https://doi.org/10.17226/18811>.

<sup>3</sup> NOAA, "What is storm surge?" National Ocean Service website, last modified February 26, 2021, accessed April 13, 2021, <https://oceanservice.noaa.gov/facts/stormsurge-stormtide.html>.

<sup>4</sup> FEMA, National Flood Insurance Program Terminology Index, accessed March 9, 2021, <https://www.fema.gov/flood-insurance/terminology-index>.

<sup>5</sup> Ibid.



# APPENDIX B: Project Acreage, Structure, and Shoreline Change Metrics

**Table 3. Project Acreage Changes**

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)									
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change
NH-01P	0	681	681	0	0	681	0	121	121	0	0	121	0	560	560	0	0	560
C00	2,034	2,426	381	6	16	392	121	233	115	6	3	112	1,913	2,193	266	0	13	280
C01	771	1,041	270	0	0	270	46	48	2	0	0	2	725	993	268	0	0	268
C01A	273	317	45	1	0	44	46	51	6	1	0	5	227	266	39	0	0	39
C01B	60	65	6	1	0	5	4	4	1	1	0	0	56	61	5	0	0	5
C01C	17	17	0	0	0	0	4	4	0	0	0	0	13	13	0	0	0	0
C01CP	0	18	18	0	0	18	0	12	12	0	0	12	0	6	6	0	0	6
C02	83	0	0	0	-83	-83	6	0	0	0	-6	-6	77	0	0	0	-77	-77
C02P	0	266	183	0	83	266	0	16	10	0	6	16	0	250	173	0	77	250
C03	2,064	2,103	41	2	0	39	94	98	6	2	0	4	1,970	2,005	35	0	0	35
C03A	139	380	241	0	0	241	40	47	7	0	0	7	99	333	234	0	0	234
C04	2,567	2,565	27	29	0	-2	89	90	5	4	0	1	2,478	2,475	22	25	0	-3
C06	140	151	11	0	0	11	25	28	3	0	0	3	115	123	8	0	0	8
C08	225	306	81	0	0	81	44	69	25	0	0	25	181	237	56	0	0	56
C09	7,667	7,880	155	3	61	213	346	369	18	3	8	23	7,321	7,511	137	0	53	190
C09P	1,205	1,201	0	0	-4	-4	965	959	0	0	-6	-6	240	242	0	0	2	2
C10	418	480	62	0	0	62	92	103	11	0	0	11	326	377	51	0	0	51
C11	250	256	8	2	0	6	33	32	1	2	0	-1	217	224	7	0	0	7
C11A	399	689	299	1	-8	290	9	43	36	1	-1	34	390	646	263	0	-7	256
C11AP	26	36	2	0	8	10	16	19	2	0	1	3	10	17	0	0	7	7
C11P	0	22	22	0	0	22	0	13	13	0	0	13	0	9	9	0	0	9
C12	248	93	9	3	-161	-155	23	12	1	3	-9	-11	225	81	8	0	-152	-144
C12P	0	176	15	0	161	176	0	12	3	0	9	12	0	164	12	0	152	164
C13	1,689	1,783	79	2	17	94	157	158	3	1	-1	1	1,532	1,625	76	1	18	93
C13P	97	91	11	0	-17	-6	54	56	1	0	1	2	43	35	10	0	-18	-8
C14	161	188	27	0	0	27	17	24	7	0	0	7	144	164	20	0	0	20
C15	172	271	97	0	2	99	20	26	6	0	0	6	152	245	91	0	2	93
C15P	24	23	1	0	-2	-1	8	9	1	0	0	1	16	14	0	0	-2	-2
C16	970	1,440	476	6	0	470	96	113	23	6	0	17	874	1,327	453	0	0	453

<sup>1</sup> Land above mean high tide.

<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

**Table 3. Project Acreage Changes (continued)**

Unit	Total (acres)					Fastland <sup>1</sup> (acres)					Associated Aquatic Habitat <sup>2</sup> (acres)							
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change			
C17	543	651	108	0	0	108	12	15	3	0	0	3	531	636	105	0	0	105
C18	1,158	1,862	685	0	19	704	334	366	18	0	14	32	824	1,496	667	0	5	672
C18A	372	381	11	2	0	9	25	26	3	2	0	1	347	355	8	0	0	8
C18P	19	0	0	0	-19	-19	14	0	0	0	-14	-14	5	0	0	0	-5	-5
C19	151	175	24	0	0	24	22	30	8	0	0	8	129	145	16	0	0	16
C19A	971	1,723	925	4	-169	752	91	112	34	3	-10	21	880	1,611	891	1	-159	731
C19AP	0	172	3	0	169	172	0	11	1	0	10	11	0	161	2	0	159	161
C19P	0	71	71	0	0	71	0	8	8	0	0	8	0	63	63	0	0	63
C20	6,765	3,159	16	13	-3,609	-3,606	1,075	745	11	3	-338	-330	5,690	2,414	5	10	-3,271	-3,276
C20P	0	3,811	202	0	3,609	3,811	0	373	35	0	338	373	0	3,438	167	0	3,271	3,438
C21	304	309	5	0	0	5	10	12	2	0	0	2	294	297	3	0	0	3
C22	194	0	0	0	-194	-194	10	0	0	0	-10	-10	184	0	0	0	-184	-184
C22P	0	244	50	0	194	244	0	17	7	0	10	17	0	227	43	0	184	227
C23	1,525	1,739	403	0	-189	214	173	93	5	0	-85	-80	1,352	1,646	398	0	-104	294
C23P	0	236	47	0	189	236	0	107	22	0	85	107	0	129	25	0	104	129
C24	378	577	199	0	0	199	50	64	14	0	0	14	328	513	185	0	0	185
C25	836	1,783	947	0	0	947	142	142	0	0	0	0	694	1,641	947	0	0	947
C26	130	152	25	3	0	22	20	23	6	3	0	3	110	129	19	0	0	19
C27	2,552	2,580	29	1	0	28	366	372	7	1	0	6	2,186	2,208	22	0	0	22
C28	2,802	3,067	266	1	0	265	340	405	66	1	0	65	2,462	2,662	200	0	0	200
C29	2,070	2,297	314	91	4	227	389	492	105	2	0	103	1,681	1,805	209	89	4	124
C29A	98	105	7	0	0	7	27	30	3	0	0	3	71	75	4	0	0	4
C29B	49	303	254	0	0	254	13	44	31	0	0	31	36	259	223	0	0	223
C29P	40	36	0	0	-4	-4	14	14	0	0	0	0	26	22	0	0	-4	-4
C31	1,042	1,212	149	0	0	170	247	255	7	0	0	8	795	957	142	0	0	162
C31A	416	691	275	0	0	275	56	78	22	0	0	22	360	613	253	0	0	253
C31AP	0	13	13	0	0	13	0	2	2	0	0	2	0	11	11	0	0	11
C31B	47	75	28	0	0	28	1	3	2	0	0	2	46	72	26	0	0	26
C32	67	74	7	0	0	7	6	7	1	0	0	1	61	67	6	0	0	6
C33	600	610	14	4	0	10	101	101	4	4	0	0	499	509	10	0	0	10
C34	2,894	3,001	290	5	-178	107	219	241	26	1	-3	22	2,675	2,760	264	4	-175	85
C34A	21	19	0	2	0	-2	3	1	0	2	0	-2	18	18	0	0	0	0

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.



**Table 3. Project Acreage Changes (continued)**

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)			
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change
C34P	636	821	10	3	178	185	443	450	7	3	3	7
C35	213	237	24	0	0	24	30	35	5	0	0	5
MA-01P	1,439	3,663	2,224	0	0	2,224	170	248	78	0	0	78
MA-02P	6,411	11,141	4,749	3	-16	4,730	1,024	1,160	141	2	-3	136
MA-03	5,662	6,119	503	45	0	457	712	736	66	42	0	24
MA-04	92	85	1	8	0	-7	36	29	0	7	0	-7
MA-06	37	31	0	6	0	-6	13	8	0	5	0	-5
MA-08P	252	606	358	4	0	354	24	29	6	1	0	5
MA-09P	447	912	465	0	0	465	16	109	93	0	0	93
MA-10P	183	196	13	0	0	13	55	63	8	0	0	8
MA-11	1,545	935	0	0	-610	-610	86	15	0	0	-71	-71
MA-11P	0	610	0	0	610	610	0	71	0	0	71	71
MA-12	723	730	9	2	0	7	59	58	1	2	0	-1
MA-13	9,738	8,176	75	2	-1,635	-1,562	175	58	23	1	-139	-117
MA-13P	0	1,708	73	0	1,635	1,708	0	153	14	0	139	153
MA-14P	591	732	142	1	0	141	59	66	8	1	0	7
MA-15P	620	628	65	0	-57	8	82	85	5	0	-2	3
MA-16	20	35	15	0	0	15	11	19	8	0	0	8
MA-17AP	829	1,824	995	0	0	995	195	250	55	0	0	55
MA-17P	3,057	3,957	906	6	0	900	1,411	1,434	24	1	0	23
MA-18	391	0	0	1	-390	-391	63	0	0	1	-62	-63
MA-18AP	0	480	90	0	390	480	0	76	14	0	62	76
MA-18P	182	183	1	0	0	1	17	17	0	0	0	0
MA-19P	7,094	7,483	389	0	0	389	4,629	4,776	147	0	0	147
MA-20P	10,735	19,557	8,836	14	0	8,822	2,297	2,392	108	13	0	95
MA-23P	390	416	45	19	0	26	86	70	1	17	0	-16
MA-24	384	821	458	0	0	437	128	265	138	0	0	137
MA-25P	953	953	0	0	0	0	65	65	0	0	0	0
MA-26	89	97	8	0	0	8	18	21	3	0	0	3
MA-27	0	90	60	0	30	90	0	23	15	0	8	23
MA-27P	1,075	1,053	11	3	-30	-22	135	128	4	3	-8	-7
MA-28P	1,378	1,484	106	0	0	106	33	115	82	0	0	82

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

Table 3. Project Acreage Changes (continued)

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)									
	Existing	Final Reconn- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change	Existing	Final Reconn- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change	Existing	Final Reconn- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change
MA-29P	1,641	1,641	0	0	0	0	449	449	0	0	0	0	1,192	1,192	0	0	0	0
MA-30	43	47	5	1	0	4	10	11	2	1	0	1	33	36	3	0	0	3
MA-31	134	137	3	0	0	3	15	16	1	0	0	1	119	121	2	0	0	2
MA-32	193	960	767	0	0	767	0	54	54	0	0	54	193	906	713	0	0	713
MA-33	659	853	194	0	0	194	71	76	5	0	0	5	588	777	189	0	0	189
MA-35	301	454	153	0	0	153	10	14	4	0	0	4	291	440	149	0	0	149
MA-36	79	109	30	0	0	30	13	20	7	0	0	7	66	89	23	0	0	23
MA-37P	249	401	161	9	0	152	75	76	10	9	0	1	174	325	151	0	0	151
MA-38P	0	809	809	0	0	809	0	350	350	0	0	350	0	459	459	0	0	459
MA-40P	0	711	711	0	0	711	0	145	145	0	0	145	0	566	566	0	0	566
MA-41P	0	77	77	0	0	77	0	8	8	0	0	8	0	69	69	0	0	69
MA-42P	0	216	216	0	0	216	0	53	53	0	0	53	0	163	163	0	0	163
MA-43	0	301	301	0	0	301	0	52	52	0	0	52	0	249	249	0	0	249
MA-43P	0	25	25	0	0	25	0	17	17	0	0	17	0	8	8	0	0	8
MA-45P	0	129	129	0	0	129	0	56	56	0	0	56	0	73	73	0	0	73
MA-46	0	15	15	0	0	15	0	3	3	0	0	3	0	12	12	0	0	12
MA-47P	0	510	510	0	0	510	0	17	17	0	0	17	0	493	493	0	0	493
MA-48	0	75	75	0	0	75	0	6	6	0	0	6	0	69	69	0	0	69
D01	1,039	1,052	15	2	0	13	163	171	10	2	0	8	876	881	5	0	0	5
D01P	64	64	0	0	0	0	7	7	0	0	0	0	57	57	0	0	0	0
D02	241	265	43	1	-18	24	22	25	6	1	-2	3	219	240	37	0	-16	21
D02B	2,161	1,552	160	10	-759	-609	398	196	37	9	-230	-202	1,763	1,356	123	1	-529	-407
D02BP	28	910	124	1	759	882	8	276	38	0	230	268	20	634	86	1	529	614
D02C	137	140	7	4	0	3	23	22	3	4	0	-1	114	118	4	0	0	4
D02P	0	18	0	0	18	18	0	2	0	0	2	2	0	16	0	0	16	16
D03	116	119	4	1	0	3	47	49	3	1	0	2	69	70	1	0	0	1
D03P	618	609	5	14	0	-9	333	325	3	11	0	-8	285	284	2	3	0	-1
D04	546	575	28	3	0	29	81	90	11	3	0	9	465	485	17	0	0	20
D05	2,209	0	0	10	-2,195	-2,209	308	0	0	10	-297	-308	1,901	0	0	0	-1,898	-1,901
D05P	61	2,310	54	0	2,195	2,249	20	335	18	0	297	315	41	1,975	36	0	1,898	1,934
D06	1,184	1,137	23	13	-57	-47	173	148	5	13	-17	-25	1,011	989	18	0	-40	-22

<sup>1</sup> Land above mean high tide.

<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

Unit	Total (acres)					Fastland <sup>1</sup> (acres)					Associated Aquatic Habitat <sup>2</sup> (acres)							
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change			
D06P	0	62	5	0	57	62	0	20	3	0	17	20	0	42	2	0	40	42
D07	97	137	40	0	0	40	49	78	29	0	0	29	48	59	11	0	0	11
D08	650	2,543	460	0	0	1,893	80	215	19	0	0	135	570	2,328	441	0	0	1,758
D08P	42	44	2	0	0	2	7	7	0	0	0	0	35	37	2	0	0	2
D09	1,100	263	11	12	-836	-837	218	97	1	10	-112	-121	882	166	10	2	-724	-716
D09P	76	946	42	8	836	870	55	174	15	8	112	119	21	772	27	0	724	751
RI-01	48	59	11	0	0	11	11	13	2	0	0	2	37	46	9	0	0	9
RI-02	472	177	56	2	-349	-295	140	104	51	2	-85	-36	332	73	5	0	-264	-259
RI-02A	11	12	1	0	0	1	2	2	0	0	0	0	9	10	1	0	0	1
RI-02P	0	393	44	0	349	393	0	125	40	0	85	125	0	268	4	0	264	268
RI-03P	21	22	1	0	0	1	11	12	1	0	0	1	10	10	0	0	0	0
RI-08	73	134	25	0	36	61	8	13	4	0	1	5	65	121	21	0	35	56
RI-08P	118	87	5	0	-36	-31	11	12	2	0	-1	1	107	75	3	0	-35	-32
RI-09	123	122	4	5	0	-1	22	20	3	5	0	-2	101	102	1	0	0	1
RI-10	394	72	8	1	-329	-322	26	19	2	1	-8	-7	368	53	6	0	-321	-315
RI-10P	101	438	10	2	329	337	26	35	2	1	8	9	75	403	8	1	321	328
RI-11	20	0	0	1	-19	-20	6	0	0	1	-5	-6	14	0	0	0	-14	-14
RI-11P	306	397	73	1	19	91	40	70	26	1	5	30	266	327	47	0	14	61
RI-12	405	0	0	7	-398	-405	37	0	0	5	-32	-37	368	0	0	2	-366	-368
RI-12P	20	454	36	0	398	434	12	60	16	0	32	48	8	394	20	0	366	386
RI-13P	227	442	215	0	0	215	46	56	10	0	0	10	181	386	205	0	0	205
RI-14P	0	32	32	0	0	32	0	22	22	0	0	22	0	10	10	0	0	10
CT-00	1,433	0	0	0	0	-1,433	116	0	0	0	0	-116	1,317	0	0	0	0	-1,317
CT-01	84	149	65	0	0	65	7	7	0	0	0	0	77	142	65	0	0	65
CT-02	494	863	335	0	34	369	68	88	20	0	0	20	426	775	315	0	34	349
CT-02P	34	0	0	0	-34	-34	0	0	0	0	0	0	34	0	0	0	-34	-34
CT-03	229	264	35	0	0	35	23	24	1	0	0	1	206	240	34	0	0	34
CT-04	65	74	9	0	0	9	24	28	4	0	0	4	41	46	5	0	0	5
CT-05	14	14	0	0	0	0	4	4	0	0	0	0	10	10	0	0	0	0
CT-06	61	78	17	0	0	17	25	27	2	0	0	2	36	51	15	0	0	15
CT-07	1,512	2,813	1,301	0	0	1,301	77	88	11	0	0	11	1,435	2,725	1,290	0	0	1,290

<sup>1</sup> Land above mean high tide.

<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.



**Table 3. Project Acreage Changes (continued)**

Unit	Total (acres)					Fastland <sup>1</sup> (acres)					Associated Aquatic Habitat <sup>2</sup> (acres)							
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change
CT-08	24	39	18	3	0	15	5	4	2	3	0	-1	19	35	16	0	0	16
CT-09	118	0	0	2	0	-118	21	0	0	0	0	-21	97	0	0	2	0	-97
CT-10	99	112	13	0	0	13	27	30	3	0	0	3	72	82	10	0	0	10
CT-11	39	39	1	1	0	0	8	7	0	1	0	-1	31	32	1	0	0	1
CT-12	5	8	3	0	0	3	2	3	1	0	0	1	3	5	2	0	0	2
CT-13	29	31	2	0	0	2	1	1	0	0	0	0	28	30	2	0	0	2
CT-14P	8	12	4	0	0	4	4	5	1	0	0	1	4	7	3	0	0	3
CT-15P	143	168	27	2	0	25	40	39	1	2	0	-1	103	129	26	0	0	26
CT-18P	662	1,206	544	0	0	544	80	183	103	0	0	103	582	1,023	441	0	0	441
CT-19P	0	967	967	0	0	967	0	27	27	0	0	27	0	940	940	0	0	940
CT-20P	0	263	263	0	0	263	0	19	19	0	0	19	0	244	244	0	0	244
CT-21P	0	379	379	0	0	379	0	144	144	0	0	144	0	235	235	0	0	235
E01	28	28	0	0	0	0	1	1	0	0	0	0	27	27	0	0	0	0
E01A	161	193	32	0	0	32	13	13	0	0	0	0	148	180	32	0	0	32
E02	64	111	47	0	0	47	14	24	10	0	0	10	50	87	37	0	0	37
E03	80	97	17	0	0	17	2	8	6	0	0	6	78	89	11	0	0	11
E03A	20	25	5	0	0	5	4	7	3	0	0	3	16	18	2	0	0	2
E03B	126	130	7	3	0	4	40	38	1	3	0	-2	86	92	6	0	0	6
E04	87	253	166	0	0	166	2	2	0	0	0	0	85	251	166	0	0	166
E05	730	1,122	207	1	70	392	119	160	8	0	12	41	611	962	199	1	58	351
E05P	85	0	0	15	-70	-85	13	0	0	1	-12	-13	72	0	0	14	-58	-72
E07	1,005	1,243	204	2	36	238	32	55	22	2	3	23	973	1,188	182	0	33	215
E07P	39	0	0	3	-36	-39	6	0	0	3	-3	-6	33	0	0	0	-33	-33
E08A	92	0	0	0	-92	-92	13	0	0	0	-13	-13	79	0	0	0	-79	-79
E08AP	0	249	157	0	92	249	0	27	14	0	13	27	0	222	143	0	79	222
E09	1,083	1,083	0	0	0	0	93	93	0	0	0	0	990	990	0	0	0	0
E09P	729	1,152	423	0	0	423	48	50	2	0	0	2	681	1,102	421	0	0	421
F01	141	200	59	0	0	59	27	52	25	0	0	25	114	148	34	0	0	34
F02	93	102	9	0	0	9	12	13	1	0	0	1	81	89	8	0	0	8
F04	158	0	0	0	-158	-158	21	0	0	0	-21	-21	137	0	0	0	-137	-137
F04P	0	178	20	0	158	178	0	27	6	0	21	27	0	151	14	0	137	151

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

**Table 3. Project Acreage Changes (continued)**

Unit	Total (acres)					Fastland <sup>1</sup> (acres)					Associated Aquatic Habitat <sup>2</sup> (acres)							
	Existing	Final Recommended	Added to CBRS	Removed from CBRS	Net Reclassified	Existing	Final Recommended	Added to CBRS	Removed from CBRS	Net Reclassified	Existing	Final Recommended	Added to CBRS	Removed from CBRS	Net Reclassified			
F05	1,316	1,416	451	5	-346	100	134	71	35	1	-97	-63	1,182	1,345	416	4	-249	163
F05P	0	351	5	0	346	351	0	100	3	0	97	100	0	251	2	0	249	251
F06	1,410	1,465	60	5	0	55	111	119	12	4	0	8	1,299	1,346	48	1	0	47
F08A	1,216	1,247	46	15	0	31	129	130	10	9	0	1	1,087	1,117	36	6	0	30
F08B	700	750	63	13	0	50	105	137	40	8	0	32	595	613	23	5	0	18
F09	1,147	1,390	243	0	0	243	182	202	20	0	0	20	965	1,188	223	0	0	223
F10	2,653	149	5	15	-2,494	-2,504	1,278	118	5	8	-1,157	-1,160	1,375	31	0	7	-1,337	-1,344
F10P	0	3,171	677	0	2,494	3,171	0	1,628	471	0	1,157	1,628	0	1,543	206	0	1,337	1,543
F11	1,185	1,386	236	35	0	201	99	104	36	31	0	5	1,086	1,282	200	4	0	196
F12	1,460	2,565	1,139	4	-30	1,105	189	207	37	3	-16	18	1,271	2,358	1,102	1	-14	1,087
F13	4,249	4,166	155	25	-213	-83	74	47	7	15	-19	-27	4,175	4,119	148	10	-194	-56
F13P	318	579	28	10	243	261	170	217	18	6	35	47	148	362	10	4	208	214
NY-03	53	53	0	0	0	0	15	15	0	0	0	0	38	38	0	0	0	0
NY-04P	52	64	12	0	0	12	7	9	2	0	0	2	45	55	10	0	0	10
NY-05P	55	160	107	2	0	105	10	19	11	2	0	9	45	141	96	0	0	96
NY-06	26	26	0	2	2	0	13	14	0	1	2	1	13	12	0	1	0	-1
NY-06P	121	147	40	12	-2	26	24	23	10	9	-2	-1	97	124	30	3	0	27
NY-07P	32	905	873	0	0	873	23	41	18	0	0	18	9	864	855	0	0	855
NY-09P	131	138	7	0	0	7	29	33	4	0	0	4	102	105	3	0	0	3
NY-10	265	54	2	0	-213	-211	40	16	1	0	-25	-24	225	38	1	0	-188	-187
NY-10P	0	215	2	0	213	215	0	26	1	0	25	26	0	189	1	0	188	189
NY-11	646	684	38	0	0	38	42	52	10	0	0	10	604	632	28	0	0	28
NY-11P	13	13	0	0	0	0	9	9	0	0	0	0	4	4	0	0	0	0
NY-12	75	126	51	0	0	51	1	7	6	0	0	6	74	119	45	0	0	45
NY-13	32	34	2	0	0	2	13	14	1	0	0	1	19	20	1	0	0	1
NY-14	302	314	17	5	0	12	32	30	2	4	0	-2	270	284	15	1	0	14
NY-15	1,071	623	330	1	-777	-448	578	73	15	1	-519	-505	493	550	315	0	-258	57
NY-15P	0	821	44	0	777	821	0	555	36	0	519	555	0	266	8	0	258	266
NY-16	1,176	1,226	80	4	-26	50	94	104	36	3	-23	10	1,082	1,122	44	1	-3	40
NY-16P	0	228	202	0	26	228	0	68	45	0	23	68	0	160	157	0	3	160
NY-17	47	35	0	11	-1	-12	19	8	0	10	-1	-11	28	27	0	1	0	-1

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

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<sup>1</sup> Land above mean high tide.  
<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.



Table 3. Project Acreage Changes (continued)

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)			
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Change
NY-40	274	297	24	2	1	23	24	29	6	1	0	5
NY-40P	62	59	1	3	-1	-3	51	49	1	3	0	-2
NY-41	99	0	0	1	-98	-99	27	0	0	1	-26	-27
NY-41P	214	320	9	1	98	106	118	148	5	1	26	30
NY-42	56	57	2	1	0	1	13	13	1	1	0	0
NY-43	13	13	0	0	0	0	1	1	0	0	0	0
NY-43P	236	557	331	10	0	321	58	74	25	9	0	16
NY-44	56	147	93	2	0	91	15	60	47	2	0	45
NY-45	280	540	262	2	0	260	16	27	12	1	0	11
NY-46	47	48	1	0	0	1	5	5	0	0	0	0
NY-47	12	13	1	0	0	1	3	3	0	0	0	0
NY-48	246	322	76	0	0	76	117	121	4	0	0	4
NY-49	41	41	3	3	0	0	11	9	1	3	0	-2
NY-50	56	96	41	1	0	40	7	10	4	1	0	3
NY-51	1,558	0	0	0	-1,558	-1,558	88	0	0	0	-88	-88
NY-51P	3	1,651	90	0	1,558	1,648	2	108	18	0	88	106
NY-52	31	61	32	2	0	30	10	19	10	1	0	9
NY-53	186	0	0	0	-186	-186	68	0	0	0	-68	-68
NY-53P	0	202	16	0	186	202	0	70	2	0	68	70
NY-54	163	0	0	0	-163	-163	14	0	0	0	-14	-14
NY-54P	0	163	0	0	163	163	0	14	0	0	14	14
NY-55	168	0	0	4	-164	-168	144	0	0	3	-141	-144
NY-55P	0	166	2	0	164	166	0	143	2	0	141	143
NY-56	101	106	10	1	-4	5	58	59	5	1	-3	1
NY-56P	41	41	0	4	4	0	30	30	0	3	3	0
NY-57	302	407	105	0	0	105	22	32	10	0	0	10
NY-58	126	148	53	1	-30	22	18	13	3	1	-7	-5
NY-58P	0	30	0	0	30	30	0	7	0	0	7	7
NY-59	34,207	22,753	78	8	-11,524	-11,454	5,280	1,311	7	1	-3,975	-3,969
NY-59P	18,873	38,938	8,564	23	11,524	20,065	1,866	6,308	477	10	3,975	4,442
NY-60P	18,105	20,180	2,107	32	0	2,075	3,367	3,875	536	28	0	508

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

Table 3. Project Acreage Changes (continued)

Unit	Total (acres)					Fastland <sup>1</sup> (acres)					Associated Aquatic Habitat <sup>2</sup> (acres)					
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	
NY-88	0	73	73	0	0	73	0	13	0	0	13	0	60	60	0	60
NY-89	0	548	548	0	0	548	0	33	33	0	33	0	515	515	0	515
NY-90P	0	40	40	0	0	40	0	21	21	0	21	0	19	19	0	19
NY-92	0	263	263	0	0	263	0	12	12	0	12	0	251	251	0	251
NY-93	0	22	22	0	0	22	0	3	3	0	3	0	19	19	0	19
NY-94	0	13	13	0	0	13	0	0	0	0	0	0	13	13	0	13
NY-95P	0	69	69	0	0	69	0	6	6	0	6	0	63	63	0	63
NY-96P	0	70	70	0	0	70	0	33	33	0	33	0	37	37	0	37
NY-97P	0	140	140	0	0	140	0	87	87	0	87	0	53	53	0	53
NJ-01P	3,881	3,974	93	0	0	93	1,141	1,142	1	0	1	2,740	2,832	92	0	92
NJ-04A	1,236	1,670	434	0	0	434	18	33	15	0	15	1,218	1,637	419	0	419
NJ-04AP	0	14	14	0	0	14	0	0	0	0	0	0	14	14	0	14
NJ-04B	1,886	2,329	464	18	-3	443	205	217	24	12	12	1,681	2,112	440	6	-3
NJ-04BP	137	140	1	1	3	3	0	0	0	0	0	137	140	1	1	3
NJ-05P	9,455	14,205	4,750	0	0	4,750	650	675	25	0	25	8,805	13,530	4,725	0	4,725
NJ-06	514	2,285	1,762	5	14	1,771	3	3	1	1	0	511	2,282	1,761	4	14
NJ-06P	127	113	0	0	-14	-14	0	0	0	0	0	127	113	0	0	-14
NJ-07P	51,037	56,193	5,193	37	0	5,156	982	1,210	254	26	0	50,055	54,983	4,939	11	0
NJ-08P	2,136	3,423	1,288	1	0	1,287	62	94	33	1	0	2,074	3,329	1,255	0	0
NJ-09	2,794	3,599	762	0	43	805	44	122	76	0	78	2,750	3,477	686	0	41
NJ-09P	1,124	1,665	584	0	-43	541	11	11	2	0	-2	1,113	1,654	582	0	-41
NJ-10P	221	429	209	1	0	208	62	122	61	1	60	159	307	148	0	148
NJ-11P	885	1,299	505	91	0	414	359	512	241	88	153	526	787	264	3	261
NJ-12	482	697	220	0	-5	215	18	63	46	0	-1	464	634	174	0	-4
NJ-12P	22	74	47	0	5	52	1	9	7	0	8	21	65	40	0	4
NJ-13	674	783	109	0	0	109	7	13	6	0	6	667	770	103	0	103
NJ-14	2,406	5,752	2,493	1	854	3,346	50	113	68	0	-5	2,356	5,639	2,425	1	859
NJ-14P	7,722	9,346	2,479	1	-854	1,624	21	84	59	1	5	7,701	9,262	2,420	0	-859
NJ-17P	0	323	323	0	0	323	0	55	55	0	55	0	268	268	0	268
NJ-19P	0	4,642	4,642	0	0	4,642	0	86	86	0	86	0	4,556	4,556	0	4,556

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

**Table 3. Project Acreage Changes (continued)**

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)			
	Final Recom- mended Existing	Added to CPRS	Removed from CPRS	Net Reclassi- fied	Final Recom- mended Existing	Added to CPRS	Removed from CPRS	Net Reclassi- fied	Final Recom- mended Existing	Added to CPRS	Removed from CPRS	Net Reclassi- fied
NJ-20P	0	4,060	0	0	0	408	0	0	0	3,652	0	0
NJ-21P	0	882	0	0	0	35	0	0	0	847	0	0
NJ-22P	0	17,452	0	0	0	188	0	0	0	17,264	0	0
NJ-23P	0	18,760	0	0	0	370	0	0	0	18,390	0	0
NJ-24P	0	3,717	0	0	0	67	0	0	0	3,650	0	0
DE-01	893	921	22	6	41	47	6	0	852	874	16	6
DE-01P	6,363	7,941	1,602	-6	1,086	1,126	55	15	5,277	6,815	1,547	-6
DE-02P	2,756	3,189	434	1	57	72	16	1	2,699	3,117	418	0
DE-03P	3,262	4,075	814	1	1,432	1,501	70	1	1,830	2,574	744	0
DE-06	55	55	0	0	11	11	0	0	44	44	0	0
DE-08P	3,530	4,843	1,338	25	553	597	64	20	2,977	4,246	1,274	5
DE-09P	0	7,263	7,263	0	0	285	285	0	0	6,978	6,978	0
DE-10	0	896	896	0	0	273	273	0	0	623	623	0
DE-11P	0	15,362	15,362	0	0	96	96	0	0	15,266	15,266	0
H00	5,571	6,443	883	0	313	338	25	0	5,258	6,105	858	0
H00P	10,706	13,296	2,652	73	1,905	1,955	97	47	8,801	11,341	2,555	26
MD-01P	23,105	23,105	0	0	3,441	3,441	0	0	19,664	19,664	0	0
MD-02	62	62	0	0	16	16	0	0	46	46	0	0
MD-03	1,153	2,476	1,323	0	56	66	10	0	1,097	2,410	1,313	0
MD-03P	0	1,303	1,303	0	0	46	46	0	0	1,257	1,257	0
MD-04P	8,838	13,085	4,249	0	50	66	16	0	8,788	13,019	4,233	0
MD-06	89	1,243	1,152	0	1	55	54	0	88	1,188	1,098	0
MD-07P	567	3,155	2,588	0	0	139	139	0	567	3,016	2,449	0
MD-08P	731	1,089	358	0	23	26	3	0	708	1,063	355	0
MD-09P	211	1,364	1,153	0	0	26	26	0	211	1,338	1,127	0
MD-11	478	478	0	0	4	4	0	0	474	474	0	0
MD-12	245	291	47	1	5	5	1	1	240	286	46	0
MD-14	357	358	1	0	10	10	0	0	347	348	1	0
MD-14P	192	224	32	0	1	1	0	0	191	223	32	0
MD-15	38	139	101	0	2	3	1	0	36	136	100	0
MD-16	456	459	3	0	6	6	0	0	450	453	3	0

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.



Table 3. Project Acreage Changes (continued)

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)			
	Existing	Final Recom-mended	Added to CBRs	Removed from CBRs	Net Reclasi-fied	Existing	Final Recom-mended	Added to CBRs	Removed from CBRs	Net Reclasi-fied	Existing	Final Recom-mended
MD-17P	6,567	6,567	0	0	0	14	14	0	0	0	6,553	6,553
MD-18P	3,597	5,676	2,079	0	2,079	0	0	0	0	0	3,597	5,676
MD-19	474	474	0	0	0	5	5	0	0	0	469	469
MD-20	74	121	47	0	0	0	3	3	0	3	74	118
MD-21P	953	953	0	0	0	0	0	0	0	0	953	953
MD-22	56	56	0	0	0	8	8	0	0	0	48	48
MD-24	52	52	0	0	0	0	0	0	0	0	52	52
MD-25	1	0	0	1	0	0	0	0	0	0	1	0
MD-26	150	151	12	11	0	14	5	1	10	0	136	146
MD-27	39	36	0	3	0	6	4	0	2	0	33	32
MD-28	94	121	27	0	0	14	15	1	0	0	80	106
MD-29	615	594	0	21	0	260	240	0	20	0	355	354
MD-30	39	42	3	0	0	4	5	1	0	0	35	37
MD-32	88	105	17	0	0	9	9	0	0	0	79	96
MD-33	19	25	6	0	0	1	2	1	0	0	18	23
MD-34P	3,753	3,753	0	0	0	1,064	1,064	0	0	0	2,689	2,689
MD-35	65	213	149	1	0	2	7	6	1	0	63	206
MD-37P	136	136	0	0	0	46	46	0	0	0	90	90
MD-38	163	163	0	0	0	9	9	0	0	0	154	154
MD-38P	0	21	21	0	0	0	18	18	0	0	0	3
MD-39	38	37	0	1	0	11	10	0	1	0	27	27
MD-40	62	62	0	0	0	5	5	0	0	0	57	57
MD-41	86	87	15	14	0	24	12	1	13	0	62	75
MD-44	127	109	8	26	0	29	7	1	23	0	98	102
MD-45	89	93	11	7	0	21	15	0	6	0	68	78
MD-46	16	17	1	0	0	2	2	0	0	0	14	15
MD-47	79	85	8	0	-2	1	2	1	0	0	78	83
MD-48P	562	610	56	10	2	59	53	2	8	0	503	557
MD-49	26	25	0	1	0	2	1	0	1	0	24	24
MD-50	34	40	6	0	0	1	1	0	0	0	33	39
MD-51	291	305	14	0	0	24	27	3	0	0	267	278

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

**Table 3. Project Acreage Changes (continued)**

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)									
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change
MD-52	272	265	0	7	0	-7	17	16	0	1	0	-1	255	249	0	6	0	-6
MD-53	35	35	0	0	0	0	1	1	0	0	0	0	34	34	0	0	0	0
MD-54	140	132	6	14	0	-8	19	7	1	13	0	-12	121	125	5	1	0	4
MD-55P	159	159	0	0	0	0	42	42	0	0	0	0	117	117	0	0	0	0
MD-56	167	234	67	0	0	67	35	35	0	0	0	0	132	199	67	0	0	67
MD-58	0	2,535	2,535	0	0	2,535	0	6	6	0	0	6	0	2,529	2,529	0	0	2,529
MD-59	0	932	932	0	0	932	0	23	23	0	0	23	0	909	909	0	0	909
MD-60	0	39	39	0	0	39	0	1	1	0	0	1	0	38	38	0	0	38
MD-61P	0	63	63	0	0	63	0	2	2	0	0	2	0	61	61	0	0	61
MD-62	0	79	79	0	0	79	0	1	1	0	0	1	0	78	78	0	0	78
MD-63	0	71	71	0	0	71	0	1	1	0	0	1	0	70	70	0	0	70
MD-64	0	254	254	0	0	254	0	0	0	0	0	0	0	254	254	0	0	254
MD-65	0	158	158	0	0	158	0	52	52	0	0	52	0	106	106	0	0	106
MD-66	0	14	14	0	0	14	0	5	5	0	0	5	0	9	9	0	0	9
K03	15,046	15,425	285	2	96	379	184	182	0	2	0	-2	14,862	15,243	285	0	96	381
K04	673	1,327	13	0	641	654	12	12	0	0	0	0	661	1,315	13	0	641	654
K05	2,895	3,764	116	0	753	869	184	192	1	0	7	8	2,711	3,572	115	0	746	861
K05P	2,682	3,091	439	7	-23	409	782	798	28	5	-7	16	1,900	2,293	411	2	-16	393
VA-01P	16,425	36,291	19,866	0	0	19,866	2,073	2,495	422	0	0	422	14,352	33,796	19,444	0	0	19,444
VA-02P	4,451	6,410	1,959	0	0	1,959	130	221	91	0	0	91	4,321	6,189	1,868	0	0	1,868
VA-03P	1,837	5,254	3,417	0	0	3,417	197	210	13	0	0	13	1,640	5,044	3,404	0	0	3,404
VA-04P	18,986	54,158	35,282	0	-110	35,172	1,161	1,171	10	0	0	10	17,825	52,987	35,272	0	-110	35,162
VA-05P	35,255	35,822	1,175	0	-627	567	77	83	6	0	0	6	35,178	35,739	1,169	0	-627	561
VA-06P	12,626	11,877	0	0	-730	-749	275	275	0	0	0	0	12,351	11,602	0	0	-730	-749
VA-09	92	107	15	0	0	15	4	5	1	0	0	1	88	102	14	0	0	14
VA-10	252	517	265	0	0	265	36	48	12	0	0	12	216	469	253	0	0	253
VA-11	241	1,449	1,208	0	0	1,208	43	137	94	0	0	94	198	1,312	1,114	0	0	1,114
VA-12	309	343	68	34	0	34	51	22	2	31	0	-29	258	321	66	3	0	63
VA-13	160	159	0	1	0	-1	9	8	0	1	0	-1	151	151	0	0	0	0
VA-14	411	424	13	0	0	13	14	15	1	0	0	1	397	409	12	0	0	12
VA-16	362	716	536	2	-118	354	9	11	11	1	-7	2	353	705	525	1	-111	352

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

Table 3. Project Acreage Changes (continued)

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)								
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied Change		
VA-16P	0	126	8	0	118	126	0	7	0	7	0	119	8	0	111	119	
VA-17	1,196	1,910	652	0	0	714	4	6	1	0	2	1,192	1,904	651	0	712	
VA-17P	0	269	269	0	0	269	0	49	49	0	49	0	220	220	0	220	
VA-18	977	2,162	1,185	0	0	1,185	6	14	8	0	8	971	2,148	1,177	0	1,177	
VA-19	896	3,624	2,440	0	288	2,728	0	14	14	0	14	896	3,610	2,426	0	288	2,714
VA-20	0	2,393	2,050	0	343	2,393	0	26	20	0	26	0	2,367	2,030	0	337	2,367
VA-20P	1,412	781	0	0	-631	-631	8	2	0	0	-6	1,404	779	0	0	-625	-625
VA-21	70	1,463	1,393	0	0	1,393	0	0	0	0	0	70	1,463	1,393	0	0	1,393
VA-22	83	83	0	0	0	0	0	0	0	0	0	83	83	0	0	0	0
VA-22P	0	290	290	0	0	290	0	0	0	0	0	0	290	290	0	0	290
VA-23	1,039	6,337	5,298	0	0	5,298	1	20	19	0	19	1,038	6,317	5,279	0	0	5,279
VA-24	1,293	1,330	37	0	0	37	0	0	0	0	0	1,293	1,330	37	0	0	37
VA-25	466	634	168	0	0	168	0	0	0	0	0	466	634	168	0	0	168
VA-26	1,101	5,347	4,246	0	0	4,246	12	12	0	0	0	1,089	5,335	4,246	0	0	4,246
VA-27	1,985	1,985	0	0	0	0	13	13	0	0	0	1,972	1,972	0	0	0	0
VA-28	1,941	1,823	11	7	-122	-118	17	0	0	0	-17	1,924	1,823	11	7	-105	-101
VA-28P	0	122	0	0	122	122	0	17	0	0	17	0	105	0	0	105	105
VA-29	1,353	1,405	61	9	0	52	11	13	3	1	2	1,342	1,392	58	8	0	50
VA-30	347	447	100	0	0	100	23	27	4	0	4	324	420	96	0	0	96
VA-31	133	133	3	3	0	0	18	16	1	3	-2	115	117	2	0	0	2
VA-32	175	176	4	3	0	1	15	14	1	2	0	160	162	3	1	0	2
VA-33	36	35	1	2	0	-1	3	1	0	2	0	33	34	1	0	0	1
VA-34	163	312	150	1	0	149	11	17	7	1	6	152	295	143	0	0	143
VA-35	135	134	2	3	0	-1	3	4	1	0	1	132	130	1	3	0	-2
VA-36	102	102	0	0	0	0	9	9	0	0	0	93	93	0	0	0	0
VA-37	128	128	0	0	0	0	4	4	0	0	0	124	124	0	0	0	0
VA-38	75	77	2	0	0	2	6	8	2	0	2	69	69	0	0	0	0
VA-39P	108	291	183	0	0	183	61	65	4	0	4	47	226	179	0	0	179
VA-40	84	95	11	0	0	11	4	6	2	0	2	80	89	9	0	0	9
VA-41	129	130	1	0	0	1	5	5	0	0	0	124	125	1	0	0	1

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.



Table 3. Project Acreage Changes (continued)

Unit	Total (acres)				Fastland <sup>1</sup> (acres)				Associated Aquatic Habitat <sup>2</sup> (acres)							
	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Existing	Final Recom- mended	Added to CBRS	Removed from CBRS	Net Reclassi- fied	Net Change
VA-42	33	33	0	0	0	9	9	0	0	0	24	24	0	0	0	0
VA-43	23	23	0	0	0	5	5	0	0	0	18	18	0	0	0	0
VA-44	55	59	4	0	4	3	4	1	0	0	52	55	3	0	0	3
VA-45	54	167	114	1	0	2	8	7	1	0	52	159	107	0	0	107
VA-46	29	52	23	0	23	5	12	7	0	0	24	40	16	0	0	16
VA-47	469	533	64	0	64	24	26	2	0	0	445	507	62	0	0	62
VA-47P	0	260	260	0	260	0	106	106	0	0	0	154	154	0	0	154
VA-48	232	273	41	0	41	0	5	5	0	0	232	268	36	0	0	36
VA-49	245	346	101	0	101	20	22	2	0	0	225	324	99	0	0	99
VA-50	5	5	0	0	0	2	2	0	0	0	3	3	0	0	0	0
VA-51	449	685	236	0	236	12	22	10	0	0	437	663	226	0	0	226
VA-52	149	171	23	1	0	5	7	3	1	0	144	164	20	0	0	20
VA-53	41	39	1	3	0	10	8	1	3	0	31	31	0	0	0	0
VA-54	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0
VA-55	5,166	5,583	458	41	0	130	161	63	32	0	5,036	5,422	395	9	0	386
VA-55P	0	51	51	0	0	0	3	3	0	0	0	48	48	0	0	48
VA-56	87	668	581	0	0	0	23	23	0	0	87	645	558	0	0	558
VA-57	10	121	111	0	0	0	11	11	0	0	10	110	100	0	0	100
VA-58	3,519	4,990	1,472	1	0	9	52	43	0	0	3,510	4,938	1,429	1	0	1,428
VA-59P	3,656	6,547	2,891	0	0	0	40	40	0	0	3,656	6,507	2,851	0	0	2,851
VA-60	166	277	111	0	0	20	26	6	0	0	146	251	105	0	0	105
VA-60P	941	1,100	162	3	0	30	34	5	1	0	911	1,066	157	2	0	155
VA-61P	3,253	3,193	14	74	0	683	634	10	59	0	2,570	2,559	4	15	0	-11
VA-62P	18,788	20,947	2,161	2	0	2,204	2,237	35	2	0	16,584	18,710	2,126	0	0	2,126
VA-63P	0	834	834	0	0	0	155	155	0	0	0	679	679	0	0	679
VA-64	0	35	35	0	0	0	8	8	0	0	0	27	27	0	0	27
VA-65P	0	61	61	0	0	0	13	13	0	0	0	48	48	0	0	48
VA-66	0	59	59	0	0	0	4	4	0	0	0	55	55	0	0	55
VA-67	0	298	298	0	0	0	13	13	0	0	0	285	285	0	0	285
VA-68	0	2,515	2,515	0	0	0	13	13	0	0	0	2,502	2,502	0	0	2,502
VA-68P	0	532	532	0	0	0	5	5	0	0	0	527	527	0	0	527

<sup>1</sup> Land above mean high tide.<sup>2</sup> 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 National Wetlands Inventory data and other data sources as necessary.

Table 4. Project Structure and Shoreline Changes

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
NH-01P	5	0	5	0.0	1.8	1.8
C00	0	5	-5	0.4	0.4	0.0
C01	0	0	0	0.4	0.7	0.3
C01A	0	3	-3	1.2	1.7	0.5
C01B	0	3	-3	0.8	1.1	0.3
C01C	0	0	0	0.3	0.3	0.0
C01CP	0	0	0	0.0	0.4	0.4
C02	0	0	0	0.4	0.0	-0.4
C02P	0	0	0	0.0	0.8	0.8
C03	0	6	-6	0.8	0.8	0.0
C03A	0	0	0	0.3	0.4	0.1
C04	0	0	0	3.3	3.4	0.1
C06	0	2	-2	1.2	1.4	0.2
C08	0	0	0	0.8	0.8	0.0
C09	1	2	-1	3.4	3.5	0.1
C09P	0	0	0	4.6	4.6	0.0
C10	0	0	0	1.6	1.6	0.0
C11	0	4	-4	0.6	0.6	0.0
C11A	0	1	-1	0.7	1.7	1.0
C11AP	0	0	0	0.5	0.5	0.0
C11P	0	0	0	0.0	0.5	0.5
C12	0	12	-12	1.2	0.9	-0.3
C12P	0	0	0	0.0	0.5	0.5
C13	0	2	-2	2.2	2.3	0.1
C13P	0	0	0	1.1	0.9	-0.2
C14	0	0	0	0.8	1.0	0.2
C15	0	1	-1	1.0	1.1	0.1
C15P	0	0	0	0.4	0.3	-0.1
C16	0	11	-11	2.5	2.7	0.2
C17	0	2	-2	1.0	1.0	0.0
C18	0	0	0	3.3	3.8	0.5
C18A	0	4	-4	0.9	0.9	0.0
C18P	0	0	0	0.3	0.0	-0.3
C19	0	1	-1	0.7	0.8	0.1
C19A	1	10	-9	6.6	9.5	2.9
C19AP	0	0	0	0.0	1.4	1.4
C19P	0	0	0	0.0	0.4	0.4
C20	0	4	-4	13.9	10.1	-3.8
C20P	0	0	0	0.0	4.3	4.3
C21	0	0	0	0.5	0.5	0.0
C22	0	0	0	0.5	0.0	-0.5
C22P	0	0	0	0.0	0.5	0.5
C23	0	1	-1	3.1	4.1	1.0
C23P	1	0	1	0.0	1.1	1.1
C24	0	0	0	2.8	4.4	1.6
C25	0	0	0	2.2	2.6	0.4
C26	0	1	-1	1.5	1.8	0.3
C27	0	1	-1	7.2	7.6	0.4
C28	2	1	1	9.7	10.4	0.7
C29	0	1	-1	6.3	6.6	0.3
C29A	0	0	0	0.6	0.6	0.0
C29B	0	0	0	0.8	1.8	1.0
C29P	0	0	0	0.4	0.3	-0.1
C31	0	0	0	7.5	10.1	2.6
C31A	0	0	0	4.1	5.5	1.4
C31AP	0	0	0	0.0	0.3	0.3
C31B	0	0	0	0.4	0.7	0.3
C32	0	0	0	0.4	0.6	0.2
C33	0	3	-3	1.6	1.6	0.0
C34	6	4	2	2.0	2.2	0.2
C34A	0	0	0	0.4	0.4	0.0
C34P	0	6	-6	4.1	4.0	-0.1
C35	0	0	0	0.8	1.0	0.2
MA-01P	2	0	2	1.0	1.4	0.4
MA-02P	30	0	30	6.3	6.4	0.1
MA-03	0	12	-12	3.4	3.4	0.0
MA-04	0	4	-4	0.8	0.7	-0.1
MA-06	0	11	-11	0.3	0.3	0.0
MA-08P	0	0	0	0.6	0.6	0.0
MA-09P	0	0	0	0.0	1.4	1.4
MA-10P	0	0	0	0.8	0.8	0.0
MA-11	0	0	0	2.0	0.0	-2.0
MA-11P	0	0	0	0.0	2.0	2.0
MA-12	1	0	1	0.8	0.8	0.0
MA-13	0	2	-2	5.8	1.3	-4.5
MA-13P	2	0	2	0.0	4.8	4.8
MA-14P	0	0	0	1.0	1.0	0.0
MA-15P	0	0	0	1.0	1.0	0.0
MA-16	0	0	0	0.3	0.7	0.4
MA-17AP	0	0	0	1.5	2.4	0.9
MA-17P	0	0	0	6.2	7.3	1.1
MA-18	0	1	-1	1.0	0.0	-1.0

<sup>1</sup> Approximate structure count derived from base map imagery. Gas and liquid storage tanks, structures without walls and a roof (e.g., picnic shelters), structures with fewer than 200 square feet, structures that not affixed to a permanent site (e.g. recreational vehicles), and structures that are not located principally above ground are not included in this structure count because they do not meet the statutory definition of a "structure" (16 U.S.C. 3503(g)(2)).

Table 4. Project Structure and Shoreline Changes (continued)

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
MA-18AP	0	0	0	0.0	1.0	1.0
MA-18P	0	0	0	0.1	0.1	0.0
MA-19P	5	0	5	15.7	15.8	0.1
MA-20P	5	16	-11	23.0	24.9	1.9
MA-23P	0	29	-29	1.9	1.8	-0.1
MA-24	0	0	0	3.4	7.6	4.2
MA-25P	0	0	0	1.5	1.5	0.0
MA-26	0	0	0	0.9	1.0	0.1
MA-27	1	0	1	0.0	0.6	0.6
MA-27P	0	1	-1	2.3	2.1	-0.2
MA-28P	0	0	0	3.1	4.3	1.2
MA-29P	0	0	0	2.3	2.3	0.0
MA-30	0	1	-1	0.3	0.3	0.0
MA-31	0	0	0	0.5	0.7	0.2
MA-32	7	0	7	0.8	2.2	1.4
MA-33	0	0	0	1.7	1.7	0.0
MA-35	0	0	0	1.5	2.7	1.2
MA-36	0	0	0	0.4	0.8	0.4
MA-37P	0	0	0	0.9	1.5	0.6
MA-38P	4	0	4	0.0	0.9	0.9
MA-40P	2	0	2	0.0	2.0	2.0
MA-41P	0	0	0	0.0	0.7	0.7
MA-42P	3	0	3	0.0	1.1	1.1
MA-43	4	0	4	0.0	1.4	1.4
MA-43P	0	0	0	0.0	0.4	0.4
MA-45P	0	0	0	0.0	0.9	0.9
MA-46	0	0	0	0.0	0.3	0.3
MA-47P	0	0	0	0.0	1.5	1.5
MA-48	0	0	0	0.0	0.8	0.8
D01	0	4	-4	3.3	3.5	0.2
D01P	0	0	0	0.3	0.3	0.0
D02	0	4	-4	0.8	1.0	0.2
D02B	0	30	-30	14.7	11.3	-3.4
D02BP	0	1	-1	0.3	6.4	6.1
D02C	0	4	-4	1.5	1.6	0.1
D02P	0	0	0	0.0	0.0	0.0
D03	0	4	-4	0.7	0.7	0.0
D03P	0	0	0	1.1	1.1	0.0
D04	0	10	-10	0.6	0.6	0.0
D05	0	18	-18	3.3	0.0	-3.3
D05P	0	0	0	0.3	3.6	3.3

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
D06	0	16	-16	2.2	2.2	0.0
D06P	0	0	0	0.0	0.2	0.2
D07	0	0	0	1.1	1.7	0.6
D08	0	0	0	3.6	4.3	0.7
D08P	0	0	0	0.2	0.7	0.5
D09	0	12	-12	4.8	2.8	-2.0
D09P	0	9	-9	1.0	3.0	2.0
RI-01	0	0	0	0.5	0.6	0.1
RI-02	0	1	-1	1.6	1.2	-0.4
RI-02A	0	0	0	0.3	0.4	0.1
RI-02P	1	0	1	0.0	0.6	0.6
RI-03P	0	0	0	0.6	0.6	0.0
RI-08	0	0	0	0.1	0.3	0.2
RI-08P	0	0	0	0.3	0.6	0.3
RI-09	0	7	-7	0.4	0.6	0.2
RI-10	0	2	-2	0.3	0.4	0.1
RI-10P	0	0	0	0.4	0.4	0.0
RI-11	0	1	-1	0.2	0.0	-0.2
RI-11P	0	4	-4	0.4	0.6	0.2
RI-12	0	19	-19	0.4	0.0	-0.4
RI-12P	4	0	4	0.3	0.8	0.5
RI-13P	1	0	1	0.6	0.7	0.1
RI-14P	0	0	0	0.0	0.5	0.5
CT-00	0	0	0	0.2	0.0	-0.2
CT-01	0	0	0	0.4	0.7	0.3
CT-02	0	1	-1	1.9	3.1	1.2
CT-02P	0	0	0	0.0	0.0	0.0
CT-03	0	0	0	0.4	0.6	0.2
CT-04	0	0	0	0.4	0.6	0.2
CT-05	0	0	0	0.3	0.3	0.0
CT-06	0	0	0	0.3	0.3	0.0
CT-07	0	0	0	1.5	1.7	0.2
CT-08	0	6	-6	0.1	0.1	0.0
CT-09	0	1	-1	0.4	0.0	-0.4
CT-10	0	0	0	0.3	0.3	0.0
CT-11	0	2	-2	0.3	0.3	0.0
CT-12	0	0	0	0.3	0.5	0.2
CT-13	0	1	-1	0.3	0.4	0.1
CT-14P	0	0	0	0.3	0.3	0.0
CT-15P	0	6	-6	1.1	1.4	0.3
CT-18P	4	0	4	2.1	2.6	0.5

<sup>1</sup> Approximate structure count derived from base map imagery. Gas and liquid storage tanks, structures without walls and a roof (e.g., picnic shelters), structures with fewer than 200 square feet, structures that not affixed to a permanent site (e.g. recreational vehicles), and structures that are not located principally above ground are not included in this structure count because they do not meet the statutory definition of a "structure" (16 U.S.C. 3503(g)(2)).



Table 4. Project Structure and Shoreline Changes (continued)

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
CT-19P	2	0	2	0.0	2.0	2.0
CT-20P	2	0	2	0.0	0.8	0.8
CT-21P	2	0	2	0.0	1.6	1.6
E01	0	0	0	0.8	0.8	0.0
E01A	0	0	0	1.1	1.1	0.0
E02	0	0	0	0.9	1.0	0.1
E03	0	0	0	0.5	1.0	0.5
E03A	0	0	0	0.5	0.8	0.3
E03B	0	12	-12	0.8	0.9	0.1
E04	0	0	0	0.8	1.3	0.5
E05	0	1	-1	2.8	3.9	1.1
E05P	0	1	-1	0.0	0.0	0.0
E07	0	7	-7	0.6	1.5	0.9
E07P	0	14	-14	0.0	0.0	0.0
E08A	0	0	0	0.8	0.0	-0.8
E08AP	0	0	0	0.0	1.1	1.1
E09	0	0	0	3.3	3.3	0.0
E09P	0	0	0	2.3	2.3	0.0
F01	0	0	0	1.4	2.5	1.1
F02	0	0	0	0.9	1.1	0.2
F04	0	0	0	1.0	0.0	-1.0
F04P	1	0	1	0.0	1.1	1.1
F05	0	5	-5	2.7	1.3	-1.4
F05P	0	0	0	0.0	1.4	1.4
F06	0	5	-5	3.8	4.0	0.2
F08A	0	8	-8	0.9	1.0	0.1
F08B	0	15	-15	1.6	1.2	-0.4
F09	0	0	0	8.6	9.4	0.8
F10	0	11	-11	5.8	0.9	-4.9
F10P	0	0	0	0.0	7.3	7.3
F11	0	44	-44	0.9	1.0	0.1
F12	0	2	-2	1.6	1.5	-0.1
F13	0	17	-17	0.7	0.5	-0.2
F13P	2	5	-3	2.9	3.7	0.8
NY-03	0	1	-1	0.5	0.5	0.0
NY-04P	0	1	-1	0.4	0.4	0.0
NY-05P	0	0	0	0.3	0.6	0.3
NY-06	0	3	-3	0.8	0.7	-0.1
NY-06P	0	7	-7	0.7	0.6	-0.1
NY-07P	1	0	1	0.5	0.5	0.0
NY-09P	0	0	0	1.0	1.2	0.2
NY-10	0	0	0	2.1	0.6	-1.5
NY-10P	0	0	0	0.0	1.5	1.5
NY-11	0	0	0	1.6	1.6	0.0
NY-11P	0	0	0	0.4	0.4	0.0
NY-12	0	0	0	0.6	0.7	0.1
NY-13	0	0	0	2.6	2.6	0.0
NY-14	0	1	-1	0.4	0.4	0.0
NY-15	0	0	0	3.4	0.8	-2.6
NY-15P	0	0	0	0.0	2.6	2.6
NY-16	0	0	0	0.9	1.1	0.2
NY-16P	5	0	5	0.0	0.9	0.9
NY-17	0	10	-10	0.8	0.8	0.0
NY-17P	0	0	0	1.0	0.9	-0.1
NY-18	0	1	-1	0.4	0.4	0.0
NY-19	0	0	0	0.3	0.0	-0.3
NY-19P	0	0	0	0.0	0.3	0.3
NY-20P	0	0	0	0.1	0.2	0.1
NY-21P	2	0	2	0.4	0.8	0.4
NY-22P	0	0	0	0.4	0.4	0.0
NY-23	0	0	0	0.0	0.8	0.8
NY-23P	0	1	-1	1.1	0.5	-0.6
NY-24	0	0	0	1.5	1.5	0.0
NY-25	0	10	-10	6.9	0.0	-6.9
NY-25P	0	0	0	0.0	7.3	7.3
NY-26	0	0	0	0.4	0.8	0.4
NY-27	0	1	-1	0.5	0.5	0.0
NY-28	0	41	-41	1.4	1.8	0.4
NY-29P	0	0	0	0.6	0.7	0.1
NY-30	0	10	-10	1.4	1.4	0.0
NY-31	0	1	-1	0.4	0.5	0.1
NY-31A	0	0	0	0.0	2.7	2.7
NY-31P	0	4	-4	0.4	0.3	-0.1
NY-32	0	0	0	0.3	1.3	1.0
NY-33	0	0	0	1.7	1.7	0.0
NY-34	0	7	-7	0.4	0.0	-0.4
NY-34P	2	0	2	0.0	0.4	0.4
NY-35	0	0	0	0.5	0.0	-0.5
NY-35P	0	0	0	0.0	0.6	0.6
NY-36	0	0	0	3.9	2.8	-1.1
NY-36P	0	0	0	0.0	3.5	3.5
NY-37	0	0	0	0.4	0.5	0.1

<sup>1</sup> Approximate structure count derived from base map imagery. Gas and liquid storage tanks, structures without walls and a roof (e.g., picnic shelters), structures with fewer than 200 square feet, structures that not affixed to a permanent site (e.g. recreational vehicles), and structures that are not located principally above ground are not included in this structure count because they do not meet the statutory definition of a "structure" (16 U.S.C. 3503(g)(2)).

Table 4. Project Structure and Shoreline Changes (continued)

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
NY-38	0	0	0	0.4	0.4	0.0
NY-39	0	0	0	1.8	2.5	0.7
NY-40	0	0	0	0.8	0.8	0.0
NY-40P	0	0	0	0.0	0.0	0.0
NY-41	0	8	-8	0.5	0.0	-0.5
NY-41P	0	0	0	3.4	3.9	0.5
NY-42	0	0	0	0.4	0.4	0.0
NY-43	0	0	0	0.3	0.3	0.0
NY-43P	0	19	-19	1.2	1.4	0.2
NY-44	0	3	-3	0.7	1.0	0.3
NY-45	0	1	-1	1.2	1.2	0.0
NY-46	0	0	0	0.7	0.7	0.0
NY-47	0	0	0	0.4	0.4	0.0
NY-48	0	0	0	4.9	5.7	0.8
NY-49	0	0	0	0.3	0.4	0.1
NY-50	0	1	-1	0.4	1.1	0.7
NY-51	0	0	0	2.2	0.0	-2.2
NY-51P	0	0	0	0.0	2.2	2.2
NY-52	0	2	-2	0.3	0.7	0.4
NY-53	0	0	0	0.8	0.0	-0.8
NY-53P	0	0	0	0.0	0.8	0.8
NY-54	0	0	0	0.5	0.0	-0.5
NY-54P	0	0	0	0.0	0.5	0.5
NY-55	0	0	0	0.9	0.0	-0.9
NY-55P	0	0	0	0.0	1.0	1.0
NY-56	0	1	-1	0.8	0.8	0.0
NY-56P	0	1	-1	0.2	0.3	0.1
NY-57	1	1	0	0.7	0.7	0.0
NY-58	0	4	-4	0.5	0.2	-0.3
NY-58P	0	0	0	0.0	0.3	0.3
NY-59	0	1	-1	21.4	3.4	-18.0
NY-59P	6	24	-18	23.4	46.5	23.1
NY-60P	3	0	3	5.5	5.5	0.0
NY-88	0	0	0	0.0	0.3	0.3
NY-89	2	0	2	0.0	0.3	0.3
NY-90P	0	0	0	0.0	0.5	0.5
NY-92	0	0	0	0.0	0.4	0.4
NY-93	0	0	0	0.0	0.2	0.2
NY-94	0	0	0	0.0	0.3	0.3
NY-95P	0	0	0	0.0	0.9	0.9
NY-96P	2	0	2	0.0	0.5	0.5

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
NY-97P	0	0	0	0.0	2.7	2.7
NJ-01P	0	0	0	7.6	7.7	0.1
NJ-04A	0	0	0	0.0	0.0	0.0
NJ-04AP	0	0	0	0.0	0.0	0.0
NJ-04B	0	31	-31	0.0	0.0	0.0
NJ-04BP	0	0	0	0.0	0.0	0.0
NJ-05P	3	0	3	10.2	10.6	0.4
NJ-06	0	0	0	0.0	0.0	0.0
NJ-06P	0	0	0	0.0	0.0	0.0
NJ-07P	4	4	0	9.4	9.8	0.4
NJ-08P	0	13	-13	1.4	1.4	0.0
NJ-09	0	0	0	2.0	2.3	0.3
NJ-09P	0	0	0	0.0	0.0	0.0
NJ-10P	9	3	6	0.9	1.4	0.5
NJ-11P	7	11	-4	1.1	2.4	1.3
NJ-12	0	0	0	1.8	1.8	0.0
NJ-12P	1	0	1	0.1	0.2	0.1
NJ-13	0	0	0	1.9	2.0	0.1
NJ-14	1	0	1	1.0	2.8	1.8
NJ-14P	0	0	0	6.9	7.8	0.9
NJ-17P	8	0	8	0.0	0.8	0.8
NJ-19P	0	0	0	0.0	1.1	1.1
NJ-20P	11	0	11	0.0	2.3	2.3
NJ-21P	1	0	1	0.0	0.6	0.6
NJ-22P	12	0	12	0.0	15.1	15.1
NJ-23P	30	0	30	0.0	14.1	14.1
NJ-24P	0	0	0	0.0	5.0	5.0
DE-01	0	1	-1	1.9	1.9	0.0
DE-01P	0	3	-3	5.3	6.4	1.1
DE-02P	0	2	-2	2.0	2.1	0.1
DE-03P	0	0	0	6.7	6.7	0.0
DE-06	0	0	0	0.2	0.2	0.0
DE-08P	0	35	-35	2.8	2.8	0.0
DE-09P	5	0	5	0.0	5.4	5.4
DE-10	0	0	0	0.0	1.7	1.7
DE-11P	0	0	0	0.0	8.5	8.5
H00	3	1	2	11.6	12.3	0.7
H00P	2	1	1	3.0	3.1	0.1
MD-01P	0	0	0	22.6	22.6	0.0
MD-02	0	0	0	1.5	1.5	0.0
MD-03	0	0	0	2.9	3.8	0.9

<sup>1</sup> Approximate structure count derived from base map imagery. Gas and liquid storage tanks, structures without walls and a roof (e.g., picnic shelters), structures with fewer than 200 square feet, structures that not affixed to a permanent site (e.g. recreational vehicles), and structures that are not located principally above ground are not included in this structure count because they do not meet the statutory definition of a "structure" (16 U.S.C. 3503(g)(2)).

**Table 4. Project Structure and Shoreline Changes (continued)**

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
MD-03P	0	0	0	0.0	0.0	0.0
MD-04P	1	0	1	12.1	12.1	0.0
MD-06	0	0	0	1.2	3.0	1.8
MD-07P	0	0	0	2.0	4.7	2.7
MD-08P	0	0	0	3.6	4.2	0.6
MD-09P	0	0	0	2.0	2.4	0.4
MD-11	0	0	0	1.9	1.9	0.0
MD-12	0	0	0	0.9	1.5	0.6
MD-14	0	0	0	0.7	0.7	0.0
MD-14P	0	0	0	0.0	0.0	0.0
MD-15	0	1	-1	0.5	0.6	0.1
MD-16	0	0	0	2.8	2.9	0.1
MD-17P	0	0	0	4.7	4.7	0.0
MD-18P	0	0	0	5.7	7.4	1.7
MD-19	0	0	0	1.7	1.7	0.0
MD-20	0	0	0	1.1	1.3	0.2
MD-21P	0	0	0	3.1	3.1	0.0
MD-22	0	0	0	0.8	0.8	0.0
MD-24	0	0	0	0.6	0.6	0.0
MD-25	0	0	0	0.1	0.0	-0.1
MD-26	0	9	-9	0.3	0.3	0.0
MD-27	0	2	-2	0.7	0.7	0.0
MD-28	0	0	0	1.2	1.7	0.5
MD-29	0	16	-16	2.4	2.4	0.0
MD-30	0	0	0	0.4	0.4	0.0
MD-32	0	0	0	0.8	1.2	0.4
MD-33	0	0	0	0.3	0.5	0.2
MD-34P	0	0	0	5.1	5.1	0.0
MD-35	2	0	2	0.3	1.2	0.9
MD-37P	0	0	0	1.8	1.8	0.0
MD-38	0	0	0	1.2	1.2	0.0
MD-38P	0	0	0	0.0	0.1	0.1
MD-39	0	5	-5	0.6	0.5	-0.1
MD-40	0	0	0	0.2	0.2	0.0
MD-41	0	8	-8	0.4	0.3	-0.1
MD-44	0	0	0	1.0	1.0	0.0
MD-45	0	14	-14	0.6	0.4	-0.2
MD-46	0	2	-2	0.3	0.2	-0.1
MD-47	0	0	0	0.4	0.2	-0.2
MD-48P	0	20	-20	3.1	2.9	-0.2
MD-49	0	0	0	0.4	0.4	0.0

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
MD-50	0	0	0	0.5	0.7	0.2
MD-51	0	0	0	1.0	1.1	0.1
MD-52	0	0	0	0.7	0.7	0.0
MD-53	0	1	-1	0.4	0.4	0.0
MD-54	0	3	-3	0.5	0.6	0.1
MD-55P	0	0	0	2.0	2.0	0.0
MD-56	0	0	0	1.0	1.1	0.1
MD-58	0	0	0	0.0	5.4	5.4
MD-59	3	0	3	0.0	2.6	2.6
MD-60	0	0	0	0.0	0.5	0.5
MD-61P	0	0	0	0.0	0.5	0.5
MD-62	0	0	0	0.0	0.3	0.3
MD-63	0	0	0	0.0	0.2	0.2
MD-64	0	0	0	0.0	1.4	1.4
MD-65	0	0	0	0.0	1.0	1.0
MD-66	1	0	1	0.0	0.5	0.5
K03	0	2	-2	8.3	8.5	0.2
K04	0	0	0	0.5	1.0	0.5
K05	0	0	0	2.6	3.2	0.6
K05P	0	0	0	4.4	4.4	0.0
VA-01P	10	0	10	15.3	18.9	3.6
VA-02P	0	0	0	4.3	5.2	0.9
VA-03P	0	0	0	5.7	5.7	0.0
VA-04P	0	0	0	22.9	22.9	0.0
VA-05P	0	0	0	3.2	3.1	-0.1
VA-06P	0	0	0	12.6	11.5	-1.1
VA-09	0	0	0	0.4	0.4	0.0
VA-10	0	0	0	0.5	0.5	0.0
VA-11	5	0	5	2.2	2.3	0.1
VA-12	0	31	-31	2.8	2.5	-0.3
VA-13	0	0	0	0.4	0.4	0.0
VA-14	0	0	0	1.0	1.0	0.0
VA-16	0	0	0	2.7	2.2	-0.5
VA-16P	0	0	0	0.0	1.0	1.0
VA-17	0	0	0	3.1	3.5	0.4
VA-17P	2	0	2	0.0	0.0	0.0
VA-18	0	0	0	3.2	5.2	2.0
VA-19	0	0	0	2.8	4.5	1.7
VA-20	2	0	2	0.0	3.3	3.3
VA-20P	0	0	0	3.6	2.1	-1.5
VA-21	0	0	0	0.7	2.7	2.0

<sup>1</sup> Approximate structure count derived from base map imagery. Gas and liquid storage tanks, structures without walls and a roof (e.g., picnic shelters), structures with fewer than 200 square feet, structures that not affixed to a permanent site (e.g. recreational vehicles), and structures that are not located principally above ground are not included in this structure count because they do not meet the statutory definition of a "structure" (16 U.S.C. 3503(g)(2)).



Table 4. Project Structure and Shoreline Changes (continued)

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
VA-22	0	0	0	0.6	0.6	0.0
VA-22P	1	0	1	0.0	1.3	1.3
VA-23	4	0	4	2.5	4.7	2.2
VA-24	0	0	0	4.5	4.5	0.0
VA-25	0	0	0	2.0	2.0	0.0
VA-26	0	0	0	4.0	6.5	2.5
VA-27	0	0	0	0.0	0.0	0.0
VA-28	0	0	0	2.3	2.3	0.0
VA-28P	0	0	0	0.0	0.0	0.0
VA-29	0	1	-1	3.3	3.3	0.0
VA-30	0	0	0	1.3	1.9	0.6
VA-31	0	4	-4	0.9	0.9	0.0
VA-32	0	0	0	0.8	0.8	0.0
VA-33	0	0	0	0.3	0.4	0.1
VA-34	0	0	0	1.0	1.5	0.5
VA-35	0	0	0	0.7	0.8	0.1
VA-36	0	0	0	0.5	0.5	0.0
VA-37	0	0	0	0.6	0.6	0.0
VA-38	0	0	0	0.3	0.3	0.0
VA-39P	0	0	0	1.1	1.2	0.1
VA-40	0	0	0	0.3	0.6	0.3
VA-41	0	0	0	0.7	0.7	0.0
VA-42	0	1	-1	0.4	0.4	0.0
VA-43	0	0	0	0.5	0.5	0.0
VA-44	0	0	0	0.5	0.6	0.1
VA-45	0	3	-3	0.8	0.7	-0.1
VA-46	0	0	0	0.3	0.9	0.6

Unit	Structures <sup>1</sup>			Shoreline (miles)		
	Added	Removed	Net Change	Existing	Final Recommended	Net Change
VA-47	0	0	0	2.3	2.3	0.0
VA-47P	0	0	0	0.0	0.8	0.8
VA-48	0	0	0	1.4	1.4	0.0
VA-49	0	0	0	1.5	1.6	0.1
VA-50	0	0	0	0.3	0.3	0.0
VA-51	0	1	-1	2.8	2.9	0.1
VA-52	0	0	0	0.3	0.5	0.2
VA-53	0	5	-5	0.3	0.3	0.0
VA-54	0	1	-1	0.1	0.0	-0.1
VA-55	5	27	-22	11.2	11.3	0.1
VA-55P	2	0	2	0.0	0.2	0.2
VA-56	0	0	0	1.2	2.6	1.4
VA-57	0	0	0	0.4	1.1	0.7
VA-58	10	2	8	10.3	11.2	0.9
VA-59P	0	0	0	6.1	7.4	1.3
VA-60	0	0	0	0.8	0.8	0.0
VA-60P	0	0	0	2.8	2.8	0.0
VA-61P	0	1	-1	1.0	1.0	0.0
VA-62P	2	2	0	10.6	10.6	0.0
VA-63P	0	0	0	0.0	5.0	5.0
VA-64	0	0	0	0.0	0.3	0.3
VA-65P	0	0	0	0.0	0.3	0.3
VA-66	0	0	0	0.0	1.3	1.3
VA-67	0	0	0	0.0	0.7	0.7
VA-68	2	0	2	0.0	3.5	3.5
VA-68P	0	0	0	0.0	1.4	1.4

<sup>1</sup> Approximate structure count derived from base map imagery. Gas and liquid storage tanks, structures without walls and a roof (e.g., picnic shelters), structures with fewer than 200 square feet, structures that not affixed to a permanent site (e.g. recreational vehicles), and structures that are not located principally above ground are not included in this structure count because they do not meet the statutory definition of a "structure" (16 U.S.C. 3503(g)(2)).

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## Appendix C: Responses to Unit-Specific Public Comments

Section 4(c)(2) of the 2006 Coastal Barrier Resources Reauthorization Act (CBRRA)<sup>1</sup> requires that the Secretary of the Interior (Secretary) prepare a report on the Coastal Barrier Resources System (CBRS) digital maps after providing an opportunity for the submission and consideration of public comments. The public review for the Hurricane Sandy Remapping Project (project) was conducted in two separate batches. The first batch included proposed revisions to the CBRS boundaries for the following states: Delaware, Massachusetts, New Hampshire, and New Jersey. A 120-day public review and comment period was held from March 12, 2018, through July 10, 2018, for the first batch of states.<sup>2</sup> The second batch included proposed revisions to the CBRS boundaries for the following states: Connecticut, Maryland, New York (Long Island), Rhode Island, and Virginia.<sup>3</sup> A 120-day comment period was held from December 18, 2018,

through April 17, 2019, for the second batch of states.<sup>4</sup> Section 4(c)(3)(B) of the 2006 CBRRA requires that this report contain a summary of the comments received from Governors, other government officials, and the public regarding the digital maps.

The U.S. Fish and Wildlife Service (Service) received 192 unique written comments related to this project or the CBRS during the comment periods. An additional 2,224 individuals signed on to a comment letter submitted by the National Audubon Society, for a total of 2,416 comments.<sup>5</sup> Unit-specific comments were received for about 20 percent of the 430 total proposed units in this project. Eight comments received did not relate to this project or the CBRS (e.g., comments about wildfire management) and are not included in the count above. Comments unrelated to this project or the CBRS are not addressed in this report.

The unit-specific and state-specific comments and the Service's responses to those comments are summarized in this appendix. In cases where commenters addressed multiple issues in their letters, their individual issues are generally addressed as separate comments in this appendix. No response is provided for comments supportive of proposed changes, except in cases where other issues are raised. It is also indicated, where appropriate, if the boundaries on the final recommended maps (dated December 18, 2020) are modified as a result of the comments. Substantive overarching issues raised during the public comment periods that are relevant to more than one CBRS unit are itemized and addressed in chapter 3 of this report (see Table 5 below). The comments received are reprinted in their entirety in appendix L and may also be viewed at <https://www.regulations.gov>.<sup>6</sup>

**Table 5. Summary of Substantive Overarching Comments and Responses Addressed in Chapter 3**

<i>Number</i>	<i>Issue</i>	<i>Page Number</i>
1	Support for Map Modernization and Expansion of the CBRS	13
2	Multiple Layers of Protection on Areas Within the CBRS	14
3	Extending the CBRS to Include Marsh and Wetland Migration Corridors	14
4	Inclusion of Areas of Limited Flood Risk Within the CBRS	14
5	Proposed Legislative Amendments to CBRA's Exceptions	15
6	Modification of System Unit Designations to Facilitate Shore Protection Projects	16
7	Designation of Aquatic Ecosystems as OPA to Facilitate Restoration Projects	17
8	Potential for Reclassifying OPAs to System Units in the Future	18
9	National Environmental Policy Act Compliance for Proposed Additions to the CBRS	19
10	Notification of CBRS Boundary Modification to All Affected Property Owners	19
11	Effects on Flood Insurance for Properties Newly Mapped Within the CBRS	19
12	CBRA and Projects Involving Sand Mining and Beach Nourishment	21
13	Subjectivity of CBRA Consultations	22
14	Living Shoreline and Tidal Marsh Restoration Projects in the Vicinity of CBRS Units	22
15	CBRA Consistency for Projects under the Coastal Zone Management Act	23
16	Aquaculture Within the CBRS	23



Table 6 provides the page number for the comments specific to individual units and/or states addressed in this appendix.

**Table 6. Summary of Unit- and/or State-Specific Comments (continued)**

<i>CBRS Unit</i>	<i>County</i>	<i>Page Number</i>
<i>Massachusetts</i>		
C02P	Plymouth	<a href="#">C-5</a>
C03	Plymouth	<a href="#">C-5</a>
C34	Bristol	<a href="#">C-5</a>
C34P	Bristol	<a href="#">C-6</a>
MA-11	Plymouth, Suffolk	<a href="#">C-6</a>
MA-11P	Plymouth	<a href="#">C-6</a>
MA-13	Plymouth	<a href="#">C-7</a>
MA-13P	Plymouth	<a href="#">C-7</a>
MA-19P	Barnstable	<a href="#">C-7</a>
<i>Rhode Island</i>		
Comments affecting multiple areas in Rhode Island		<a href="#">C-8</a>
D02	Newport	<a href="#">C-8</a>
D02B	Washington, Kent, Newport, Bristol	<a href="#">C-8</a>
D02BP	Kent, Newport, Bristol	<a href="#">C-8</a>
D04	Washington	<a href="#">C-9</a>
D05P (including areas formerly within D05)	Washington	<a href="#">C-10</a>
D08 (including areas formerly within CT-00)	Washington (RI), New London (CT)	<a href="#">C-10</a>
RI-10	Washington	<a href="#">C-11</a>
<i>Connecticut</i>		
Comments affecting multiple areas in Connecticut		<a href="#">C-11</a>
CT-02	New London	<a href="#">C-12</a>
CT-07	New London, Middlesex	<a href="#">C-12</a>
CT-18P	Fairfield	<a href="#">C-12</a>
CT-19P	New Haven	<a href="#">C-13</a>
D08 (including areas formerly within CT-00)	Washington (RI), New London (CT)	<a href="#">C-13</a>
E01	New London	<a href="#">C-13</a>
E02	New London	<a href="#">C-13</a>
E04	Middlesex	<a href="#">C-13</a>
E05	Middlesex, New Haven	<a href="#">C-14</a>
E05P	Middlesex	<a href="#">C-14</a>
E07	New Haven, Fairfield	<a href="#">C-14</a>
E07P	New Haven	<a href="#">C-14</a>
E09	Fairfield	<a href="#">C-15</a>
E09P	Fairfield	<a href="#">C-15</a>

**Table 6. Summary of Unit- and/or State-Specific Comments** (continued)

<i>CBRS Unit</i>	<i>County</i>	<i>Page Number</i>
<i>New York</i>		
Comments affecting multiple areas in New York		<i>C-15</i>
F11	Suffolk	<i>C-17</i>
F12	Suffolk	<i>C-18</i>
F13	Suffolk	<i>C-18</i>
F13P	Suffolk	<i>C-18</i>
NY-04P	Nassau	<i>C-21</i>
NY-10	Suffolk	<i>C-21</i>
NY-10P	Suffolk	<i>C-21</i>
NY-24	Suffolk	<i>C-22</i>
NY-25P (formerly NY-25)	Suffolk	<i>C-22</i>
NY-26	Suffolk	<i>C-22</i>
NY-27	Suffolk	<i>C-22</i>
NY-28	Suffolk	<i>C-23</i>
NY-34P (formerly NY-34)	Suffolk	<i>C-23</i>
NY-36	Suffolk	<i>C-23</i>
NY-53P (formerly NY-53)	Suffolk	<i>C-24</i>
NY-54P (formerly NY-54)	Suffolk	<i>C-24</i>
NY-55P (formerly NY-55)	Suffolk	<i>C-24</i>
NY-58	Suffolk	<i>C-25</i>
NY-58P	Suffolk	<i>C-25</i>
NY-59	Suffolk, Nassau	<i>C-25</i>
NY-59P	Suffolk, Nassau	<i>C-25</i>
NY-60P	Queens, Kings, Nassau	<i>C-26</i>
NY-89	Suffolk	<i>C-26</i>
<i>New Jersey</i>		
Comments affecting multiple areas in New Jersey		<i>C-26</i>
NJ-01P	Monmouth	<i>C-28</i>
NJ-04	Monmouth	<i>C-28</i>
NJ-04A	Monmouth	<i>C-29</i>
NJ-04AP	Monmouth	<i>C-29</i>
NJ-04B	Ocean	<i>C-32</i>
NJ-04BP	Ocean	<i>C-32</i>
NJ-05P	Ocean	<i>C-33</i>
NJ-06	Ocean	<i>C-34</i>
NJ-06P	Ocean	<i>C-34</i>
NJ-07P	Atlantic, Burlington, Ocean	<i>C-35</i>
NJ-08	Cape May	<i>C-37</i>
NJ-08P	Cape May	<i>C-37</i>
NJ-09	Cape May	<i>C-37</i>
NJ-09P	Cape May	<i>C-37</i>

**Table 6. Summary of Unit- and/or State-Specific Comments (continued)**

<i>CBRS Unit</i>	<i>County</i>	<i>Page Number</i>
<i>New Jersey (continued)</i>		
NJ-10P	Cape May	C-42
NJ-11P	Cape May	C-42
NJ-12	Cape May	C-42
NJ-12P	Cape May	C-42
NJ-13	Cape May	C-44
NJ-14	Cape May, Cumberland	C-44
NJ-14P	Cape May, Cumberland	C-44
NJ-17P	Monmouth	C-45
NJ-18	Monmouth	C-46
NJ-19P	Atlantic, Cape May	C-46
NJ-20P	Cape May	C-46
NJ-21P	Cape May	C-47
NJ-22P	Cumberland	C-47
NJ-23P	Cumberland	C-47
NJ-24P	Cumberland	C-48
<i>Delaware</i>		
Comments affecting multiple areas in Delaware		C-48
DE-01	Kent	C-49
DE-01P	Kent	C-49
DE-08P	Sussex	C-50
H00	Kent, Sussex	C-50
<i>Maryland</i>		
Comments affecting multiple areas in Maryland		C-51
MD-03P	Somerset	C-52
MD-04P	Somerset	C-52
MD-27	Talbot	C-52
MD-29	Talbot	C-52
MD-51	St. Mary's	C-53
MD-52	St. Mary's	C-54
MD-58	Dorchester	C-55
MD-59	Dorchester	C-55
<i>Virginia</i>		
Comments affecting multiple areas in Virginia		C-56
VA-12	Northampton	C-56
VA-16	Accomack, Northampton	C-56
VA-16P	Accomack	C-56
VA-33	Westmoreland	C-57
VA-55	Mathews	C-57
VA-60P	City of Hampton (Independent City)	C-58
VA-68	York	C-58



## MASSACHUSETTS

### Unit C02P, North Scituate

**Comment 1:** The Massachusetts Office of Coastal Zone Management (CZM) and the Town of Scituate commented that they are supportive of the CBRS and the Service's efforts to update the boundaries, but request a change to the proposed boundaries for Otherwise Protected Area (OPA) Unit C02P. The proposed additions to Unit C02P include the undeveloped portions of Mann Hill Beach. There are five existing privately owned structures on the beach that are excluded from, but adjacent to, this proposed addition. The barrier beach in this location has eroded and shifted landward, and the five homes in the proposed excluded area are highly vulnerable. In a 2016 study conducted for the Town, the preferred option to address the vulnerability of this section of shoreline recommended moving the existing houses landward on the barrier beach. However, if the homes are moved, they would be moved into an undeveloped area proposed for addition to the OPA. They would therefore become ineligible for federal flood insurance if the revised CBRS maps are adopted through legislation enacted by Congress prior to the move.

**Service Response to Comment 1:** Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit C02P, including the undeveloped portions of Mann Hill Beach, are appropriate based on the Coastal Barrier Resource Act (CBRA) criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). In determining the development status of coastal barriers, the Service does not consider development plans except to the degree that they are actually reflected in the existence of structures or infrastructure on the ground in

the area identified for addition to the CBRS.<sup>7</sup>

There are no changes between the proposed and final recommended boundaries for Unit C02P as a result of this comment.

### Unit C03, Rivermoor

**Comment 2:** The Service received a comment from a condominium association supporting the removal from the CBRS of the building containing condo units 1-10 on Ladds Way in The Condominiums at James Landing community. The commenters state this building was originally placed in error within the CBRS.

**Service Response to Comment 2:** The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment for the area and found that the building containing condo units 1-10 on Ladds Way in The Condominiums at James Landing community is appropriate for removal from Unit C03. The full assessment can be found in appendix D of this report.

There are no changes between the proposed and final recommended boundaries for Unit C03 as a result of this comment.

**Comment 3:** The Massachusetts Office of CZM and the Town of Scituate commented that they are supportive of the CBRS and the Service's efforts to update the boundaries, but request that a buffer be maintained on the western side of Central Avenue so that a proposed project to elevate Central Avenue and reduce its vulnerability to overwash and storm related flooding will remain eligible for federal assistance.

**Service Response to Comment 3:** In cases where the CBRS boundary follows a road, a buffer (i.e., space between the boundary and the feature it is intended to follow) of about

20 feet is generally applied between the road and the boundary. Buffers are used to avoid the inadvertent inclusion of existing structures and infrastructure that run parallel to or are coincident with the shoreline (such as bulkheads), while maintaining the relationship between the boundaries and the underlying features that they are intended to follow.<sup>8</sup> The Service reviewed the CBRS boundary on the western side of Central Avenue and found that a buffer was not properly applied between the boundary and the road. The Service's final recommended boundary for this area includes a 20-foot buffer.

Additionally, it should be noted that there are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including the maintenance, replacement, reconstruction, or repair of certain roads).<sup>9</sup> Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance if a future federally funded road elevation project (or portion thereof) occurs within a System Unit of the CBRS.

Changes are made between the proposed and final recommended boundaries for Unit C03 as a result of this comment.

### Unit C34, Horseneck Beach

**Comment 4:** An individual submitted a comment about a property on the south side of Atlantic Avenue (at its eastern terminus) in Westport. This commenter opposes the addition of an undeveloped portion of this property to the CBRS.

**Service Response to Comment 4:** Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit C34 are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective

mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The portion of the property (about one-third of the total property) on Atlantic Avenue that is proposed for addition to the CBRs is undeveloped, and a review of recent and historical aerial imagery indicates this area is periodically flooded. The existing structures on the property are not recommended for inclusion within the CBRs.

There are no changes between the proposed and final recommended boundaries for Unit C34 as a result of this comment.

**Comment 5:** The Service received a comment from two individuals concerning their property located along Deacon Road in Westport. The property was proposed for addition to the CBRs, and these commenters request that it not be added because their property has infrastructure available to it – a paved road with reinforced roadbed and electrical service. The fresh water supply will come from a well, and the wastewater disposal will be a septic system (neither was present on the property at the time the comment was submitted). The commenters also indicate that although their property is not currently developed, it is located in an area that is already developed.

**Service Response to Comment 5:** Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. Proposed additions are based on CBRAs' criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). In reviewing the comments received about the property on Deacon Road, the Service reassessed its addition to the CBRs against the statutory development criteria, which included a review of the level of infrastructure available to the property.<sup>11</sup> The Service found that the structures in the larger development where

the Deacon Road property is located were built between 1930 and 1993; only 2 of the approximately 22 lots remain undeveloped; and each of the undeveloped lots has access to a full complement of infrastructure.<sup>12</sup> This property is no longer recommended for addition to Unit C34.

Changes are made between the proposed and final recommended boundaries for Unit C34 as a result of this comment.

#### Unit C34P, Horseneck Beach

**Comment 6:** The Service received a comment from an individual indicating that two properties located along East Beach Road south of John Reed Road were included within CBRs Unit C34P in error. The commenter states that the two properties have always been private land. However, an area to the southwest that is adjacent to the properties is part of Horseneck Beach State Reservation, and the commenter believes the CBRs boundary was intended to include that portion of the park within Unit C34P instead of the two private properties.

**Service Response to Comment 6:** The properties on East Beach Road that the commenter is concerned about were proposed for removal from the CBRs at the time of the public review and comment period. The Service continues to recommend these properties for removal from the CBRs on the final recommended map for this unit. The Service has completed a technical correction assessment for the properties along East Beach Road south of John Reed Road and found that three developed properties in this area (including the two that the commenter is concerned about) are appropriate for removal from Unit C34P. The Service assesses modifications to the CBRs based on CBRAs' criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The full assessment and the final recommended map for Unit C34P can be found in appendix D of this report.

There are no changes between the proposed and final recommended boundaries for Unit C34P as a result of this comment.

#### Unit MA-11 and MA-11P, Peddocks/Rainsford Islands

**Comment 7:** The Massachusetts Department of Conservation and Recreation (DCR) commented that all of Peddocks Island should be reclassified from a System Unit to an OPA. The DCR owns and manages this island, which is part of the Boston Harbor Islands State Park and National Recreation Area. The DCR indicated that it believes all of the other islands managed by the DCR and the East Head of Peddocks Island are designated as OPAs under the current and proposed CBRs boundaries.

**Service Response to Comment 7:** During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are "otherwise protected." The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the Coastal Barrier Improvement Act [CBIA] definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRs.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRs unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable. In cases where the necessary input was not received within the required timeframe, the Service maintained the status quo. The issue was then noted in the "Summary of Proposed Changes" document that was released for public review with the proposed boundary, and the Service notified the affected stakeholders of the comment period.



All of Peddocks Island except the East Head (which is not within the CBRs) is currently located within System Unit MA-11, which was first included in 1990 within the CBRs. No other DCR managed islands that are part of the Boston Harbor Islands State Park and National Recreation Area are within the CBRs. The Service reached out to the DCR when preparing the proposed boundaries to seek concurrence on maintaining this island (which was held for conservation and/or recreation at the time of its addition to the CBRs) within the System Unit. Because the Service did not receive a response at that time, the island was not initially proposed for reclassification to an OPA.

Based on the comment received from the DCR during the public review period and the fact that the island was held for conservation and/or recreation at the time it was first included within the CBRs, the portions of Peddocks Island currently within System Unit MA-11 (including adjacent areas of open water in Boston Harbor) are now recommended for reclassification to new OPA Unit MA-11P.

Changes are made between the proposed and final recommended boundaries for Unit MA-11 and MA-11P as a result of this comment.

### Unit MA-13 and MA-13P, Duxbury Beach

**Comment 8:** The Service received comments about Duxbury Beach from Duxbury Beach Reservation, Inc. (DBR) and the Town of Duxbury. DBR is a private non-profit corporation that owns and operates Duxbury Beach for the benefit of the Town and the general public. Both the Town and DBR are supportive of the proposed reclassification of much of Duxbury Beach from System Unit MA-13 to proposed new OPA Unit MA-13P, which would remove restrictions on federal funding and financial assistance from the reclassified area. The Town is also supportive of the proposed reclassification of the Powder Point Bridge to an OPA.<sup>14</sup>

### Unit MA-19P, Provincetown

**Comment 9:** The Town of Provincetown commented that they have serious reservations about the proposed additions to Unit MA-19P. The Town believes that some of the areas proposed for addition do not meet the definition of coastal barriers as stated by the Service and would be inconsistent with the purposes of CBRA. The only addition that the Town believes to be appropriate is Shank Painter Pond and the areas immediately adjacent. The areas of most concern to the Town are: (1) Route 6 and its right-of-way; (2) the municipal sewage treatment facility parcel; (3) the parcel that currently has a parking lot and leaching fields for the sewage treatment facility (which is the site of a future police station); and (4) the municipal water tower parcel.

**Service Response to Comment 9:** Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. Recommended additions to the CBRs are based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

In reviewing the comments received from the Town of Provincetown, the Service reassessed the proposed additions to Unit MA-19P against CBRA's criteria and guiding principles, and also reviewed in detail the areas of most concern to the Town. The Town is located at the tip of Cape Cod, which is a unique coastal barrier that hosts elevations in excess of 80 feet in many places. Existing Unit MA-19P, which was established in 1990 and is presently comprised of portions of Cape Cod National Seashore, has some

of the highest elevations within the entire CBRs. The Service's proposed boundary was generally intended to add to Unit MA-19P conserved areas adjacent to the existing unit and other minor qualifying areas (e.g., wetlands). However, upon further review of this area, we found that most of the areas held for conservation and/or recreation that were originally proposed for addition on the south side of Route 6 are geographically separated from the coastal barrier area that originally comprised the unit, are not vulnerable to coastal hazards (due to their elevation), and are not rationally related to the purposes of CBRA.<sup>16</sup> In addition, some areas on the south side of Route 6 were not held for conservation and/or recreation as our initial research had indicated.

Therefore, the following areas are no longer recommended for addition to Unit MA-19P: the undeveloped portions of the municipal sewage treatment facility parcel; most portions of Route 6; and most of the area south of Route 6 (including the site of a future police station and the municipal water tower parcel). The areas that continue to be recommended for addition to Unit MA-19P are: Shank Painter Pond Wildlife Sanctuary; the portion of the state-owned Provincetown Route 6 Corridor Wildlife Management Area north of the Sanctuary; wetlands adjacent to the Sanctuary; and most of the areas on the north side of Route 6. The Summary of Final Recommended Changes located in appendix D of this report contains further details regarding the final recommended changes to Unit MA-19P.

The only federal funding prohibition within OPAs (such as Unit MA-19P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for road or other infrastructure projects within OPAs, and consultations with the Service for such projects would not be required.

Changes are made between the proposed and final recommended boundaries for Unit MA-19P as a result of this comment.



## RHODE ISLAND

## Comments affecting multiple CBRS units in Rhode Island

**Comment 10:** Save the Bay, an environmental group in southern New England, commented that it supports the expansion of the CBRS along the Atlantic coast, as CBRA has proven effective in saving funds and protecting coastal resources. Given the projected effects of sea level rise, it strongly supports the proposed addition to the CBRS of 1,315 acres in Rhode Island.

## Unit D02, Fogland Marsh

**Comment 11:** The Rhode Island Coastal Resources Management Council (RI CRMC) requested that the proposed boundary for Unit D02 on the south side of Oliver Lane (located in Little Compton) be moved approximately 200 feet southeasterly to the right-of-way so that it is consistent with RI CRMC's barrier classification. Consistency between the CBRS boundaries and the RI CRMC barrier classification will minimize confusion for permit applicants and maintain the integrity of RI CRMC's undeveloped barriers on which new development and post-storm redevelopment of substantially damaged property are prohibited.

**Service Response to Comment 11:** The CBRS boundaries are generally independent of any state or local regulations for coastal management, and have no direct relationship to the RI CRMC barrier classifications. The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

Unit D02 is made up of two separate segments along the Sakonnet River, one on the north and one on the south side of High Hill Point. The recommended removal of four residential structures on Oliver Lane from this unit's southern segment is

appropriate based on CBRA's criteria for an undeveloped coastal barrier. The area where the structures are located was first included in 1983 within the CBRS, and three of the four structures were on the ground at that time.

To be considered "undeveloped" under CBRA, a coastal barrier must have a density of no more than one structure for every 5 acres of fastland (i.e., land above mean high tide).<sup>17</sup> The Service's review of the southern segment of Unit D02 considered the density of development that existed on the ground when the unit was designated. This segment was comprised of approximately 12 acres of fastland and contained 3 structures in 1983. Therefore, the density of development on the ground at the time was one structure per 4 acres of fastland, which exceeded the statutory density threshold.

There are no changes between the proposed and final recommended boundaries for Unit D02 as a result of this comment.

## Units D02B and D02BP, Prudence Island

**Comment 12:** The RI CRMC and Save the Bay requested that the boundary for Unit D02B along Conimicut Point in Warwick not be modified to remove five developed properties on the seaward side of South Shore Avenue. The commenters indicated that this area is within the RI CRMC's undeveloped barrier classification. The RI CRMC stated that consistency between the CBRS boundaries and the RI CRMC barrier classification will minimize confusion for permit applicants and maintain the integrity of the RI CRMC's undeveloped barriers on which new development and post-storm redevelopment of substantially damaged property are prohibited. Save the Bay also commented that this area is a high risk for storm surge and sea level rise and regularly floods during astronomical high tides and wind-driven storms. The sewer line was not extended along South Shore Avenue because it is within the CBRS, and a salt marsh is forming in the intersection of Coldwell Street and South Shore Avenue.

**Service Response to Comment 12:** The CBRS boundaries are generally independent of any state or local regulations for coastal management, and have no direct relationship to the RI CRMC barrier classifications. The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

The recommended removal from Unit D02B of five residential structures on the seaward side of South Shore Avenue is appropriate based on CBRA's criteria for an undeveloped coastal barrier. The area where the structures are located was first included in 1990 within the CBRS, and all five structures were already present on the ground at that time. On the official CBRS map dated October 24, 1990, the boundary of Unit D02B was placed with the intent of avoiding existing development in the area. However, the structures on the seaward side of South Shore Avenue were not visible on the underlying and outdated 1975 U.S. Geological Survey (USGS) topographic quadrangle that was used as the base map for the 1990 CBRS map, and were inadvertently included within the CBRS.

Some preexisting structures are included within the CBRS intentionally because they are located in areas that meet CBRA's criteria for an undeveloped coastal barrier (which allows for the designation of areas containing a low density of scattered structures). To be considered "undeveloped" under CBRA, a coastal barrier must have a density of no more than one structure for every 5 acres of fastland (i.e., land above mean high tide).<sup>17</sup> The Service's review of the Conimicut Point segment of System Unit D02B considered the density of development that existed on the ground when the unit was designated. This segment was comprised of approximately 19 acres of fastland in 1990, and therefore no more than 3 structures could have been on the ground within the unit without exceeding the statutory density threshold. However, at

the time of designation there were 12 structures on the ground. All 12 of these structures are recommended for removal from Unit D02B.

There are no changes between the proposed and final recommended boundaries for Unit D02B as a result of this comment.

**Comment 13:** The U.S. Army Corps of Engineers' (Corps) North Atlantic Division requested a re-examination of the Gaspee Point, Warwick, Warren River, Island Park, and Portsmouth areas within Units D02B and D02BP. The Corps requested that any areas that are not barrier beach be removed from these units and all additions be designated as OPA. Units D02B and D02BP abut developed areas that are presently being studied for the implementation of effective Coastal Storm Risk Management measures that reduce risk to property and life associated with coastal storm events. The Corps is concerned about the impacts that the CBRs could have on such projects.

**Service Response to Comment 13:** The Service assesses modifications (including additions) to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has carefully reviewed the Gaspee Point, Warwick, Warren River, Island Park, and Portsmouth areas located within Units D02B and D02BP and found that these segments were appropriately included within the CBRs at the time of their designation. Therefore, the Service does not recommend removing additional areas from the CBRs beyond what we already proposed for removal from these units. The Summary of Final Recommended Changes for Units D02B and D02BP in appendix E of this report contains a list of the areas recommended for removal.

When identifying potential additions to the CBRs, the Service considers projects to the extent that they impact the current development status of a

coastal barrier. As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of infrastructure for coastal storm risk management in the area. Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Units D02B and D02BP are appropriate based on CBRA's criteria for an undeveloped coastal barrier.

The Service does not recommend designating the proposed additions to Unit D02B as OPA because these areas are, for the most part, privately owned and not held for conservation and/or recreation. The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of "otherwise protected")<sup>13</sup> at the time it is (or was) first included within the CBRs.<sup>14</sup>

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRs, and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Units D02B and D02BP as a result of this comment.

### Unit D04, Green Hill Beach

**Comment 14:** The RI CRMC requested that the western boundary for Unit D04 be moved approximately 325 feet east to exclude from the CBRs four existing houses along Charlestown Beach Road in South Kingstown, which are located on a developed barrier as classified by RI CRMC. Consistency between the CBRs boundaries and the RI CRMC barrier classification will minimize confusion for permit applicants and maintain the integrity of RI CRMC's undeveloped barriers on which new development and post-storm redevelopment of substantially damaged property are prohibited.

**Service Response to Comment 14:** The CBRs boundaries are generally independent of any state or local regulations for coastal management, and have no direct relationship to the RI CRMC barrier classifications. The Service assesses modifications to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

The Service has completed a technical correction assessment of the area in question, and found that the four structures on Charlestown Beach Road were appropriately included in 1982 within the CBRs (only two of the structures were on the ground at the time). The area qualified as "undeveloped" according to CBRA's development criteria (which allows for the designation of areas containing a low density of scattered structures). Therefore, the Service recommends that this area remain within Unit D04. The full assessment can be found in appendix E of this report.

There are no changes between the proposed and final recommended boundaries for Unit D04 as a result of this comment.

**Comment 15:** The Service received a comment from Representative James Langevin, requesting that information submitted by his constituent be



considered during the public comment period for this project. The constituent also submitted Representative Langevin's comment letter for consideration during the public comment period. The constituent owns property located along Charlestown Beach Road in South Kingstown, Rhode Island that is partially within CBRS Unit D04, and is seeking the removal of the home from the CBRS. Representative Langevin's comment includes as an attachment a 2016 letter in which he requested that the Service take the information submitted by the constituent into consideration during this project.

**Service Response to Comment 15:**

The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of the area and found that the property in question along Charlestown Beach Road was appropriately included in 1990 within the CBRS. Therefore, the Service recommends that this area remain within Unit D04. The full assessment can be found in appendix E of this report. The Service also responded to Representative Langevin's comments concerning this matter via letter in 2019.

There are no changes between the proposed and final recommended boundaries for Unit D04 as a result of this comment.

**Unit D05P (including areas formerly within Unit D05), East Beach**

**Comment 16:** The Service received comments from an individual expressing support for the proposed boundary changes in Unit D05 along Nutmeg Lane, where four structures are proposed for removal from the CBRS.<sup>18</sup>

**Service Response to Comment 16:**

The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter

4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of the area, and found that three properties, including four structures, located along Nutmeg Lane are appropriate for removal from Unit D05. The full assessment can be found in appendix E of this report. These structures are currently within Unit D05 (which is proposed to be reclassified entirely to Unit D05P with the exception of the removals).

There are no changes between the proposed and final recommended boundaries for Unit D05P as a result of this comment.

**Comment 17:** The Service received two separate comments concerning the proposed removal from Unit D05 of an area (including six structures) located along Charlestown Beach Road to the east of Charlestown Breachway State Beach. The RI CRMC requested that the CBRS boundary in this area be moved approximately 160 feet east to the property line of the westernmost house on the south side of Charlestown Beach Road so that it is consistent with RI CRMC's barrier classification. The RI CRMC asserted that consistency between the CBRS boundaries and the RI CRMC barrier classification will minimize confusion for permit applicants and maintain the integrity of RI CRMC's undeveloped barriers on which new development and post-storm redevelopment of substantially damaged property are prohibited. In addition, Save the Bay commented that the five undeveloped lots proposed for removal on the south side of Charlestown Beach Road in this same area should remain within the CBRS.

**Service Response to Comment 17:**

The CBRS boundaries are generally independent of any state or local regulations for coastal management, and have no direct relationship to the RI CRMC barrier classifications. The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

The Service re-evaluated the area in question and continues to recommend that the six structures in this area be removed from the CBRS because the level of development on the ground at the time was not depicted correctly on the underlying 1975 USGS topographic quadrangle that was used as the base map for the October 24, 1990, CBRS map. All six of the structures were on the ground prior to their inclusion within the CBRS.

However, upon further review, the Service found that a minor area of undeveloped barrier fastland (i.e., land above high tide) and associated aquatic habitat (comprising less than 2 acres) located near the structures that had been proposed for removal actually qualified for inclusion in 1990 when it was first added to the CBRS. Therefore, the Service now recommends that this undeveloped area be maintained within the CBRS. A majority of this area is recommended for reclassification from System Unit D05 to OPA Unit D05P, with a small portion (located south of Charlestown Beach Road and east of the existing CBRS boundary) recommended for addition to Unit D05P. The Service recommends reclassifying System Unit D05 entirely to OPA Unit D05P (with the exception of the removals) because the coastal barrier system was predominantly held for conservation and/or recreation prior to its inclusion within the CBRS.

Changes are made between the proposed and final recommended boundaries for Unit D05P as a result of this comment.

**Unit D08, Napatree (including areas formerly within Unit CT-00)**

**Comment 18:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS. However, it suggested that the Service consider the addition of several other areas of priority bird habitat and marsh migration corridors to Unit D08. The additions requested include salt marsh adjacent to the Pawcatuck River and between Osbrook Point and Riverside Drive, and about 15 acres of coastal forest to the east and west of



Bruckner Pentway (located northeast of Unit D08 in Stonington, Connecticut) that may transition to salt marsh as sea levels rise.

### **Service Response to Comment 18:**

Unit D08 is located in both Connecticut and Rhode Island. The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service reviewed the areas in question and found that a portion of the salt marsh located adjacent to the Pawcatuck River is appropriate for inclusion within the CBRS. Therefore, the CBRS boundary is modified to include this area within Unit D08. However, the Service does not recommend at this time the addition to Unit D08 of the coastal forest to the east and west of Bruckner Pentway. Comments regarding extending the CBRS to include such marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

Changes are made between the proposed and final recommended boundaries for Unit D08 as a result of this comment.

### **Unit RI-10, Narragansett Beach**

**Comment 19:** The Corps' North Atlantic Division requested the removal from the CBRS of the developed area within Unit RI-10 and the reclassification of the remainder of this unit to an OPA. The Corps is concerned that the addition of developed areas to Unit RI-10 could prohibit implementation of the Corps' coastal storm risk management measures, increase the risk to life and safety in this area, and impact evacuation during storm events due to the inclusion of the road within the CBRS.

### **Service Response to Comment 19:**

The proposed additions to Unit RI-10 include:

- the open water area seaward of the heavily-developed excluded area on Little Neck (located between the OPA and System Unit boundaries);

- undeveloped fastland (i.e., land above high tide) and wetlands along Pettaquamscutt River (also known as The Narrows) south of Boston Neck Road;
- minor portions of an area held for conservation and/or recreation by the Audubon Society of Rhode Island located along Pettaquamscutt River; and
- modification of the eastern and western lateral boundaries to include the entire barrier feature along Cormorant Point and Narragansett Town Beach.

These proposed additions do not include any developed areas, and the entire proposed Unit RI-10 includes only one isolated existing structure within an area first included in 1990 within the CBRS.

Despite the fact that no developed areas are included within the proposed unit, the Service understands that the Corps may be concerned with the proposed addition to Unit RI-10 of the open water area in front of the developed excluded area. 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. To address this historical inconsistency, the Service closes the seaward boundaries of the excluded areas along the shoreline (i.e., along the wet/dry sand line as interpreted from the base map imagery). This clarifies that only the developed area (and not the adjacent nearshore area) is excluded from the CBRS unit.<sup>19</sup>

Beach nourishment and dredging projects in System Units along the shoreline of such excluded areas are subject to CBRA. However, there are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including some nonstructural shoreline stabilization and the maintenance, replacement, reconstruction, or repair of certain roads), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one

of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA.

Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance if a future project (or portion thereof) occurs within a CBRS unit.

The Service does not recommend reclassifying Unit RI-10 to OPA as the area within the unit is predominantly privately owned. The Service generally only recommends reclassification of an area from System Unit to an OPA if it was predominantly held for conservation and/or recreation (according to the CBIA definition of "otherwise protected")<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup>

There are no changes between the proposed and final recommended boundaries for Unit RI-10 as a result of this comment.

## **CONNECTICUT**

### **Comments affecting multiple areas in Connecticut**

**Comment 20:** The Connecticut Department of Energy and Environmental Protection (CT DEEP) commented that they concur with the proposed boundary modifications in Connecticut with only one exception (Unit E07 and E07P, addressed below).

**Comment 21:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it identified gaps in the CBRS and suggested that the Service consider further additions of several seabird and shorebird habitats to the CBRS as new System Units or OPAs. These areas include: the salt marsh adjacent to Plum Bank Creek and the Back River in Old Saybrook; Falkner Island (part of the Stewart B. McKinney National Wildlife Refuge); Charles Island and

undeveloped areas seaward of the parking lot and roads at Silver Sands State Park in Milford; Sherwood Island Mill Pond and adjacent salt marshes in Westport; and the existing salt marsh and marsh migration corridors at the western end of South Cove in Old Saybrook. Audubon Connecticut indicated that these areas are important to many federally-listed threatened or endangered species.

**Service Response to Comment 21:**

The Service reviewed each of these areas using CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project), and the results of our review are explained below.

**Plum Bank Creek and the Back River:**

The Service generally does not recommend adding aquatic habitat to the CBRS unless there is an associated undeveloped coastal barrier area that is also included within the unit. The Service found that the salt marsh adjacent to Plum Bank Creek and the Back River in Old Saybrook is behind a developed barrier (containing over 100 structures), and therefore we do not recommend this area for addition to the CBRS.

**Falkner Island:** The Service found that Falkner Island, which is held for conservation and/or recreation, is approximately 5 acres in size. CBRA's mapping protocols state that a protected area is included within the CBRS if the area is 10 acres or more, excluding submerged areas of open water.<sup>20</sup> Because Falkner Island does not meet the acreage threshold, the Service does not recommend adding the island to the CBRS.

**Charles Island and Silver Sands State Park:**

The Service found that Charles Island and the majority of Silver Sands State Park are appropriate for addition to the CBRS as a new OPA unit. The Service recommends the addition of these areas as new Unit CT-21P.<sup>21</sup> The addition includes two park structures and a minor area

of wetlands that are both privately and publicly owned and not held for conservation and/or recreation, located along Great Creek. The Milford Animal Control facility is not included within the recommended new unit.

**Sherwood Island Mill Pond:**

The Service found that Sherwood Island Mill Pond and adjacent salt marshes in Milford are behind a developed barrier (containing 20 structures), and therefore we do not recommend these areas for addition to the CBRS.

**Salt Marsh and Marsh Migration Corridors at South Cove:**

South Cove is located behind a developed barrier, and therefore we do not recommend its inclusion within the CBRS. In addition, the Service does not recommend at this time the addition to the CBRS of the marsh migration corridors at the western end of South Cove. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

Changes are made between the proposed and final recommended boundaries for the CBRS units in Connecticut as a result of this comment.

**Comment 22:** Connecticut Fund for the Environment/Save the Sound commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS within the coastal regions of Long Island Sound, including Connecticut and the entirety of Long Island and its North Shore.

**Unit CT-02, Bluff Point**

**Comment 23:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider the further addition of a marsh migration corridor to Unit CT-02, specifically the coastal forest at the eastern edge of the unit between Colony Road and Duryea Drive.

**Service Response to Comment 23:**

The Service does not recommend at this time the addition of this marsh migration corridor to Unit CT-02. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

There are no changes between the proposed and final recommended boundaries for Unit CT-02 as a result of this comment.

**Unit CT-07, Griswold Point**

**Comment 24:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider further additions of marsh migration corridors to Unit CT-07, specifically along the Black Hall River (landward of Route 156) and the Lieutenant River (landward of the railroad and Shore Road).

**Service Response to Comment 24:**

The Service does not recommend at this time the addition of these marsh migration corridors to Unit CT-07. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

There are no changes between the proposed and final recommended boundaries for Unit CT-07 as a result of this comment.

**Unit CT-18P, Long Beach**

**Comment 25:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider further additions of priority habitat to Unit CT-18P, specifically the entirety of the Great Meadows Unit of Stewart B. McKinney National Wildlife Refuge (which is located both north and south of Lordship Boulevard).

**Service Response to Comment 25:**

The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The entirety of the Great Meadows Unit of Stewart B. McKinney National Wildlife Refuge that is currently owned by the Service (all located south of Lordship Boulevard) is already included within the proposed boundaries of the unit. However, as a result of this comment, the Service reviewed the salt marsh north of Lordship Boulevard (which is within the approved acquisition boundary of the refuge, but not currently owned by the Service) and found that it is also appropriate for inclusion within the CBRS. Therefore, the CBRS boundary is modified to include this area within Unit CT-18P.

Changes are made between the proposed and final recommended boundaries for Unit CT-18P as a result of this comment.

**Unit CT-19P, Guilford Harbor**

**Comment 26:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider further additions of priority bird habitat areas to new Unit CT-19P, specifically the salt marshes along the West River (landward of the Guilford Yacht Club and railroad) and along the East River (north of the railroad and Interstate Route 95). Some of the salt marsh along the East River is owned by Audubon Connecticut.

**Service Response to Comment 26:**

The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service reviewed the areas in question and found that the salt marsh along the West River landward of the Guilford

Yacht Club up to the railroad is appropriate for inclusion within the CBRS. Therefore, the CBRS boundary is modified to include these wetlands within recommended new Unit CT-19P. Additionally, the name of the recommended new unit is changed from East River Marsh to Guilford Harbor.

However, the Service does not recommend adding the salt marsh along the West River north of the railroad and along the East River north of the railroad and Interstate Route 95. Where watercourses flow into the aquatic habitat from the mainland, the CBRS boundary is generally drawn at the first natural or artificial constriction with the drainage landward of the coastal barrier.<sup>22</sup> In this area, the first constriction is the railroad grade, and therefore the final recommended boundary is drawn to follow that feature.

Changes are made between the proposed and final recommended boundaries for Unit CT-19P as a result of this comment.

**Unit D08, Napatree (including areas formerly within Unit CT-00)**

Unit D08 is located in both Connecticut and Rhode Island. A comment and response on Unit D08 can be found in the Rhode Island section above.

**Unit E01, Wilcox Beach**

**Comment 27:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider further additions of seabird and shorebird habitat to Unit E01, specifically Andrews and Dodges Islands (located to the west of the unit). These islands appear to offer good nesting habitat for the American Oystercatcher, which is listed as threatened by the State of Connecticut.

**Service Response to Comment 27:**

To be considered "undeveloped" under CBRA, a coastal barrier must have a density of no more than one structure for every 5 acres of fastland (i.e., land above mean high tide).<sup>17</sup> The Service's

review of Andrews and Dodges Islands considered the density of development that currently exists on the ground. These islands comprise approximately 28 acres of fastland and contain 7 structures. The density of development is one structure per 4 acres of fastland. This exceeds the statutory density threshold for the area to be considered undeveloped; therefore, Andrews and Dodges Islands are not recommended for addition to the CBRS.

There are no changes between the proposed and final recommended boundaries for Unit E01 as a result of this comment.

**Unit E02, Goshen Cove**

**Comment 28:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider the further addition of a marsh migration corridor to Unit E02, specifically the open habitat east of the Waterford Town Beach parking lot.

**Service Response to Comment 28:**

The Service does not recommend at this time the addition of this marsh migration corridor to Unit E02. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

There are no changes between the proposed and final recommended boundaries for Unit E02 as a result of this comment.

**Unit E04, Menunketesuck Island**

**Comment 29:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider further additions of seabird and shorebird habitat to Unit E04, specifically Duck Island to the west and tidal mud and sand flats to the east. These are important foraging areas for birds.



**Service Response to Comment 29:**

The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service reviewed the areas in question and found that the tidal mud and sand flats to the east of Unit E04 are appropriate for inclusion within the CBRS. Therefore, the CBRS boundary is modified to include this area within the CBRS.

However, the Service does not recommend the addition of Duck Island to the CBRS. This island is approximately 3 acres in size and is a Natural Area Preserve owned by the State of Connecticut. Because Duck Island is held for conservation and/or recreation (according to the CBIA definition of "otherwise protected")<sup>13</sup> and not closely related to Menunketesuck Island, it would be more suitable as a new OPA rather than an addition to System Unit E04. However, CBRA's mapping protocols state that a protected area is included within the CBRS if the area is 10 acres or more, excluding submerged areas of open water.<sup>20</sup> Duck Island does not meet this acreage threshold, and the Service therefore does not recommend its addition to the CBRS.

Changes are made between the proposed and final recommended boundaries for Unit E04 as a result of this comment.

**Unit E05 and E05P, Hammonasset Point**

**Comment 30:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS along the Connecticut coast. However, it suggested that the Service consider the further addition of an area of priority bird habitat to Unit E05, specifically the salt marshes along the Hammock River east of Beach Park Road.

**Service Response to Comment 30:**

The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service does not recommend adding the salt marshes along the Hammock River east of Beach Park Road to Unit E05. Where watercourses flow into the aquatic habitat from the mainland, the CBRS boundary is generally drawn at the first natural or artificial constriction with the drainage landward of the coastal barrier.<sup>22</sup> In this area, the first constriction is where the Hammock River crosses under Beach Park Road at the location of the existing CBRS boundary.

There are no changes between the proposed and final recommended boundaries for Unit E05 as a result of this comment.

**Comment 31:** The Service received comments from an individual requesting that the Service reevaluate the proposed reclassification from OPA Unit E05P to System Unit E05 of an upland portion of the Cedar Island Marina property. This area is currently undeveloped, but the owner would like to develop it at some point in the future and requests that it be removed from the CBRS. However, the commenter believes that a System Unit designation for the wetlands on the property (located to the west and north of the uplands in question) is appropriate.

**Service Response to Comment 31:**

The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of the Cedar Island Marina property (portions of which are currently located within Unit E05P), and found that the existing marina basin is appropriate for removal from the CBRS. However, the undeveloped upland portion of the marina property is appropriately

included within the CBRS. Therefore, the Service recommends that the upland area remain within the CBRS. Because this area was not held for conservation and/or recreation when it was first included in 1990 within OPA Unit E05P, the Service also recommends that it be reclassified to System Unit E05. The full assessment can be found in appendix F of this report.

There are no changes between the proposed and final recommended boundaries for Unit E05 as a result of this comment.

**Unit E07 and E07P, Milford Point**

**Comment 32:** The CT DEEP and Audubon Connecticut commented that the area of privately owned properties on Smiths Point Road in Milford that were proposed for removal from Unit E07P should be retained within the CBRS. Both the DEEP and Audubon Connecticut believe that because the larger Milford Point ecological area is one of the most valuable tidal wetlands in the State of Connecticut, the cluster of structures on Smiths Point Road should remain within the CBRS regardless of the exclusion rule cited for their removal. The DEEP asserts that when the area is taken as a whole, it contains few manmade structures. The DEEP also recommends that the structures be reclassified to System Unit E07 since they are not held for conservation and/or recreation.

**Service Response to Comment 32:**

The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of the privately owned properties on Smiths Point Road in Milford within Unit E07P and found that these properties are appropriate for removal from the CBRS. The full assessment can be found in appendix F of this report. Unit E07P is proposed to be reclassified entirely to Unit E07 with the exception of the removals.

There are no changes between the proposed and final recommended boundaries for Unit E07 as a result of this comment.

### Unit E09 and E09P, Norwalk Islands

**Comment 33:** Audubon Connecticut commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRs along the Connecticut coast. However, it suggested that the Service consider further additions of priority habitat to Units E09 and E09P, specifically the islands between the proposed units and the mainland. This is the most important nesting area in the State of Connecticut for the American Oystercatcher (listed as threatened by the State) and is a key nesting/foraging area for other birds.

**Service Response to Comment 33:** To be considered “undeveloped” under CBRA, a coastal barrier must have a density of no more than one structure for every 5 acres of fastland (i.e., land above mean high tide).<sup>17</sup> The Service’s review of the islands between proposed Units E09 and E09P and the mainland found that most of the islands that are not submerged during high tide are already developed beyond this density threshold. Therefore, the Service does not recommend the addition of these islands to the CBRs.

There are no changes between the proposed and final recommended boundaries for Units E09 and E09P as a result of this comment.

## NEW YORK

### Comments affecting multiple areas in New York

**Comment 34:** The Town of Riverhead generally does not have any objections to the proposed removals from and additions to the CBRs units located within the Town (NY-18, NY-19, NY-20P, NY-34, and NY-35), and concurred with the proposed reclassification from System Unit to OPA of Units NY-19 and NY-35.

**Comment 35:** The Village of Hewlett Harbor commented that the Federal Emergency Management Agency (FEMA) flood map was found to be accurate in the post-Sandy damage review, and therefore the map does not need to be altered in this area.

**Service Response to Comment 35:** The Service is revising the CBRs maps for Long Island, which are separate and distinct from the Flood Insurance Rate Maps that are maintained by FEMA. The Village of Hewlett Harbor does not have any CBRs units (existing areas or new additions) within its jurisdiction.

There are no changes between the proposed and final recommended boundaries for the CBRs units in New York as a result of this comment.

**Comment 36:** The New York State Office of Parks, Recreation and Historic Preservation (NYS Parks) commented that the changes requested in its March 22, 2016, letter to the Service appear to have been incorporated into the proposed revisions to the CBRs. Specifically, the 2016 letter requested that the CBRs classification for State Park land on Long Island be changed from System Unit to OPA.

**Service Response to Comment 36:** This is correct, the requested changes in CBRs unit type classification of State Park areas on Long Island have been made. The Summaries of Final Recommended Changes located in appendix G of this report contain further details regarding these reclassifications.

**Comment 37:** The Corps’ North Atlantic Division commented that it supports the reclassification of units within the State of New York from System Unit to OPA because an OPA designation reduces the risk that appropriate Coastal Storm Risk Management measures will be prohibited for the studies along Asharoken, Montauk Point, and Fire Island to Montauk Point.

**Comment 38:** The U.S. Coast Guard (USCG) Sector New York (SECNY) commented that it reviewed the proposed CBRs boundary changes

in the second batch of the Hurricane Sandy Remapping Project (which included the States of Connecticut, Maryland, New York [Long Island], Rhode Island, and Virginia). Its review found that the proposed boundary revisions do not impact the existing USCG SECNY or the USCG First Coast Guard District properties within the SECNY Marine Inspection and Captain of the Port Zones codified at 33 CFR Part 3.05-30.

**Comment 39:** The Town of Southampton supports the broadened scope of the CBRs. The proposed additions enhance protection for the Town’s estuarine and coastal environments; support the Town’s implementation of restoration initiatives, habitat enhancement, and water quality improvement; complement ecosystem recovery and protection of wildlife efforts; and contribute to sustainability of commercial shellfish populations and public accessibility and enjoyment of the coast.

The Town notes that the draft revised CBRs boundaries will not affect federal funding for habitat restoration and initiatives and FEMA assistance for emergency actions that are vital to their community.

However, the Town commented that it is unclear whether the proposed CBRs changes will impact approval of federal dollars for implementation of the Corps’ Fire Island to Montauk Point Reformulation Plan, including the critically-needed Tentative Federal Supported Plan inlet management and bypassing, proactive breach response, sediment management, and berm and dune replacement and nourishment actions. It is also unclear whether the needed environmental impact mitigation projects currently being targeted by the Coastal Process Features chapter of the Fire Island to Montauk Point Reformulation Plan would be affected. The Town requests a written confirmation from the Service that the proposed CBRs changes will not hinder the State or Town from obtaining federal funding for the above-named actions. There are a number of ongoing or proposed inter-agency projects and revenue sharing agreements, within the affected areas, and the Town wants to be sure that the



proposed CBRS changes will do more environmental good than harm.

**Service Response to Comment 39:**

CBRA generally prohibits new federal expenditures within the CBRS for erosion control or shoreline stabilization projects.<sup>23</sup> However, there are certain exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including maintenance of federal navigation channels and limited nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup>

CBRA has 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."<sup>24</sup> Types of projects that may be allowable under this exception include beach nourishment and/or living shoreline (nature-based shoreline stabilization) projects within the CBRS that are designed specifically for the benefit of wildlife. Additionally, CBRA has an exception for "nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system."<sup>25</sup> The planting of dune grass is an example of an activity that may qualify under this exception. Projects within the CBRS that fall under these two exceptions are also required to be consistent with the purposes of CBRA.<sup>16</sup>

Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for the CBRS units in New

York as a result of this comment.

**Comment 40:** The Town of Southampton commented that there is no analysis as to whether or not expansion of the CBRS units would affect federal and Corps responsibilities for navigation channel/infrastructure maintenance and stewardship within the New York District. These responsibilities include maintenance, repair and/or modification of the existing Shinnecock Inlet rock jetties and rock revetment; dredging of the Shinnecock Inlet entrance channels; and re-nourishment of the failing, eroding dune line and beaches at Shinnecock West. Continued maintenance of the Shinnecock Inlet area is critical to commerce, public safety, and storm damage reduction and to the safeguarding of the natural resources in the Town. The Town requests a written confirmation from the Service that the proposed CBRS changes will not hinder the State or Town from obtaining federal funding for the above-named actions. There are a number of ongoing or proposed inter-agency projects and revenue sharing agreements within the affected areas, and the Town wants to be sure that the proposed CBRS changes will do more environmental good than harm.

**Service Response to Comment 40:**

The Service is not required to conduct an analysis as to whether the expansion of the CBRS would affect federal and Corps responsibilities for navigation channel/infrastructure maintenance and stewardship. Channels are part of the associated aquatic habitat of coastal barriers<sup>26</sup> and have been included as such throughout the CBRS. Congress considered the issue of navigation channels and, with the enactment of the CBIA<sup>27</sup> in 1990, determined that it would be sufficient to exempt existing federal navigation channels from CBRA's prohibitions on federal expenditures rather than exclude or remove them from the CBRS.<sup>28</sup> This exception allows for federal expenditures for the maintenance or construction of improvements of federal navigation channels and related structures, including the disposal of dredge materials related to such maintenance or construction.<sup>29</sup> Determinations regarding whether specific projects or actions meet one of

CBRA's exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

A portion of the beach to the west of Shinnecock Inlet has been within a System Unit since 1982, and additional beach area was proposed for inclusion within the CBRS through this project. Shinnecock Inlet was first included within a System Unit of the CBRS in the 1990s, and no significant changes affecting the inlet were initially proposed through this project. The inlet and associated rock jetties and revetments have been subject to CBRA's restrictions on federal expenditures and financial assistance for about three decades. However, as a result of comments regarding Hot Dog Beach and Shinnecock East County Park (see Comments 48 and 49 below), some of these areas are now recommended for classification as OPAs instead of System Units, which would remove restrictions on federal expenditures and financial assistance other than flood insurance. Two small portions of the beach west of Shinnecock Inlet along with associated aquatic habitat in Shinnecock Bay to the north of Shinnecock Inlet are recommended for inclusion within a System Unit.

**Comment 41:** The Town of Southampton requested that the Service provide proper notice to all affected private property owners so they have the opportunity to comment on the proposed CBRS changes. Examples of potentially affected residences in the proposed System Units include existing waterfront homes along Flying Point Road (Unit F11) in Water Mill, Fantasy Drive (Unit NY-36) in Flanders, and Dune Road (Unit F13) in Hampton Bays.

**Service Response to Comment 41:** Comments regarding notification of CBRS boundary modifications



to all affected property owners are addressed in chapter 3 of this report (see issue 10).

There are no changes between the proposed and final recommended boundaries for the CBRS units in New York as a result of this comment.

**Comment 42:** The Town of Southampton recommended that all existing residentially-developed properties be deleted from the proposed System Units.

**Service Response to Comment 42:** In carrying out this project, the Service found areas that were erroneously included within the CBRS in the past and constitute technical mapping errors. When assessing whether an area may be appropriate for removal from the CBRS, the Service considered CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Where mapping errors were found, the boundaries of System Units and OPAs have been modified to remove areas that were erroneously included within the CBRS.

For the 14 System Units located in the Town of Southampton, the Service proposed the removal from the CBRS of 84 structures (5 of which have since been demolished and are no longer recommended for removal). The remaining areas containing residential development were appropriately included within the CBRS at the time of designation, as the criteria allow for the designation of areas containing a low density of scattered structures. Development that occurs after CBRS designation is not grounds for removal from the CBRS.<sup>30</sup>

There are no changes between the proposed and final recommended boundaries for the CBRS units in New York as a result of this comment.

**Comment 43:** The Town of Southampton commented that it is unclear whether the Board of Trustees of the Freeholders and Commonalty of the Town of Southampton, who hold title to the affected underwater lands,

have been contacted by the Service with regards to this project. As the Trustees are charged with stewardship of the bays, common underwater land, and rights of way to the water (established by the Dongan Patent of 1686), they should have the opportunity to provide feedback on the project.

**Service Response to Comment 43:** The Service published a notice in the *Federal Register* on December 18, 2018,<sup>4</sup> to announce the availability of draft revised boundaries for the CBRS units in the Town of Southampton (among other areas) for public review and comment. We sent outreach letters to the following state and local stakeholders with a potential interest in the proposed CBRS boundaries in the Town of Southampton: the Governor of New York; the New York State Department of Environmental Conservation; the New York State Division of Emergency Management; the New York Office of Parks, Recreation, and Historic Preservation; Suffolk County; and four separate officials with the Town of Southampton. We also contacted numerous organizations that own land held for conservation and/or recreation within the existing and proposed units (where such ownership information and mailing addresses were publicly available). In addition, the Service made available to local officials upon request a stakeholder outreach toolkit (comprised of project fact sheets, a "Dear Interested Party" letter that could be distributed at the community level, and other information about the project). Local officials were encouraged to use this toolkit to increase awareness within the community of the project and any virtual public meetings.

We make an effort to notify the appropriate organizations that are affected by proposed CBRS changes. However, it was not clear to us at the time that the Board of Trustees of the Freeholders and Commonalty of the Town of Southampton is a separate governing body from the Town of Southampton. The Trustees were not included on our distribution list and did not receive a direct notification, but the Service will include them on future distribution lists related to this project.

There are no changes between the proposed and final recommended boundaries for the CBRS units in New York as a result of this comment.

**Comment 44:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it identified gaps in the CBRS and suggested that the Service consider the addition of Silver Point County Park (located at the western end of Long Beach Island).

**Service Response to Comment 44:** To be considered "undeveloped" under CBRA, a coastal barrier must have a density of no more than one structure for every 5 acres of fastland (i.e., land above mean high tide).<sup>17</sup> The Service's review of the Nassau County-owned property at Silver Point considered the density of development that currently exists on the ground, and found that it exceeds the statutory density threshold for the area to be considered "undeveloped." Therefore, Silver Point County Park is not recommended for addition to the CBRS. The heavily-developed Silver Point property was acquired in 1968 by the County, and is leased to private beach clubs that were in existence prior to the acquisition by the County.

There are no changes between the proposed and final recommended boundaries for the CBRS units in New York as a result of this comment.

**Comment 45:** Connecticut Fund for the Environment/Save the Sound commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS within the coastal regions of Long Island Sound, including Connecticut and the entirety of Long Island and its North Shore.

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### Unit F11, Mecox

**Comment 46:** The Town of Southampton requested that Flying Point Beach, located at 1055 Flying Point Road (Suffolk County Tax Map [SCTM] No. 0900-178-2-3) in Water Mill, be reclassified to OPA, as the parcel is a Town-owned recreational facility.

**Service Response to Comment 46:** The Service generally only recommends reclassification of an area from System Unit to an OPA if it was held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup> The Service’s assessment of the Flying Point Beach parcel found that most of the parcel was first included in 1982 within the CBRS before the Town acquired it in 1986, and there is no evidence to indicate the parcel was held for conservation and/or recreation at the time it was included within the CBRS. Therefore, the Service does not recommend reclassifying to OPA the area owned by the Town of Southampton at Flying Point Beach that is currently within System Unit F11. However, the Service no longer recommends the addition of the portions of the Flying Point Beach parcel not currently within the CBRS (originally proposed for addition), based on the comment received from the Town during the public review period and the fact that this parcel is currently held for conservation and/or recreation. These areas are too small to add separately as an OPA.

Changes are made between the proposed and final recommended boundaries for Unit F11 as a result of this comment.

**Comment 47:** The Town of Southampton requested that W. Scott Cameron Beach at 425 Dune Road (SCTM No.0900-179-2-15) in Bridgehampton, and Mecox Inlet (part of SCTM No. 0900-396 -1-1) be classified to OPA, as they are Town-owned recreational facilities and/or managed inlets.

**Service Response to Comment 47:** The Service generally only recommends reclassification of an area from System Unit to an OPA if it was held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup> The Service’s assessment of the W. Scott Cameron Beach and Mecox Inlet parcels found that they were first included in 1982 within the CBRS before the Town acquired the parcels in 1986, and the Service has found no evidence to indicate the

parcels were held for conservation and/or recreation at the time they were included within the CBRS. Therefore, the Service does not recommend reclassifying to OPA the areas owned by the Town of Southampton at W. Scott Cameron Beach and Mecox Inlet that are currently within System Unit F11. However, based on the comment received from the Town during the public review period and the fact that the W. Scott Cameron Beach and Mecox Inlet parcels are currently held for conservation and/or recreation, the Service no longer recommends the addition of the portions of these parcels not currently within the CBRS as originally proposed. These areas are too small to add separately as an OPA.

Changes are made between the proposed and final recommended boundaries for Unit F11 as a result of this comment.

**Comment 48:** The Town of Southampton requested that Sam’s Creek (SCTM No. 0900-134-2-13), which is owned by the Trustees of the Freeholders and Commonalty of the Town of Southampton, be added to the CBRS as a System Unit.

**Service Response to Comment 48:** The Service does not recommend adding Sam’s Creek (located on the east side of Unit F11) to the CBRS. Where watercourses flow into the aquatic habitat from the mainland, the CBRS boundary is generally drawn at the first natural or artificial constriction with the drainage landward of the coastal barrier.<sup>22</sup> In this area, the first constriction is where Sam’s Creek crosses under Jobs Lane at the location of the existing CBRS boundary.

There are no changes between the proposed and final recommended boundaries for Unit F11 as a result of this comment.

#### Units F12, Southampton Beach, and F13/F13P, Tiana Beach

**Comment 49:** Suffolk County requested that Shinnecock East County Park within System Units F12 and F13 be reclassified to OPA. The Park is made up of two tax parcels, SCTM Nos. 0900-36400-0100-010002 (which was first included in 1990

within the CBRS) and 0904-02100-0100-015000 (which was first included in 1982 within the CBRS). The County indicates that although these parcels were not formally designated as a County park until 1986, they were acquired by the County in the early 1950s and were being used for recreational purposes prior to the park designation.

**Service Response to Comment 49:** The Service re-evaluated the area in question and now recommends that the portions of Shinnecock East County Park currently within System Units F12 and F13 and first included in 1990 within the CBRS be reclassified to OPA Unit F13P, as these areas were held for conservation and/or recreation at the time of designation. However, the portion of the Park in Unit F12 that was first included in 1982 within the CBRS is recommended to remain within the System Unit. The Service generally only recommends reclassification of areas from System Unit to an OPA if it was held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup> The Service’s assessment of the portion of the Park included in 1982 within Unit F12 found that it did not meet the definition of otherwise protected at the time.

Changes are made between the proposed and final recommended boundaries for Units F12 and F13/F13P as a result of this comment.

#### Units F13 and F13P, Tiana Beach

**Comment 50:** The Town of Southampton commented that the addition to the CBRS of the Town-owned Hot Dog Beach located at 35 Dune Road (SCTM No. 0900-385-2-76.1) in East Quogue is acceptable. However, the Town requested that this parcel be classified as an OPA rather than a System Unit. In addition, the following Town-owned parcels in East Quogue should be classified as OPA: 28 Dune Road (SCTM No. 0900-386-1-2), 33 Dune Road (SCTM No. 0900-386-2-1), 34 Dune Road (SCTM No. 0900-386-1-1), and the Sedge Island parcel (SCTM No. 0900-385-1-39.6).



**Service Response to Comment 50:**

The Town-owned parcels at 33 and 35 Dune Road (Hot Dog Beach) are not currently within the CBRS, but were proposed for addition to existing System Unit F13. The Service was aware that the Town of Southampton owned them, but had no evidence at the time that the parcels were held for conservation and/or recreation. Based on the comment received from the Town during the public review period and the fact that 33 and 35 Dune Road are currently held for conservation and/or recreation, these parcels are now recommended for addition to existing OPA Unit F13P.

However, the Service does not recommend reclassifying to OPA the other Town-owned parcels (28 and 34 Dune Road and the Sedge Island parcel) currently within System Unit F13. The Service generally only recommends reclassification of areas from System Unit to OPA if they were held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time they were first included within the CBRS.<sup>14</sup> The Service’s assessment of these parcels found that when they were first included in 1982 within the CBRS, the Town did not own them (they were acquired by the Town between 1995 and 2009), and there is no evidence to indicate they were held for conservation and/or recreation at the time they were included within the CBRS. Therefore, the parcels do not qualify for reclassification from System Unit to OPA. The Service recommends that these areas remain within Unit F13.

Changes are made between the proposed and final recommended boundaries for Units F13 and F13P as a result of this comment.

**Comment 51:** The Town of Southampton requested that the following private residentially developed properties be removed from the CBRS: 4 Dune Road in Hampton Bays (SCTM No. 0900-386-2-8.8) and 19 Dune Road in East Quogue (SCTM No. 0900-386-2-5.1).

**Service Response to Comment 51:**

The Service recommends that the properties at 4 and 19 Dune Road

remain within Unit F13 as they were appropriately included in 1982 within the CBRS based on CBRA’s criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Information provided by the Town of Southampton and a review of aerial imagery (from several sources) confirmed that these properties were undeveloped in 1982, and the structures were constructed after 2002. Development that occurs after CBRS designation is not grounds for removal from the CBRS.<sup>30</sup>

There are no changes between the proposed and final recommended boundaries for Unit F13 as a result of this comment.

**Comment 52:** The Town of Southampton requested that the following Town-owned open space properties in Hampton Bays be reclassified from System Unit to OPA:

33 Dune Road (SCTM No. 0900-386-1-12)

39 Dune Road (SCTM No. 0900-386-1-15)

45 Dune Road (SCTM No. 0900-386-1-18)

47 Dune Road (SCTM No. 0900-386-1-19)

51 Dune Road (SCTM No. 0900-386-1-20)

Pre-existing structures and bulkheads have been removed from these properties. The Corps’ Fire Island to Montauk Point Reformulation Plan recommends depositing sand below mean low water in these areas in order to create intertidal marsh, and the Town is concerned that the System Unit status will affect this recommendation.

**Service Response to Comment 52:**

All of the subject parcels are currently within System Unit F13 and were first included in 1990 within the CBRS. The Service generally only recommends reclassification of areas from System Unit to an OPA if they were held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time they were included within the CBRS.<sup>14</sup> The Service’s assessment of these parcels found that, at the time of the CBRS designation, they were not owned by the Town (the parcels

were acquired by the Town between 2002 and 2016). There is no evidence to indicate the parcels were held for conservation and/or recreation at the time they were included within the CBRS. Therefore, the parcels do not qualify for reclassification from System Unit to OPA, and the Service recommends that they remain within Unit F13. The parcels at 39, 45, 47, and 51 Dune Road were originally proposed for removal from the CBRS. However, the Service is now recommending that these properties remain within System Unit F13 as the structures on them have been demolished over the past few years and they will not be redeveloped.

CBRA generally prohibits most new federal expenditures and financial assistance within the CBRS.<sup>31</sup> However, there are certain exceptions to CBRA’s limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service’s local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Units F13 and F13P as a result of this comment.

**Comment 53:** The Town of Southampton requested that the following Town-owned open space parcels along Dune Road in Hampton Bays be reclassified as OPA:

SCTM No. 0900-386-1-5

SCTM No. 0900-386-1-10.1

SCTM No. 0900-386-2-5.3

SCTM No. 0900-386-2-5.4

SCTM No. 0900-386-2-8.6



SCTM No. 0900-386-2-8.7

SCTM No. 0900-386-2-10.2

SCTM No. 0900-386-2-10.3

SCTM No. 0900-386-2-10.4

**Service Response to Comment 53:**

The Service does not recommend reclassifying to OPA the Town-owned parcels in question that are currently within System Unit F13. The Service generally only recommends reclassification of areas from System Unit to an OPA if they were held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time they were included within the CBRS.<sup>14</sup> The Service’s assessment of these parcels found that when they were included in 1982 within the CBRS, the Town did not own them (the parcels were acquired by the Town between 1995 and 2004). There is no evidence to indicate the parcels were held for conservation and/or recreation at the time they were included within the CBRS. Therefore, the parcels do not qualify for reclassification from System Unit to OPA, and will remain within System Unit F13.

There are no changes between the proposed and final recommended boundaries for Unit F13 as a result of this comment.

**Comment 54:** The Town of Southampton requested that the following Town-owned open space parcels in Hampton Bays be reclassified as OPA:

57 Dune Road (SCTM No. 0900-386-1-23),

59 Dune Road (SCTM No. 0900-386-1-24),

61 Dune Road (SCTM No. 0900-386-1-25),

69 Dune Road (SCTM No. 0900-386-1-28.1),

70 Dune Road (SCTM No. 0900-386-2-31.1), and

72 Dune Road (SCTM No. 0900-386-2-33.1).

The Corps’ Fire Island to Montauk Point Reformulation Study

recommends depositing sand below mean low water in these areas in order to create intertidal marsh, and the Town is concerned that the System Unit status will affect this recommendation.

**Service Response to Comment 54:**

The Town-owned parcels at 57 and 59 Dune Road are not currently within the CBRS but through this project were proposed for addition to existing System Unit F13. Portions of the parcels at 61 and 69 Dune Road are currently within System Unit F13, and the remaining portions were proposed for addition to Unit F13. The parcels at 70 and 72 Dune Road are not currently within the CBRS, and only the undeveloped portion of 72 Dune Road was proposed for addition to existing OPA Unit F13P. The Service was aware that the Town of Southampton owned these parcels, but had no evidence at the time the proposed CBRS boundaries were prepared that they were held for conservation and/or recreation.

Based on the comment received from the Town during the public review period and the fact that these parcels are currently held for conservation and/or recreation, the Service recommends that the portions of the parcels that are not currently within the CBRS be added to existing OPA Unit F13P. However, the Service recommends that the portions of the parcels currently within existing System Unit F13 remain within the System Unit and not be reclassified to an OPA. The Service generally only recommends reclassification of areas from System Unit to an OPA if they were held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time they were first included within the CBRS.<sup>14</sup> The Service’s assessment found that when the areas were first included in 1990 within the CBRS, the Town did not own them (the parcels were acquired by the Town between 2003 and 2004), and there is no evidence to indicate the parcels were held for conservation and/or recreation at the time they were included within the CBRS.

There are exceptions to CBRA’s

limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service’s local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

Changes are made between the proposed and final recommended boundaries for Units F13 and F13P as a result of this comment.

**Comment 55:** The Town of Southampton requested that the portion of the underwater lands of Shinnecock Bay owned by the Trustees of the Freeholders and Commonalty of the Town of Southampton be reclassified from System Unit to OPA. These underwater lands have been identified by the Corps’ Fire Island to Montauk Point Reformulation Study as a proposed inter-tidal marsh creation area.

**Service Response to Comment 55:**

The Service does not recommend reclassifying to OPA the underwater lands in Shinnecock Bay that are owned by the Trustees and are currently within System Unit F13. The Service has carefully considered the status of these areas and concludes that they do not meet the CBIA definition of “otherwise protected.”<sup>13</sup> Although these waters and their surrounding shorelines are subject to stricter permitting requirements, they can be developed. They are not set aside primarily for wildlife refuge, sanctuary, recreational, or other natural resource conservation purposes. Therefore, the Service recommends the underwater lands of the Shinnecock Bay remain within

System Unit F13. The responsibilities granted by the Dongan Patent of 1686 to the Trustees are similar to Florida's Aquatic Preserves and Outstanding Waters, which also do not meet the definition of otherwise protected.

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to future federally funded projects within System Units of the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit F13 as a result of this comment.

**Comment 56:** The Town of Southampton requested that Old Ponquogue Bridge (North) at 49 Lighthouse Road (SCTM No. 0900-374-2-20) in Hampton Bays be reclassified as an OPA, as the parcel is a Town-owned public recreation facility. The Town also requested that the recreational facility at Old Ponquogue Bridge (South) (SCTM No. 0900-379-2-5), which it owns, remain as an OPA and not be reclassified as a System Unit.

**Service Response to Comment 56:** The recreational facility parcel at Old Ponquogue Bridge (North) (SCTM No. 0900-374-2-20) originally proposed for addition to System Unit F13 is not currently within the CBRS. Therefore, based on the comment received from the Town during the public review period and the fact that this parcel is currently held for conservation and/or recreation, the Service no longer

recommends the addition of the parcel to the System Unit (the parcel is too small to add separately as an OPA). The final recommended boundary of Unit F13 in this area is modified to match the existing boundary.

Except for one acre (which is proposed for reclassification from System Unit F13 to OPA Unit F13P), the recreational facility at Old Ponquogue Bridge (South) (SCTM No. 0900-379-2-5) is currently within OPA Unit F13P. At the time of the public review and comment period, the Service proposed some changes to the boundary along the shoreline because of erosion in the area. These changes resulted in the proposed reclassification of small portions of the parcel from OPA to System Unit. The Service has since modified the final recommended CBRS boundary in this area to follow the parcel provided by the Town of Southampton and ensure that it remains within the OPA.

Changes are made between the proposed and final recommended boundaries for Unit F13 and F13P as a result of this comment.

**Comment 57:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it suggested that the Service consider further additions to Unit F13 of potential marsh migration corridor areas along Shinnecock Bay.

**Service Response to Comment 57:** The Service does not recommend at this time the addition of these marsh migration corridor areas to Unit F13. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

There are no changes between the proposed and final recommended boundaries for Unit F13 as a result of this comment.

### Unit NY-04P, Prospect Point

**Comment 58:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS

on Long Island. However, it suggested that the area within Unit NY-04P might be better classified as a System Unit rather than an OPA, as this area includes private homes along the marsh and Audubon New York does not know of any protected areas within the unit.

### **Service Response to Comment 58:**

Unit NY-04P was originally established by the CBIA<sup>27</sup> in 1990 and, at that time, the area within the unit was identified as locally protected. In 1997 (via notice published in the *Federal Register*),<sup>32</sup> this unit was expanded north to include the accreted barrier and associated aquatic habitat at Prospect Point. This modification was made in accordance with section 3 of the CBIA, which requires a review of the CBRS maps at least once every five years to make modifications to the boundaries to reflect changes that have occurred as a result of natural forces. Most of the area within existing Unit NY-04P is owned by the Village of Sands Point and was designated in 1959 under local law as the Sands Point Wildlife Preserve. Although there are some privately owned wetlands included in Unit NY-04P, the coastal barrier system is predominantly held for conservation and/or recreation. Therefore, the Service recommends that this area remain within Unit NY-04P and not be reclassified to a System Unit.

There are no changes between the proposed and final recommended boundaries for Unit NY-04P as a result of this comment.

### Units NY-10 and NY-10P, Lloyd Point

**Comment 59:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it is concerned that Unit NY-10 is proposed for reclassification from System Unit to OPA when all of the areas within the unit are not protected, and suggested that only the area within Caumsett State Park be reclassified to OPA with the rest of the unit maintained as System Unit.

**Service Response to Comment 59:** Only the northern half of existing System Unit NY-10, made up predominantly of Caumsett State



Historic Park Preserve lands with some minor areas of privately owned undeveloped fastland (i.e., land above high tide) and wetlands, was proposed for reclassification to an OPA. The southern half of the unit, which is not protected, remains within the System Unit.

There are no changes between the proposed and final recommended boundaries for Units NY-10 and NY-10P as a result of this comment.

#### Unit NY-24, Plum Island

**Comment 60:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it suggested that the Service consider further additions of priority bird habitat to Unit NY-24, specifically the remaining portions of Plum Island that are not already within the CBRS.

#### *Service Response to Comment 60:*

The Service does not recommend the expansion of Unit NY-24 to include all of Plum Island. The Service's review found that the portions of Plum Island currently outside the CBRS are generally not appropriate for addition to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Plum Island hosts elevations in excess of 80 feet in many places, and we found that most of the island is not vulnerable to coastal hazards (due to the elevation). The portions of the island that do otherwise qualify (and are not already included within the CBRS) are developed.

There are no changes between the proposed and final recommended boundaries for Unit NY-24 as a result of this comment.

#### Unit NY-25P (formerly Unit NY-25), Orient Beach

**Comment 61:** The Service received a comment from an individual in support of the proposed removal from the CBRS of the Narrow River Marina (a privately owned marina with six

structures on the ground prior to its inclusion in 1990 within the CBRS).

**Service Response to Comment 61:** The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment for the Narrow River Marina (currently located within Unit NY-25), and found that the developed portions of the marina property on Narrow River Road are appropriate for removal from the CBRS. The Service also recommends that Unit NY-25 be reclassified entirely to OPA Unit NY-25P with the exception of the removals. The full assessment can be found in appendix G of this report.

There are no changes between the proposed and final recommended boundaries for Unit NY-25P (formerly Unit NY-25) as a result of this comment.

**Comment 62:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it is concerned that existing Unit NY-25 is proposed for reclassification from System Unit to OPA when all of the areas within the unit are not protected, and recommended that only the area within Orient Beach State Park be reclassified as OPA with the rest of the unit maintained as System Unit. Audubon New York suggested that this unit also be expanded along the landward boundary to include additional marsh migration space (which was mapped by Audubon New York using data from The Nature Conservancy's Coastal Resilience Model).

#### *Service Response to Comment 62:*

The CBIA,<sup>27</sup> enacted on November 16, 1990, originally established Unit NY-25P. On November 15, 1993, the entirety of what existed at the time as Unit NY-25P was reclassified from its original OPA designation to System Unit NY-25 at the request of the State of New York. The 1993 reclassification was made in accordance with section 4(c) of the CBIA, which allowed, upon request, the voluntary addition to

System Units of areas owned or held by local governments, states, or qualified organizations (either to an existing unit or as a new unit). However, additional areas that were not part of the State Park were inadvertently reclassified to System Unit at the same time. At the time of the public review and comment period for this project, these areas were either proposed for removal from the CBRS or proposed for reclassification to new OPA Unit NY-25P depending on whether they qualified in 1990 for inclusion within the CBRS.

The State of New York Office of Parks, Recreation, and Historic Preservation requested on March 22, 2016, that the State Park areas that were voluntarily reclassified in 1993 to System Unit be converted back to their original OPA designation. Although there are some privately owned areas included in Unit NY-25, this unit is made up predominantly of Orient Beach State Park and Long Beach Bay State Tidal Wetlands (these tidal wetland areas meet the CBIA definition of "otherwise protected").<sup>13</sup> Therefore, the Service recommends that the entirety of System Unit NY-25 (except for some removals noted in the Summary of Final Recommended Changes for Unit NY-25P in appendix G of this report) be reclassified to new OPA Unit NY-25P.

In addition, the Service does not recommend at this time the addition to the CBRS of the marsh migration space along the landward boundary of the unit. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

There are no changes between the proposed and final recommended boundaries for Unit NY-25P (formerly Unit NY-25) as a result of this comment.

#### Units NY-26, Pipes Cove and NY-27, Conkling Point

**Comment 63:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it suggested that the Service consider the further addition of nearby marsh migration corridors to Units NY-26 and NY-27.



**Service Response to Comment 63:**

The Service does not recommend at this time the addition of these marsh migration corridors to Units NY-26 and NY-27. Comments regarding extending the CBRS to include marsh and wetland migration corridors are addressed in chapter 3 of this report (see issue 3).

There are no changes between the proposed and final recommended boundaries for Units NY-26 and NY-27 as a result of this comment.

**Unit NY-28, Orient Beach**

**Comment 64:** The Service received a comment from an individual in support of the proposed removal from the CBRS of three structures along Clearview Avenue in Southold.

**Unit NY-34P (formerly Unit NY-34), East Creek**

**Comment 65:** The Town of Riverhead requested that Unit NY-34 be reclassified to an OPA. The majority of the land proposed to remain within the unit is owned by the Town and consists of a recreational and conservation boat launch facility, a marina, public beach, tennis courts, basketball court, restroom facility, associated structures, and associated parking facilities.

**Service Response to Comment 65:**

The CBIA,<sup>27</sup> enacted on November 16, 1990, originally established Unit NY-34P. On November 15, 1993, the entirety of what existed at the time as Unit NY-34P was reclassified from its original OPA designation to System Unit NY-34 at the request of the Town of Riverhead. The 1993 reclassification was made in accordance with section 4(c) of the CBIA, which allowed, upon request, the voluntary addition to System Units of areas owned or held by local governments, states, or qualified organizations (either to an existing unit or as a new unit). However, some of the area that was reclassified to Unit NY-34 was not owned by the Town of Riverhead in 1993. The areas not owned by the Town that also did not qualify for inclusion (due to preexisting development and an error on the base map that incorrectly

depicted the location of the wetland/fastland interface) within the CBRS in 1990 were proposed for removal. The remaining areas (which are predominantly Town park land) were proposed to remain within Unit NY-34.

Because of the comment received from the Town of Riverhead during the public review period, the Service re-evaluated this unit. We now recommend that the entirety of System Unit NY-34 (except for the removals noted in the Summary of Final Recommended Changes for this unit in appendix G of this report) be reclassified to OPA Unit NY-34P. This recommendation is based on the fact that most of the area in question was held for conservation and/or recreation at the time it was first included in 1990 within the CBRS and on the fact that the area was voluntarily reclassified in 1993 to System Unit as requested by the Town. Additionally, the identified additions, which include some minor areas of privately owned lands, are now recommended for inclusion within the CBRS as OPA rather than System Unit.

Changes are made between the proposed and final recommended boundaries for Unit NY-34P (formerly Unit NY-34) as a result of this comment.

**Unit NY-36, Flanders Bay**

**Comment 66:** The Town of Southampton requested that the private residentially-developed properties in Flanders known as 60 and 88 Fantasy Drive (SCTM Nos. 0900-123-2-1.3 and 0900-123-2-1.5, respectively) be removed from the CBRS.

**Service Response to Comment 66:**

The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment for the properties at 60 and 88 Fantasy Drive that are located within Unit NY-36, and

found that they were appropriately included in 1990 within the CBRS. Therefore, the Service recommends that this area remain within Unit NY-36. The full assessment can be found in appendix G of this report.

There are no changes between the proposed and final recommended boundaries for Unit NY-36 as a result of this comment.

**Comment 67:** The Town of Southampton requested that the open-space properties (owned by the Trustees of the Freeholders and Commonalty of the Town of Southampton) at 19 and 40 Fantasy Drive (SCTM Nos. 0900-123-2-1.6 and 0900-123-2-17.2, respectively) in Flanders be reclassified to OPAs.

**Service Response to Comment 67:**

The Service does not recommend reclassifying to OPA the properties owned by the Trustees at 19 and 40 Fantasy Drive that are currently within System Unit NY-36. The Service generally only recommends reclassification of an area from System Unit to an OPA if it was held for conservation and/or recreation (according to the CBIA definition of "otherwise protected")<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup> The Service's assessment of these two properties found that they were first included in 1990 within the CBRS before the Trustees acquired them (in 2005 and 2018). The Service has found no evidence to indicate the parcels were held for conservation and/or recreation at the time they were included within the CBRS.

There are no changes between the proposed and final recommended boundaries for Unit NY-36 as a result of this comment.

**Comment 68:** The Town of Southampton requested that Iron Point Park (SCTM Nos. 0900-121-1-3.2 and 0900-121-1-6), which is owned by the Town, be classified as OPA rather than System Unit. In addition, the unit should be expanded to include the Town-owned property at 150 Wood Road Trail (SCTM No. 0900-121-1-5.1) in Flanders.

**Service Response to Comment 68:**

Iron Point Park and the Town-owned property at 150 Wood Road Trail are not currently within the CBRs, but through this project, portions of these properties were proposed for addition to existing System Unit NY-36. The Service sought input from the Town prior to the comment period in trying to determine whether these properties met the CBIA definition of an “otherwise protected.”<sup>13</sup> However, the Service did not receive a response at the time and, therefore, proposed this area as an addition to the System Unit. Based on the comment received from the Town of Southampton during the public review period and the fact that Iron Point Park and the property at 150 Wood Road Trail are currently held for conservation and/or recreation, these areas are now recommended for addition to new OPA Unit NY-97P.

Changes are made between the proposed and final recommended boundaries for Unit NY-36 (including the creation of recommended new OPA Unit NY-97P) as a result of this comment.

**Unit NY-53P (formerly Unit NY-53),  
Big Reed Pond**

**Comment 69:** Suffolk County requested that Montauk County Park within System Unit NY-53 be reclassified to OPA as the county-owned park was held for conservation and/or recreation before this unit was classified in 1993 as a System Unit. The County also accepts the proposed minor additions of the park as OPA.

**Service Response to Comment 69:** The CBIA,<sup>27</sup> enacted on November 16, 1990, originally established Unit NY-53 as OPA Unit NY-53P. On November 15, 1993, the entirety of what existed at the time as Unit NY-53P was reclassified from its original OPA designation to System Unit NY-53 based upon a request from the Town of East Hampton. The 1993 reclassification was made in accordance with section 4(c) of the CBIA, which allowed, upon request, the voluntary addition to System Units of areas owned or held by local governments, states, or qualified organizations (either to an existing unit or as a new unit). However, the area that was reclassified to Unit NY-53 was owned by Suffolk County and private

owners in 1993, not the Town of East Hampton.

During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are “otherwise protected.” The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRs.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRs unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable. In cases where the necessary input was not received within the required timeframe, the Service maintained the status quo. The issue was then noted in the “Summary of Proposed Changes” document that was released for public review with the proposed boundary, and the Service notified the affected stakeholders of the comment period. Additional information about unit type classification can be found in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project.

Portions of Montauk County Park are currently located within Unit NY-53 and additional minor areas of wetlands within the park are proposed for addition. Montauk County Park was held for conservation and/or recreation before the area was reclassified in 1993 from OPA Unit NY-53P to System Unit NY-53. The Service reached out to Suffolk County when preparing the proposed boundaries to seek concurrence on maintaining Montauk County Park within the System Unit. Because the Service did not receive a response at that time, this area was not proposed for reclassification to an OPA. Based on the comment received from the County during the public review

period and the fact that Montauk County Park was held for conservation and/or recreation at the time it was first included in 1990 within the CBRs, the entirety of Unit NY-53 is now recommended for reclassification from System Unit to new OPA Unit NY-53P.

Changes are made between the proposed and final recommended boundaries for Unit NY-53P (formerly Unit NY-53) as a result of this comment.

**Units NY-53P (formerly Unit NY-53),  
Big Reed Pond, NY-54P (formerly  
Unit NY-54), Oyster Pond and NY-55P  
(formerly Unit NY-55), Montauk Point**

**Comment 70:** Audubon New York commented that Units NY-53, NY-54, and NY-55 showed up as null in the CBRs Projects Mapper and that these units should continue to be included within the CBRs.

**Service Response to Comment 70:** The Service did not propose removing Units NY-53, NY-54, and NY-55 from the CBRs. Rather, there was a technical issue with the attribution of the Geographic Information Systems (GIS) data for those three units in the CBRs Projects Mapper that made the proposed changes unclear. As soon as we became aware that there was a problem, we fixed the issue. The Service initially proposed additions to Unit NY-53 and reclassification from System Unit to OPA of Units NY-54 and NY-55 in their entireties. Additionally, as a result of another comment, Unit NY-53 is now recommended for reclassification to Unit NY-53P (see Comment 68 above for additional information). The Summary of Final Recommended Changes documents located in appendix G of this report contain further details regarding the final recommended changes to Units NY-53P, NY-54P, and NY-55P.

There are no changes between the proposed and final recommended boundaries for these units as a result of this comment.



**Unit NY-58 and Unit NY-58P,  
Sagaponack Pond**

**Comment 71:** The Town of Southampton requested that the Town-owned Sagg Beach recreational facility (SCTM No. 0908-8-1-34), located at 1200 Sagaponack Main Street in the Village of Sagaponack, as well as the abutting westerly Town-owned vacant open space (SCTM Nos. 0900-117-1-42.2 and 0900-117-2-26.1) be classified as OPA.

**Service Response to Comment 71:**

During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are “otherwise protected.” The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRS.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRS unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable. In cases where the necessary input was not received within the required timeframe, the Service maintained the status quo. The issue was then noted in the “Summary of Proposed Changes” document that was released for public review with the proposed boundary, and the Service notified the affected stakeholders of the comment period.

The Sagg Beach recreational facility (SCTM No. 0908-8-1-34), and the abutting westerly Town-owned vacant open space (SCTM Nos. 0900-117-1-42.2 and 0900-117-2-26.1) are currently located within System Unit NY-58, which was added in 1990 to the CBRS. The Service reached out to the Town of Southampton when preparing the proposed boundaries to seek concurrence on maintaining the Sagg Beach area (which was held for conservation and/or recreation prior to its inclusion within the CBRS) within the System Unit.

When we did not receive a response from the Town, we maintained the area within Unit NY-58.

Based on the comment received from the Town during the public review period and the fact that the three Town-owned parcels were held for conservation and/or recreation at the time they were first included in 1990 within the CBRS, these parcels are now recommended for reclassification to new OPA Unit NY-58P.

Changes are made between the proposed and final recommended boundaries for Unit NY-58 and Unit NY-58P as a result of this comment.

**Units NY-59 and NY-59P, Fire Island**

**Comment 72:** A representative of the National Park Service commented that all of Fire Island National Seashore appears to be within OPA Unit NY-59P except for the westernmost tract near the boundary of Robert Moses State Park. The westernmost tract of the National Seashore is located within System Unit NY-59, and the commenter suggested that this area should be reclassified to OPA.

**Service Response to Comment 72:**

The westernmost tract of the Fire Island National Seashore that the commenter noted is currently within System Unit NY-59; however, at the time of the public review and comment period for this area, this tract was proposed for reclassification to OPA Unit NY-59P. The Service continues to recommend this area for reclassification to OPA on the final recommended map included in appendix G of this report.

There are no changes between the proposed and final recommended boundaries for Units NY-59 and NY-59P as a result of this comment.

**Comment 73:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. Audubon New York also commented that within the area proposed for reclassification from System Unit NY-59 to OPA Unit NY-59P, there are areas that are privately owned and not protected (such as Gilgo Beach), and therefore,

those areas should be classified as System Unit and not as OPA.

**Service Response to Comment 73:**

The CBIA,<sup>27</sup> enacted on November 16, 1990, originally established Unit NY-59P. On November 15, 1993, a portion of Unit NY-59P was reclassified from its original OPA designation to System Unit NY-59 based upon requests from the Towns of Babylon and Hempstead, Nassau County, and the State of New York. The 1993 reclassification was made in accordance with section 4(c) of the CBIA, which allowed, upon request, the voluntary addition to System Units of areas owned or held by local governments, states, or qualified organizations (either to an existing unit or as a new unit). However, additional areas that were not owned by the Towns of Babylon and Hempstead, Nassau County, and the State of New York were inadvertently reclassified to System Unit in 1993. At the time of the public review and comment period for this project, these areas were either proposed for removal from the CBRS or proposed for reclassification to OPA Unit NY-59P depending on whether they qualified in 1990 for inclusion within the CBRS.

The State of New York Office of Parks, Recreation, and Historic Preservation requested on March 22, 2016, that the State Park areas that were voluntarily reclassified in 1993 to System Unit be converted back to their original OPA designation. The areas of Unit NY-59 that are proposed for reclassification from System Unit to OPA are predominantly federal, state, and local government-owned land that is held for conservation and/or recreation. However, interspersed with and/or adjacent to the larger conservation/recreation areas are some small local government and privately owned areas that are not protected but have also been proposed for reclassification to OPA. The Service continues to recommend these areas for reclassification to OPA on the final recommended maps included in appendix G of this report.

There are no changes between the proposed and final recommended boundaries for Units NY-59 and NY-59P as a result of this comment.



**Comment 74:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it suggested that the Service consider the inclusion of all of Robert Moses State Park, including the area between the Robert Moses Causeway and Ocean Parkway, within System Unit NY-59.

**Service Response to Comment 74:** Robert Moses State Park is currently within Unit NY-59. At the time of the public review and comment period for this area, the State Park was proposed for reclassification from System Unit to OPA Unit NY-59P. The reclassification is based on a 2016 request by New York State to make this change and the fact that the area in question was held for conservation and/or recreation at the time it was first included in 1990 within the CBRS (see Comment 72 above for additional details). The Service continues to recommend this area for reclassification to OPA on the final recommended maps included in appendix G of this report.

There are no changes between the proposed and final recommended boundaries for Units NY-59 and NY-59P as a result of this comment.

#### Unit NY-60P, Jamaica Bay

**Comment 75:** Audubon New York commented that it is supportive of the proposed changes to, and strongly supports the expansion of, the CBRS on Long Island. However, it also suggested that the Service consider further additions to Unit NY-60P, specifically to the north and northeast along Head of Bay up to Idlewild Park.

**Service Response to Comment 75:** The Service does not recommend the addition to Unit NY-60P of the area along Head of Bay that is requested by Audubon New York. The Service's review found that this area is not appropriate for addition to the CBRS based on CBRA's criteria for an undeveloped coastal barrier and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NY-60P as a result of this comment.

#### Unit NY-89, Duck Island Harbor

**Comment 76:** In addition to supporting the proposed changes to, and strongly supporting the expansion of, the CBRS on Long Island, Audubon New York specifically commented that it strongly supports the addition of proposed new System Unit NY-89 to the CBRS.

### NEW JERSEY

#### Comments affecting multiple CBRS units in New Jersey

**Comment 77:** The Corps' Philadelphia District and the New Jersey Department of Environmental Protection (NJ DEP) commented for several OPAs (NJ-05P, NJ-07P, NJ-19P) in New Jersey that jetties, groins, and shore protection projects such as ongoing dredging operations, periodic sand nourishment, and emergency repairs should disqualify the areas where such structures or projects are located from inclusion under the CBRA. The commenters stated that the CBRA definition includes all associated aquatic habitats, but only if within these habitats, there are few man-made structures, and the geomorphic and ecological processes are not significantly disrupted by these structures and people's activity associated with them. They contend that jetties, groins, and shore protection projects modify the natural geomorphic processes, and express concerns regarding impacts on the projects from CBRA's prohibition on federal expenditures.

**Service Response to Comment 77:** 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.<sup>9</sup>*

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.<sup>34</sup>*

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 that the evaluation of human impacts is required

*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.<sup>35</sup>*

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.

Jetties, groins, and similar shoreline stabilization structures are currently located throughout the CBRS, and have been since 1982 when CBRA was first enacted. These features generally do not preclude CBRS designation when the coastal barrier itself is undeveloped. In the case of Units NJ-05P, NJ-07P, and NJ-19P, the coastal barriers comprise primarily conserved areas and are largely undeveloped aside from limited recreational infrastructure. It is

also important to note that the only restriction within OPAs such as NJ-05P, NJ-07P, and NJ-19P is on federal flood insurance; other federal expenditures are permitted.

There are no changes between the proposed and final recommended boundaries for the CBRS units as a result of these comments.

**Comment 78:** The NJ DEP, the New Jersey Department of Transportation (NJ DOT), and the Borough of Rumson all expressed concerns regarding the inclusion of state navigation channels within the CBRS. The NJ DOT's Office of Maritime Resources is the state's lead agency for policy and planning for the maritime industry and infrastructure, and is responsible for maintaining the Marine Transportation System (MTS), which includes engineered waterways; docks, berths, and ramps; and two internationally significant ports with associated facilities and supports activities such as tourism, recreation, commercial fishing, and international trade. The NJ DEP and NJ DOT feel that the proposed mapping changes would have a significant adverse impact on the maintenance of the MTS. Dredging is necessary to maintain the MTS and ensure adequate water depths for the safe navigation of the state's recreational and commercial boating industry and marine commerce. The NJ DEP indicated that over six years after Hurricane Sandy, New Jersey is still recovering from the damage caused by the storm. FEMA has extended its funding of NJ DOT's efforts to restore the state's navigation channels through 2024 due to the broad impact of the hurricane on New Jersey's coastal waters. As of July 2018, only about one-third of the state's channels had been cleared of debris and sediment. All these commenters requested that the MTS be afforded the same exception from the limitations under CBRA as federal navigation channels. The NJ DEP and NJ DOT also requested that the legislation approving the proposed CBRS boundary changes include a provision making clear that in the event of a federally-declared storm disaster, recovery efforts to remove debris (including white debris such as cars, household appliances, etc.) and sediment within a System Unit

continue to be covered under CBRA's section 6(a)(6)(E) exception for actions to alleviate an emergency, regardless of the length of time of recovery efforts.

**Service Response to Comment 78:**

Congress considered the issue of navigation channels and, with the enactment of the CBIA<sup>27</sup> in 1990, determined that it would be sufficient to exempt existing federal navigation channels from CBRA's prohibitions on federal expenditures rather than exclude or remove them from the CBRS.<sup>28</sup> Channels are part of the associated aquatic habitat of coastal barriers<sup>26</sup> and have been included as such throughout the CBRS. There are no restrictions on the use of private, state, or local funds to dredge channels within the CBRS, and this is likely why no exception to CBRA was created for state channels. However, there is an exception to CBRA's limitations on federal expenditures for most emergency actions in a federally-declared disaster area that are essential to the saving of lives, to protection of property and the public health and safety, and are also necessary to alleviate the emergency.<sup>33</sup>

FEMA has conducted advance consultations with the Service for such assistance, and the following types of activities are allowable with only an after-the-fact notification to the Service: removal of debris from public property; emergency restoration of essential community services such as electricity, water, and sewer; provision of emergency shelter; relocation of individuals out of danger; and other activities that cannot wait for consultation due to the urgency of the situation. Due to the long-term nature of the recovery efforts from Hurricane Sandy, it is the Service's opinion that the use of federal funds for the dredging of state navigable boating channels within the CBRS should be subject to the CBRA consultation process.

The Service recommends that the federal funding agency contact the local Ecological Services Field Office<sup>10</sup> with project specifics to determine whether the exception to CBRA for emergency actions may apply to disaster assistance funds used for the dredging of state navigation channels. Comments regarding proposed



legislative amendments to CBRA's exceptions are addressed in chapter 3 of this report (see issue 5).

There are no changes between the proposed and final recommended boundaries for the CBRs units as a result of these comments.

**Comment 79:** The American Littoral Society strongly supports the proposed boundary changes to the CBRs units in New Jersey. The protection and conservation of the coasts, barrier islands, wetlands, and floodplains throughout the nation is needed “to offset the ill-considered development of coastal areas subsidized, driven, and supported by Federal actions and programs – at great expense to the taxpayers of the nation, coastal wildlife, and the vulnerability of coastal communities.” The Society believes that CBRA is more relevant than ever with the challenges of climate change and increased storm risks and has been an effective tool in limiting development of valuable coastal barriers. Additionally, the Society is opposed to amendments allowing the expenditure of federal funds for sand mining in CBRs units for use in beach nourishment projects outside the CBRs unit because this is an activity that does not benefit or support the health and integrity of CBRs units and is contrary to the purpose of CBRA. The sand mining process itself can have devastating impacts on wildlife species and habitat in CBRs units.

**Service Response to Comment 79:** Comments regarding CBRA and projects involving sand mining and beach nourishment and comments regarding proposed legislative amendments to CBRA's exceptions are addressed in chapter 3 of this report (see Issues 12 and 5, respectively).

There are no changes between the proposed and final recommended boundaries for the CBRs units as a result of this comment.

**Comment 80:** The Monmouth County Audubon Society supports the proposed changes to the CBRs along the New Jersey coast. Expanding the CBRs along the New Jersey shore will be beneficial to birds and wildlife,

commercial and recreation fishing, public safety, and the Federal Treasury.

#### Unit NJ-01P, Sandy Hook

**Comment 81:** The NJ DEP requested that OPA Unit NJ-01P not be expanded to include an additional area of the Shrewsbury River and not be extended to the break in development along the southern boundary. There are currently three projects in the area of expansion that the NJ DEP is concerned could be impacted—a risk management study in the Borough of Highlands, a risk management project in Sea Bright, and a state-run FEMA-funded seawall reconstruction project. The NJ DEP is also concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects.

**Service Response to Comment 81:** The only federal funding prohibition within OPAs (such as Unit NJ-01P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance of projects for construction and/or maintenance of infrastructure or coastal storm risk management within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-01P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-01P as a result of this comment.

#### Unit NJ-04, Conaskonk Point

**Comment 82:** The NJ DEP requested that the area within Unit NJ-04 be reclassified to an OPA. This CBRs unit was remapped by the Service in 2016, and the revised map was adopted by Congress that same year. The NJ DEP contends that the increased cost of an existing authorized Federal Coastal Storm Risk Management project in the area was a direct result of the 2016 CBRs map changes.

**Service Response to Comment 82:** This unit was originally part of the Hurricane Sandy Remapping Project; however, a revised map for this unit was expedited in 2016 due to a Corps project to construct a levee to protect the Bayshore Regional Sewerage Authority Wastewater Treatment Facility (Bayshore facility) from future storm damage. Unit NJ-04 was first established in 1990, and the original map for this unit included part of the Bayshore facility (constructed prior to 1990) within the CBRs. However, the facility was included within the CBRs in error because the level of development on the ground at the time was not depicted correctly on the 1977 U.S. Geological Survey topographic quadrangle that was used as the base map for the October 24, 1990, CBRs map, and the surface features were depicted incorrectly as wetlands. The Corps project as initially planned was largely within the CBRs (which limited how and where federal funds could be spent) prior to the adoption of the Service's 2016 revised map. The revised map for Unit NJ-04 removed from the CBRs portions of the Bayshore facility and added to the CBRs wetlands that met the CBRA criteria for addition.<sup>37</sup> Additionally, a buffer was applied between the CBRs boundary and the northeastern side of the Bayshore facility to allow for the Corps to construct a planned levee. This modification to the boundary was made in accordance with the Service's protocol for critical facilities that is described in a notice in the *Federal Register*.<sup>38</sup>

The proposed map for Unit NJ-04 (including adjacent units on the same map panel) underwent a 45-day public comment period (July 7-August 22, 2016). The Service considered the



comments (including those from the NJ DEP, Monmouth County Planning Board, and the Bayshore Regional Sewerage Authority) and coordinated with the Corps on the preparation of the final recommended map. The revised map was adopted by Congress on December 16, 2016, via Pub. L. 114-314. The Service is aware that the CBRS designation required project design changes that increased the cost of the Corps project. However, the 2016 revisions to Unit NJ-04 allowed the project to proceed with federal funds, which would not have been possible under CBRA prior to the map change. The Service has no plans to produce any additional maps for this particular CBRS unit.

Concerning the request made by the State in their comment, the Service does not recommend reclassifying the area within Unit NJ-04 to an OPA. The Service generally only recommends reclassification of an area from System Unit to an OPA if it was held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup> The Service’s assessment indicates that when the area within Unit NJ-04 was first included in 1990 within the CBRS, it was not held for conservation and/or recreation, and a large portion of it was privately owned by Jersey Central Power & Light. In addition, the Service found that there were several small privately owned residential lots within the unit as well as parcels owned by the Bayshore Regional Sewerage Authority and the Borough of Union Beach. It was not until 2016 that the State purchased the Jersey Central Power & Light property and protected it as part of Cheesequake State Park.

The revised map for Unit NJ-04 was adopted by Congress in 2016 and there are no changes recommended for Unit NJ-04 as a result of this comment.

#### **Unit NJ-04A and NJ-04AP, Navesink/Shrewsbury Complex**

**Comment 83:** The NJ DEP requested that Unit NJ-04A not be expanded to include Picnic Island, the undeveloped areas of Barley Point Island, and associated aquatic areas of the

Navesink and Shrewsbury Rivers, and that this unit be reclassified to an OPA. The NJ DEP notes that the Service found the majority of the Navesink River Wildlife Management Area, as well as several other small islands within Unit NJ-04A, were not held for conservation and/or recreation at the time the unit was established. However, the NJ DEP asserts that at the time of designation New Jersey’s Coastal Program would have preserved these areas and protected them from development through federal laws.

#### **Service Response to Comment 83:**

During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are “otherwise protected.” The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRS.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRS unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable.

Portions of the Navesink River Wildlife Management Area (WMA) that are owned by the NJ DEP are currently within System Unit NJ-04A. When these areas were first included in 1990 within the CBRS, they were privately owned and not held for conservation and/or recreation; therefore they do not qualify for reclassification from System Unit to OPA. Additionally, these areas were undeveloped at the time (and are still undeveloped) and do not qualify for removal from the CBRS. These areas are recommended to remain within Unit NJ-04A.

The Service reached out to the NJ DEP when preparing the proposed boundaries to seek concurrence on

adding portions of the Navesink River WMA to existing System Unit NJ-04A (which already contained portions of the WMA as described above), rather than creating a proposed new OPA. At that time, the NJ DEP concurred with classifying certain DEP-owned areas as System Unit rather than OPA. Therefore, a portion of the Navesink River WMA was proposed for addition to System Unit NJ-04A. However, after further review of the matter during the comment period, the NJ DEP opposed adding any state-owned protected areas to System Units.

Based on the comment received from the NJ DEP during the public review period and the fact that the portion of the WMA proposed for addition to Unit NJ-04A is currently held for conservation and/or recreation, that area is now recommended for addition to new OPA Unit NJ-04AP. Other areas within the proposed addition to Unit NJ-04A that are not part of the WMA and do not meet the above definition of otherwise protected (such as Picnic Island and portions of Barley Point Island) remain recommended for addition to System Unit NJ-04A.

Changes are made between the proposed and final recommended boundaries for Unit NJ-04A (including the creation of recommended new Unit NJ-04AP) as a result of this comment.

**Comment 84:** The NJ DEP commented that several small islands within existing CBRS Unit NJ-04A “have the potential to benefit from living shoreline projects to protect them from erosion and preserve valuable habitat.” It acknowledged that there are some exceptions in CBRA that could be applied to such activities, but is concerned because CBRA would limit the structural components used for such projects. The NJ DEP is also concerned that the expansion of this unit may potentially affect federal funding of the solutions that are recommended through the Federal Coastal Storm Risk Management Study.

**Service Response to Comment 84:** The Service assesses modifications to the CBRS based on CBRA’s criteria for an undeveloped coastal barrier

as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service's review of the small islands within existing System Unit NJ-04A found that they were appropriately included in 1990 within the CBRS. Therefore, the Service recommends that these islands remain within Unit NJ-04A.

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to future federally funded projects within System Units of the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Living shoreline projects with a structural component would generally be considered under the 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."<sup>24</sup> In addition, there is an exception for "nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system."<sup>25</sup> Under each of these exceptions, the project must also be consistent with the purposes of CBRA to be eligible for federal funding.<sup>16</sup>

Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit NJ-04A as a result of this comment.

**Comment 85:** The Borough of Rumson is concerned that owners of preexisting structures where the draft boundary now encroaches their

property will be limited in obtaining federal flood insurance (or that the process for obtaining this insurance will be unnecessarily complicated). The Borough requested that the proposed boundaries or the exceptions in section 6 of CBRA (16 U.S.C. § 3505) be revised.

**Service Response to Comment 85:**

Most new federal expenditures and financial assistance, including federal flood insurance, are prohibited within the CBRS.<sup>31</sup> The recommended additions to Unit NJ-04A include Picnic Island, the undeveloped portions of Barley Point Island, and wetlands along the Navesink and Shrewsbury Rivers. There are no existing structures currently within existing Unit NJ-04A or recommended for addition to the unit. If an undeveloped portion of a property is included within the CBRS but the structure on that property is located completely outside of the CBRS, then the property owner would not be prohibited from obtaining federal flood insurance on the structure. However, there may be restrictions affecting the portion of the property located within the CBRS. Comments regarding proposed legislative amendments to CBRA's exceptions are addressed in chapter 3 of this report (see issue 5).

There are no changes between the proposed and final recommended boundaries for Unit NJ-04A as a result of this comment.

**Comment 86:** The Borough of Rumson is concerned that property owners affected by the proposed CBRS boundary changes will be limited in what FEMA assistance they can receive in the case of a natural disaster. The Borough requested that the proposed boundaries or the exceptions in section 6 of CBRA (16 U.S.C. § 3505) be revised.

**Service Response to Comment 86:**

There are no existing structures included in the recommended additions to Unit NJ-04A. If a portion of a property is included within the CBRS but the structure on that property is located completely outside of the CBRS, then the property owner would not be prohibited from obtaining federal disaster assistance for the

structure itself. However, there may be restrictions affecting the portion of the property within the CBRS. For example, structural shoreline stabilization projects within the CBRS (including the construction or repair of private bulkheads or seawalls) would generally not be eligible for federal disaster assistance.

There is an exception to CBRA's limitations on federal expenditures and financial assistance for most emergency actions in a federally-declared disaster area that are essential to the saving of lives, the protection of property and the public health and safety and are also limited to what is necessary to alleviate the emergency.<sup>36</sup> FEMA has conducted advance consultations with the Service for such assistance, and the following types of activities are allowable with only an after-the-fact notification to the Service: removal of debris from public property; emergency restoration of essential community services such as electricity, water, and sewer; provision of emergency shelter; relocation of individuals out of danger; and other activities that cannot wait for consultation due to the urgency of the situation. The funding of projects beyond what is necessary to alleviate the immediate emergency should be subject to the CBRA consultation process. The Service recommends that the federal funding agency contact the local Ecological Services Field Office<sup>10</sup> to determine whether specific projects or actions meet one of the exceptions in CBRA. Comments regarding proposed legislative amendments to CBRA's exceptions are addressed in chapter 3 of this report (see issue 5).

There are no changes between the proposed and final recommended boundaries for Unit NJ-04A as a result of this comment.

**Comment 87:** The Borough of Rumson commented that the CBRS boundary should be revised so that preexisting waterfront structures such as bulkheads, docks, and piers are not proposed for addition to the CBRS, or the Borough would like the exceptions under section 6 of CBRA (16 U.S.C. § 3505) to be revised to allow federal funding from FEMA in a declared emergency. The Borough asserts that the 20-foot buffer is insufficient to



accommodate all of these preexisting structures.

**Service Response to Comment 87:**

CBRA's definition of a coastal barrier includes all associated aquatic habitats, encompassing the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters.<sup>26</sup> 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.<sup>39</sup>

Through this project, and in accordance with the Service's mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project), the Service revised the boundaries of the units to include additional associated aquatic habitat within the CBRS. As a result, some docks, piers, and marinas are recommended for inclusion within the CBRS. However, such structures are already prevalent within the CBRS. Because docks, piers, and other similar structures that extend perpendicular to the shoreline 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.<sup>40</sup>

In cases where the CBRS boundary follows a developed shoreline, a buffer (i.e., space between the boundary and the feature it is intended to follow) of about 20 feet is generally applied between the shoreline and the boundary. Buffers are used to avoid the inadvertent inclusion of existing structures and infrastructure that run parallel to or are coincident with the shoreline (such as bulkheads), while maintaining the relationship between the boundaries and the underlying features that they are intended to follow.<sup>8</sup>

Additionally, it should be noted that there are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally

funded projects within System Units of the CBRS (including financial assistance for emergency actions), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance if a future federally funded project (or portion thereof) occurs within a System Unit of the CBRS. Comments regarding proposed legislative amendments to CBRA's exceptions are addressed in chapter 3 of this report (see issue 5).

There are no changes between the proposed and final recommended boundaries for Unit NJ-04A as a result of this comment.

**Comment 88:** The Borough of Rumson requested that the proposed CBRS boundary at the Rumson Municipal Boat Launch (located behind Rumson Borough Hall at the northern terminus of the Avenue of Two Rivers) be relocated 150 feet from the existing shoreline or from the NJ DEP Coastal Claim Line, whichever is greater. The Borough also commented that the proposed CBRS boundary extends onto previously developed upland property, which currently has a Sanitary Sewer Pump Station, a boat ramp, parking, and public waterfront access. The Borough, in partnership with Monmouth University, is planning to construct a Marine and Environmental Field Station at this location. The Borough feels that the proposed CBRS boundary changes will impact the Borough's and the University's ability to obtain federal funding in constructing the Field Station, repairing or replacing the boat ramp and waterfront bulkhead, and improving public access. The Borough also understands there may be CBRA exceptions that would allow the federal funding of some projects, but would prefer that the CBRS boundary be

adjusted so that a project does not need a CBRA exception in obtaining federal funding.

**Service Response to Comment 88:**

CBRA's definition of a coastal barrier includes all associated aquatic habitats, encompassing the adjacent wetlands, marshes, estuaries, inlets, and nearshore waters.<sup>26</sup> The CBRS currently includes approximately 3.1 million acres of associated aquatic habitat, some of which is located close to development. In cases where the CBRS boundary follows a developed shoreline, a buffer (i.e., space between the boundary and the feature it is intended to follow) of about 20 feet is generally applied between the shoreline and the boundary. Buffers are used to avoid the inadvertent inclusion of existing structures and infrastructure that run parallel to or are coincident with the shoreline (such as bulkheads), while maintaining the relationship between the boundaries and the underlying features that they are intended to follow.<sup>8</sup> The Service reviewed the areas proposed for addition to Unit NJ-04A near the Rumson Municipal Boat Launch and found that a buffer was not properly applied between the boundary and the shoreline. The Service's final recommended boundary for this area includes a 20-foot buffer.

Additionally, it should be noted that there are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within System Units of the CBRS (including the maintenance, replacement, reconstruction, or repair of publicly owned roads, structures, and facilities, as well as recreational projects), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance if a future project (or portion thereof)



occurs within a CBRS unit.

A minor change is made between the proposed and final recommended boundaries for Unit NJ-04A as a result of this comment.

**Comment 89:** The Borough of Rumson commented that 126 impacted property owners were notified about the proposed CBRS boundary changes, and the Borough expected many of these property owners to comment on the potential impacts that the proposed CBRS changes could have on their properties. The Borough also requested that the Service notify all property owners impacted by the proposed changes to Unit NJ-04A (e.g., those that are proposed to be added to or removed from the CBRS). This request was made on July 10, 2018, which was the final day of the comment period for the draft revised CBRS boundaries for New Jersey.

**Service Response to Comment 89:** Comments regarding notification of CBRS boundary modifications to all affected property owners are addressed in chapter 3 of this report (see issue 10). On April 27, 2018, the Borough of Rumson requested and received the stakeholder outreach toolkit from the Service, and on May 9, 2018, the Borough informed the Service that they were in the process of creating a direct mailing to the impacted property owners. Because the Borough had already completed a direct mailing, no additional outreach was done by the Service.

There are no changes between the proposed and final recommended boundaries for Unit NJ-04A as a result of this comment.

#### Unit NJ-04B and NJ-04BP, Metedeconk Neck

**Comment 90:** The Corps' Philadelphia District and the NJ DEP requested that the area within System Unit NJ-04B not be expanded beyond the existing area that is currently within this CBRS unit. The NJ DEP also requested that the area proposed for reclassification to System Unit NJ-04B remain as OPA. The commenters indicated that these proposed changes,

which occur in an area that is part of the federally-sponsored New Jersey Back Bays Coastal Storm Risk Management Study, may prevent future federal expenditures for coastal storm risk management projects. These projects are designed to reduce the damages from flooding affecting population, critical infrastructure and facilities (such as the Ocean County Utility Authority's Northern Water Pollution Control Facility), property, and ecosystems. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 90:** The Service's response to each of the issues raised by the commenters is below.

**Additions and Reclassifications to System Unit NJ-04B:** During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are "otherwise protected." The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRS.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRS unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable.

The Service reached out to the NJ DEP when preparing the proposed boundaries to seek concurrence on classifying some of the conservation and/or recreation areas owned by the NJ DEP as System Unit rather than OPA. Some of these areas were already within System Units of the CBRS,

and some were proposed additions. At that time, the NJ DEP concurred with classifying certain DEP-owned areas as System Unit rather than OPA. Therefore, a portion of existing OPA Unit NJ-04BP was proposed for reclassification to System Unit NJ-04B, and the proposed additions identified in the area (some of which are owned by the NJ DEP as part of Swan Point State Natural Area) were classified as System Unit NJ-04B rather than OPA Unit NJ-04BP. However, after further review of the matter during the comment period, the NJ DEP opposed reclassifying any state-owned protected areas from OPA to System Unit or adding any state-owned protected areas to System Units.

Based on the comment received from the NJ DEP during the public review period and the fact that the areas in question were held for conservation and/or recreation at the time they were first included in 1990 within the CBRS, the DEP-owned areas that were proposed for reclassification to System Unit NJ-04B are now recommended to remain within OPA Unit NJ-04BP. Furthermore, the identified additions that are owned by the NJ DEP are now recommended for inclusion within Unit NJ-04BP rather than Unit NJ-04B.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. When identifying potential additions to the CBRS, the Service considers projects to the extent that they impact the current development status of a coastal barrier. The recommended additions to Unit NJ-04B/NJ-04BP are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of infrastructure for coastal storm risk management in the area.

### ***Future Federal Expenditures for Coastal Storm Risk Management Projects:***

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to future federally funded projects within System Units of the CBRs (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Living shoreline projects with a structural component would generally be considered under the 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."<sup>24</sup> In addition, there is an exception for "nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system."<sup>25</sup> Under each of these exceptions, the project must also be consistent with the purposes of CBRA to be eligible for federal funding.<sup>16</sup>

Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

***Ocean County Utility Authority's Northern Water Pollution Control Facility:*** Though located near Unit NJ-04B, the Ocean County Utility Authority's Northern Water Pollution Control Facility is not currently located within the CBRs; only undeveloped portions of the facility parcel are within Unit NJ-04B. No additions to the

facility parcel itself were proposed to Unit NJ-04B. There are nearby additions of NJ DEP land that are recommended for inclusion within OPA Unit NJ-04BP, which only restricts federal flood insurance (not storm damage reduction projects). The Service understands that a plan for the protection of the pollution control facility has not yet been completed as of the date of this report. See above for exceptions that may be considered for future projects in this area.

Under certain limited circumstances, the Service may consider mapping a CBRs area to allow for the protection of existing critical facilities (e.g., sewage treatment facilities, nuclear facilities, and hospitals) that primarily serve areas located outside of the CBRs.<sup>39</sup> In this case, the final recommended boundary is modified in accordance with that protocol to remove from the CBRs the undeveloped portions (about 10 acres) of the Northern Water Pollution Control Facility parcel. The final recommended boundary in the immediate vicinity of the facility now follows the boundary of Edwin B. Forsythe National Wildlife Refuge.

Changes are made between the proposed and final recommended boundaries for Unit NJ-04B and NJ-04BP as a result of this comment.

***Comment 91:*** The Township of Brick commented that the Township is overall "very pleased" with the proposed changes to Unit NJ-04B, which correct mapping errors that have affected many of their residents. The Township reviewed and verified that the proposed additions of land areas are undeveloped. The Township also requested that the Service notify all affected property owners, both those with properties being removed from the CBRs and those with properties added to the CBRs.

***Service Response to Comment 91:*** Comments regarding notification of CBRs boundary modifications to all affected property owners are addressed in chapter 3 of this report

(see issue 10). In a limited number of cases where local governments provided the Service with a list of mailing addresses well in advance of the close of the comment period, the Service assisted with the distribution of the "Dear Interested Party" letter from the stakeholder outreach toolkit. The Service provided such assistance to the Township of Brick in June 2018.

There are no changes between the proposed and final recommended boundaries for Unit NJ-04B as a result of this comment.

### **Unit NJ-05P, Island Beach**

***Comment 92:*** The Corps' Philadelphia District and the NJ DEP requested that OPA Unit NJ-05P not be expanded to include the southern jetty at Barnegat Inlet, the area to the south of the jetty, and the offshore area where an existing borrow site is located. Within this proposed addition are the component features of a congressionally-authorized federal project for navigation and shore protection.

***Service Response to Comment 92:*** The only federal funding prohibition within OPAs (such as Unit NJ-05P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for navigation channel maintenance or shore protection projects within OPAs, and consultations with the Service for such projects would not be required.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-05P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).



There are no changes between the proposed and final recommended boundaries for Unit NJ-05P as a result of this comment.

### Units NJ-06 and NJ-06P, Cedar Bonnet

**Comment 93:** The NJ DOT requested that the area surrounding the Route 72 Manahawkin Bay Bridges be removed entirely from the CBRs or, at the very least, be reclassified to an OPA to ensure that public safety is not compromised. The commenters indicated that this bridge complex is the only evacuation route from Long Beach Island and while it has recently been rehabilitated, it may need to be widened or expanded in the future. Using federal funds for an expansion of the bridge complex would be prohibited if the area remains within a System Unit.

#### **Service Response to Comment 93:**

Areas to the south of the Manahawkin Bay Bridge between the mainland and the northern boundary of existing Unit NJ-06 and between the southern boundary of Unit NJ-06 and Long Beach Island are recommended for addition to the CBRs as System Unit. A small portion of the Manahawkin Bay Bridge expansion (near its connection with Bonnet and Cedar Bonnet Islands) that is currently within existing System Unit NJ-06 is recommended for removal. In cases where the CBRs boundary follows a bridge, a buffer (i.e., space between the boundary and the feature it is intended to follow) of about 20 feet is generally applied between the bridge and the boundary. Buffers are used to avoid the inadvertent inclusion of existing structures and infrastructure that run parallel to or are coincident with the shoreline (such as bulkheads), while maintaining the relationship between the boundaries and the underlying features that they are intended to follow.<sup>8</sup> Given the State's concerns and the fact that the bridge serves as the only evacuation route from large and heavily developed areas of Long Beach Island (including the communities of Barnegat Light, Loveladies, Harvey Cedars, Surf

City, Ship Bottom, Beach Haven, and Holgate, among others) that are not included within the CBRs, the Service has applied an approximately 50-foot buffer along the southern sides of the bridges.

In addition, the Service does not recommend reclassifying the area currently within Unit NJ-06 to an OPA. In the process of preparing the draft revised boundaries for this project, the Service conducted a comprehensive review of each unit, including whether areas at the time of designation were held for conservation or recreation in perpetuity and met the CBIA definition of "otherwise protected."<sup>13</sup> The Service's recent review of Unit NJ-06 affirmed that the area was appropriately included within the System Unit and found no evidence indicating that it was otherwise protected at the time of CBRs designation in 1990. Additional information regarding the Service's protocols for determining CBRs unit type classification is outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project.

Changes are made between the proposed and final recommended boundaries for Unit NJ-06 as a result of this comment.

**Comment 94:** The Corps' Philadelphia District and the NJ DEP requested that Units NJ-06 and NJ-06P not be expanded beyond the existing area that is currently within these CBRs units. The commenters stated that OPA Unit NJ-06P is proposed for reclassification to System Unit NJ-06, and areas of associated aquatic habitat are proposed for addition to existing Unit NJ-06 that increases its size. They also indicated that these proposed changes, which occur in an area that is part of the federally-sponsored New Jersey Back Bays Coastal Storm Risk Management Study, may prevent future federal expenditures for coastal storm risk management projects. These projects are designed to reduce the damages from flooding affecting population, critical infrastructure and facilities, property, and ecosystems in Stafford

and Long Beach Townships and the Borough of Ship Bottom. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

#### **Service Response to Comment 94:**

When identifying potential additions to the CBRs, the Service considers projects to the extent that they impact the current development status of a coastal barrier. As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of infrastructure for coastal storm risk management in the area. Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-06 are appropriate based on CBRa's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

The Service had proposed the reclassification of the entirety of Unit NJ-06P (comprising open water and several small islands in Manahawkin Bay that are mostly within the Edwin B. Forsythe National Wildlife Refuge) from OPA to System Unit. This change was intended to both simplify the mapping in this area and reclassify a privately owned parcel from OPA to System Unit because the surrounding area was not predominantly held for conservation and/or recreation at that time of designation. However, in reviewing this area as a result of the public comments, the Service is now limiting the reclassification to the privately owned parcel, and recommending that the portions of the



refuge currently within Unit NJ-06P remain within the OPA.

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to future federally funded projects within System Units of the CBRS, and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

The only federal funding prohibition within OPAs (such as Unit NJ-06P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required.

Changes are made between the proposed and final recommended boundaries for Unit NJ-06 and NJ-06P as a result of this comment.

### Unit NJ-07P, Brigantine

**Comment 95:** The Corps' Philadelphia District and the NJ DEP requested that the area within existing OPA Unit NJ-07P not be expanded. The commenters indicated that portions of congressionally-authorized projects for shore protection and two proposed projects under the Continuing Authorities Program (one on Mordecai Island and the other along the oceanside beaches at the northern end of the developed barrier on Brigantine) are included in the expansion of the unit.

**Service Response to Comment 95:** The only federal funding prohibition within OPAs (such as Unit NJ-07P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk

management projects within OPAs, and consultations with the Service for such projects would not be required.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-07P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-07P as a result of this comment.

**Comment 96:** The Township of Long Beach requested that OPA Unit NJ-07P not be expanded to include the upland areas and buildable lots located along the bay shoreline of Long Beach Island. The Township indicated that the buildable lots have existing infrastructure (roads and water/sewer) and permits to complete work, and the properties are in a developed section of the barrier island. The Township requested that the OPA boundary be moved to the New Jersey riparian boundary (shown on a map included with the comments) at these locations.

**Service Response to Comment 96:** The only federal funding prohibition within OPAs (such as Unit NJ-07P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required.

The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend

additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. Based on the best available information at the time of this report, it is the Service's assessment that the recommended additions to Unit NJ-07P are appropriate based on CBRA's criteria for an undeveloped coastal barrier.

The Township of Long Beach specifically requested that upland areas and buildable lots located along the bay shoreline of Long Beach Island not be added to Unit NJ-07P based on these areas being in a developed section of the barrier island and having existing infrastructure (roads and water/sewer) and permits to complete work. The Service contacted the Township to obtain documentation concerning the infrastructure for the areas in question (located between Beck Avenue and Rosemma Avenue), and as the date of this report, we have not received the requested information. Upland areas are commonly included within the CBRS. There is substantial variation in physiographic characteristics among coastal barriers. However, the basic components of a coastal barrier are not just sandbars and wetlands, but also include a fastland (i.e., land above high tide) component where structures are most likely to be built.<sup>41</sup>

To be considered "undeveloped" under CBRA, the proposed addition must have a density of no more than one structure for every 5 acres of fastland.<sup>17</sup> There are no existing structures in the area in question. In addition, the area does not have 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.<sup>42</sup> 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., subdivision funded by a developer that is under construction). It is clear on aerial imagery that these lots are not currently under

development, and without more information to confirm whether the infrastructure criterion is met, the Service continues to recommend that this area be included within the CBRs. These undeveloped privately owned properties are included within the OPA (as opposed to a System Unit) because the coastal barrier system in this area is predominantly held for conservation and/or recreation.

Additionally, 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 of Interior'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.<sup>43</sup>*

The Service has 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. The Service therefore considers only development that existed (or exists for new additions) on the ground at the time of inclusion.

There are no changes between the proposed and final recommended boundaries for Unit NJ-07P as a result of this comment.

**Comment 97:** The Township of Long Beach requested that the proposed OPA boundary be moved to the Edwin B. Forsythe National Wildlife Refuge property line so as not to encroach onto properties owned by the Township at the south end of Holgate. One property is slated for a park for bay shoreline access and the other is used by the public to access the ocean shoreline south of the terminal groin. The

Township is proposing modifications to the groin and has plans for constructing a beach access ramp at the south end of the Holgate municipal parking lot.

**Service Response to Comment 97:**

The only federal funding prohibition within OPAs (such as Unit NJ-07P) is on flood insurance. However, new flood insurance coverage may be provided for a structure within an OPA if the building is used in a manner consistent with the purpose for which the area is protected (e.g., local park structures). Most park-related structures constructed within Unit NJ-07P would be eligible for federal flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for the construction of parks and recreational facilities, groins, or other infrastructure within OPAs, and consultations with the Service for such projects would not be required.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. In accordance with our mapping protocols, the boundary of Unit NJ-07P is modified to include within the OPA all qualifying undeveloped areas. The recommended additions to Unit NJ-07P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-07P as a result of this comment.

**Comment 98:** The New Jersey Chapter of The Wildlife Society recommended that the Service remap OPA Unit NJ-07P as a System Unit rather than as an OPA. The Society further commented that Little Egg Inlet is the only unmodified (i.e., natural) inlet between New York and Virginia and supports critical habitats for three

federally-listed threatened species. The Society believes that changing the classification to System Unit would provide additional protections in preventing losses or adverse impacts to this important habitat.

**Service Response to Comment 98:**

In carrying out this project, the Service considered the qualifying coastal barrier feature and generally delineated the boundaries of both System Units and OPAs using the same protocols, criteria, and guiding principles. The Service then determined the unit type classification (for proposed additions) and reclassification (for existing units) in accordance with the protocols outlined in chapter 4 of this report and the March 12, 2018, *Federal Register* notice,<sup>2</sup> which described the methodology for this project. The unit type classification (i.e., System Unit versus OPA) is based on whether or not the unit was predominantly held for conservation and/or recreation at the time of designation. However, the Service accommodates requests from landowners for voluntary additions to the CBRs as well as reclassifications from OPA to System Unit.<sup>44</sup>

The Service's assessment of this area found that the barrier features within the unit were predominantly held for conservation and/or recreation at the time the OPA was designated in 1990. The Service identified numerous other areas that qualify for addition to the unit, and many of those areas are also held for conservation and/or recreation. Therefore, the proposed additions are classified as OPA rather than System Unit. During the course of preparing the proposed CBRs boundaries, the Service coordinated with the conservation/recreation area owners (or managers) to seek their concurrence on inclusion of their area within the System Unit. However, since all of the owners of the conserved areas did not concur with System Unit status, the Service maintained the area as OPA. The Service does not recommend reclassifying the area within OPA Unit NJ-07P to a System Unit.

There are no changes between the proposed and final recommended boundaries for Unit NJ-07P as a result of this comment.



**Units NJ-08 and NJ-08P,  
Corson's Inlet**

**Comment 99:** The Corps' Philadelphia District and the NJ DEP requested that the area within the CBRS not be expanded beyond what is currently within existing OPA Unit NJ-08P. The NJ DEP also requested that the area proposed for reclassification to System Unit NJ-08 remain as OPA. The commenters indicated that the proposed changes, which occur in an area that is part of the federally-sponsored New Jersey Back Bays Coastal Storm Risk Management Study, may prevent future federal expenditures for coastal storm risk management projects. These projects are designed to reduce the damages from flooding affecting population, critical infrastructure and facilities, property, and ecosystems. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 99:** During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are "otherwise protected." The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRS.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRS unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable.

The Service reached out to the NJ DEP when preparing the proposed boundaries to seek concurrence on classifying some of the conservation

and/or recreation areas owned by the NJ DEP as System Unit rather than OPA. Some of these areas were already within System Units of the CBRS, and some were proposed additions. At that time, the NJ DEP concurred with classifying certain DEP-owned areas as System Unit rather than OPA. Therefore, a portion of existing OPA Unit NJ-08P was proposed for reclassification to System Unit NJ-08, and the proposed additions identified in the area (many of which are owned by the NJ DEP as part of Cape May Wetlands WMA) were classified as System Unit NJ-08 rather than OPA Unit NJ-08P. However, after further review of the matter during the comment period, the NJ DEP opposed reclassifying any state-owned protected areas from OPA to System Unit or adding any state-owned protected areas to System Units.

Based on the comment received from the NJ DEP during the public review period and the fact that the area in question was held for conservation and/or recreation at the time it was first included in 1990 within the CBRS, the areas that were proposed for reclassification to System Unit NJ-08 are now recommended to remain within OPA Unit NJ-08P. Additionally, the identified additions are now recommended for inclusion within Unit NJ-08P rather than Unit NJ-08. Proposed new System Unit NJ-08 will no longer exist.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-08P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

The only federal funding prohibition within OPAs (such as Unit NJ-08P) is on flood insurance. There are no CBRA prohibitions affecting federal funding

or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required.

Changes are made between the proposed and final recommended boundaries for Units NJ-08 and NJ-08P as a result of this comment.

**Units NJ-09 and NJ-09P, Stone Harbor**

**Comment 100:** The Corps' Philadelphia District and the NJ DEP requested that the area within System Unit NJ-09 not be expanded beyond the existing area that is currently within this CBRS unit. The NJ DEP also requested that the area proposed for reclassification to System Unit NJ-09 remain as OPA Unit NJ-09P. The commenters indicated that these proposed changes, which occur in an area that is part of the federally-sponsored New Jersey Back Bays Coastal Storm Risk Management Study, may prevent the use of future federal expenditures for coastal storm risk management projects. These projects are designed to reduce the damages from flooding affecting population, critical infrastructure and facilities, property, and ecosystems in the Township of Middle, the City of North Wildwood, and the Borough of Stone Harbor. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives. The City of North Wildwood commented that it agrees with the Corps and NJ DEP on this comment.

Additionally, the Borough of Avalon, Borough of Stone Harbor, and the City of North Wildwood commented that their municipalities have worked in a cooperative manner with state and federal agencies to protect and preserve coastal ecosystems through local planning, zoning ordinances, and management programs. The commenters also state that they have provided for the long-term protection of the natural and human resources in their communities including, but not limited to, Unit NJ-09.



**Service Response to Comment 100:**

The Service's responses to most of the issues raised by the commenters are below. Comments regarding multiple layers of protection on areas within the CBRS are addressed in chapter 3 of this report (see issue 2).

**Reclassification of NJ DEP-Owned Areas:**

During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are "otherwise protected." The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRS.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRS unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable.

The Service reached out to the NJ DEP when preparing the proposed boundaries to seek concurrence on classifying some of the conservation and/or recreation areas owned by the NJ DEP as System Unit rather than OPA. Some of these areas were already within System Units of the CBRS, and some were proposed additions. At that time, the NJ DEP concurred with classifying certain DEP-owned areas as System Unit rather than OPA. Therefore, the area within existing OPA Unit NJ-09P was proposed for reclassification to System Unit NJ-09, and the proposed additions of DEP-owned areas were classified as System Unit NJ-09 rather than

OPA Unit NJ-09P. However, after further review of the matter during the comment period, the NJ DEP opposed reclassifying or adding any state-owned protected areas to System Units.

Based on the comment received from the NJ DEP during the public review period and the fact that the areas in question were held for conservation and/or recreation at the time they were first included in 1990 within the CBRS, the DEP-owned areas that were proposed for reclassification are now recommended to remain within OPA Unit NJ-09P. Additionally, the identified additions that are owned by the NJ DEP and held for conservation and/or recreation are now recommended for inclusion within Unit NJ-09P rather than Unit NJ-09. Areas within existing OPA Unit NJ-09P that were found to be privately owned and not held for conservation and/or recreation continue to be recommended for reclassification to System Unit NJ-09.

**Additions to Unit NJ-09 and NJ-09P:**

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. When identifying potential additions to the CBRS, the Service considers projects to the extent that they impact the current development status of a coastal barrier. The recommended additions to Unit NJ-09 and NJ-09P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

Additionally, it is important to note that Units NJ-09 and NJ-09P were

first included in 1990 within the CBRS, and many of the additions identified through this project in this area are now recommended for inclusion within OPA Unit NJ-09P rather than System Unit NJ-09 (as described above). The only federal funding prohibition within OPAs (such as Unit NJ-09P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance of projects for construction and/or maintenance of infrastructure or coastal storm risk management within OPAs (so long as no portion of the project falls within an adjacent System Unit), and consultations with the Service for such projects would not be required.

**Coastal Storm Damage Reduction Projects within System Units of the CBRS:**

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to future federally funded projects within System Units of the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Federal expenditures that meet this exception must also be consistent with the purposes of CBRA.<sup>16</sup>

Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

Changes are made between the proposed and final recommended boundaries for Units NJ-09 and NJ-09P as a result of this comment.

**Comment 101:** The Corps' Philadelphia District and the NJ DEP requested that the existing Unit NJ-09 boundary along Hereford Inlet and the entire length of the existing seawall in North Wildwood remain unchanged. The commenters state that the proposed expansion of Unit NJ-09 would place portions of the seawall within the CBRS, which may negatively impact the Corps' ability to repair and maintain the seawall. The seawall has underwater infrastructure (described as concrete mattresses and stone by the commenters) that extends as much as 130 feet into the channel and is not visible on aerial imagery. The Corps completed construction of the seawall in 2010 and is responsible for repairs or potential failures resulting from storms. The State of New Jersey and the City of North Wildwood are responsible for the normal operations and maintenance of the seawall.

The City of North Wildwood commented that it agrees with the Corps and NJ DEP on this issue. The City is also concerned about the proposed expansion of Unit NJ-09 which extends through a portion of the proposed pump station project (funded with a grant from the U.S. Housing and Urban Development's Community Development Block Grant for Disaster Recovery Program) that is to be installed along a section of the seawall at Olde New Jersey Avenue and the Inlet Beach. The City requested a 500-foot buffer be placed between both the seawall and the proposed pump station project and the CBRS boundary.

**Service Response to Comment 101:** In cases where the CBRS boundary follows a developed shoreline, a buffer (i.e., space between the boundary and the feature it is intended to follow) of about 20 feet is generally applied between the shoreline and the boundary. Buffers are used to avoid the inadvertent inclusion of existing structures and infrastructure that run parallel to or are coincident with the shoreline (such as bulkheads and seawalls), while maintaining the relationship between the boundaries and the underlying features that they are intended to follow.<sup>8</sup>

The proposed boundary along the southern side of Unit NJ-09 was

intended to generally follow the shoreline with a 20-foot buffer between the seawall/shoreline and the unit. However, this buffer was based on the visible location of the seawall on aerial imagery, and some of the underlying infrastructure for the seawall (as described by the commenters) extends into the channel and is not visible on aerial imagery. Therefore, the Service modified the boundary in this area to fall 150 feet off the visible seawall. This accounts for the 130 feet of existing underwater seawall infrastructure plus an additional 20-foot buffer.

Also, it is important to note that there is an exception in CBRA for the "maintenance, replacement, reconstruction, or repair, but not the expansion...of publicly owned or publicly operated roads, structures, and facilities,"<sup>45</sup> so long as the project is also consistent with the purposes of CBRA.<sup>16</sup> This exception would be considered for any federally funded projects to maintain any portion of the seawall within the CBRS. However, determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

Changes are made between the proposed and final recommended boundaries for Unit NJ-09 as a result of this comment.

**Comment 102:** The City of North Wildwood commented that the proposed expansion of Unit NJ-09 will result in further restrictions on the City's recreational inlet beach and therefore, the City objected to the proposed CBRS boundary, which extends up to the seawall and along the length of the entire inlet beach. The City requested that the CBRS boundary be moved seaward beyond the largest extent that has occurred for the beach.

**Service Response to Comment 102:** Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The Service bases its recommendations on the current conditions of an area. If natural changes occur after an area is included within the CBRS, the Service may make modifications to reflect the changed conditions in a future revision to the CBRS maps. The recommended additions to Unit NJ-09 are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). As described in the response to Comment 100 above, the Service modified the NJ-09 boundary to be 150 feet off the visible seawall to address concerns that the proposed addition to NJ-09 includes some of the underlying infrastructure for the seawall that extends into the channel and is not visible on aerial imagery.

There are no additional changes between the proposed and final recommended boundaries for Unit NJ-09 as a result of this comment.

**Comment 103:** The Corps' Philadelphia District and the NJ DEP requested that the portion of System Unit NJ-09 in the open water area that intersects with the Hereford Inlet Borrow Area be reclassified to an OPA. The commenters believe reclassification is appropriate because (1) sand dredged from the borrow area is used to protect homes and infrastructure that were constructed before the area was included within the CBRS; (2) sand dredged from the borrow area is used to enhance fish and wildlife habitat within the CBRS by allowing the natural processes to transport sand into the CBRS unit from the placement of sand updrift of Unit NJ-09; and (3) sand placed updrift of the unit is included in the sand-sharing system of Unit NJ-09 and is completely returned to the borrow area within 10 months of its removal. The City of North Wildwood commented that they agree with the

Corps and NJ DEP on this comment.

**Service Response to Comment 103:**

The Service does not recommend reclassifying to OPA the open water areas within System Unit NJ-09 that intersect with the Hereford Inlet Borrow Area. The Service generally only recommends reclassification of an area from System Unit to an OPA if it was held for conservation and/or recreation (according to the CBIA definition of “otherwise protected”)<sup>13</sup> at the time it was first included within the CBRS.<sup>14</sup>

The Service’s review of the Stone Harbor Point and Hereford Inlet area within Unit NJ-09 affirmed that the area was appropriately included within the System Unit and found no evidence indicating that it was otherwise protected at the time of designation in 1990. As stated in the March 12, 2018, *Federal Register* notice<sup>2</sup> for the project, if an area is dedicated to conservation and/or recreation after its initial inclusion within a System Unit, it is generally not reclassified to an OPA.

The Department of the Interior first considered the inclusion of the Stone Harbor Point area within the CBRS through an inventory of undeveloped coastal barriers in 1981 and 1982. Our review of the background record for Unit NJ-09 found a comment letter from the NJ DEP dated January 27, 1982. The letter describes a conservation easement on the area that resulted from a settlement, but indicates that the deed restriction was limited in time to 50 years and may be abrogated by the State Legislature; therefore, the area was not conserved in perpetuity. The NJ DEP’s 1982 letter urged the inclusion of the area within the CBRS. The Department of the Interior agreed that this area qualified as an undeveloped coastal barrier and was not otherwise protected, and in 1982 proposed that Congress designate the area within the CBRS. While Congress chose not to adopt the Department of the Interior’s draft maps for any proposed CBRS units in New Jersey in 1982, the area was reviewed again in the late 1980’s (as required by section 10 of CBRA). The State of New Jersey

again recommended the inclusion of the area within the CBRS in a comment letter from Governor Kean dated June 22, 1987.<sup>46</sup> The Department of the Interior agreed that the area still qualified and recommended it for inclusion within the CBRS. The Department of the Interior’s recommendation was adopted by Congress in 1990.

There are no changes between the proposed and final recommended boundaries for Units NJ-09 and NJ-09P as a result of this comment.

**Comment 104:** The City of North Wildwood commented that it must have authorization to use federal funds under a federal disaster declaration in taking sand from the Hereford Inlet borrow site for beach nourishment in the event of major storm-related erosion. The City requested that the Department of the Interior provide clarification in writing that the use of this borrow site is allowable under CBRA’s exceptions for future federal disaster declarations.

**Service Response to Comment 104:**

Section 5 of CBRA prohibits a wide variety of federal expenditures including “the carrying out of any project to prevent the erosion of, or to otherwise stabilize, any inlet, shoreline, or inshore area, *except that such assistance and expenditures may be made available...in all units, in cases where an emergency threatens life, land, and property immediately adjacent to that unit* [emphasis added].”<sup>23</sup> There may be limited cases where it is appropriate for federal agencies to carry out projects within the CBRS in accordance with this emergency provision. However, CBRA’s legislative history makes it clear that the emergency provisions were intended for action against *immediate* emergencies.<sup>47</sup>

It is the responsibility of the federal funding agency (e.g., FEMA) to determine what constitutes an emergency that threatens life, land, and property immediately adjacent to a unit. Unlike most of CBRA’s exceptions, there is no requirement for federal agencies to consult with the Service

under this provision in section 5 of CBRA, and the Service does not have enforcement authority. However, the Service does appreciate a notification when this provision is exercised. It is the Service’s opinion that in making this determination the funding agency should consider whether the project or activity is truly necessary to alleviate an immediate emergency, or whether it is for permanent restoration to mitigate the effects of future storms. Each affected agency is independently responsible for complying with the law.

There are no changes between the proposed and final recommended boundaries for Unit NJ-09 as a result of this comment.

**Comment 105:** The City of North Wildwood commented that it intends to consult with federal and state agencies to make Hereford Inlet navigable again. The City believes that the proposed expansion of Unit NJ-09 will negatively impact this future project.

**Service Response to Comment 105:**

Channels are part of the associated aquatic habitat of coastal barriers<sup>26</sup> and have been included as such throughout the CBRS. In the past, CBRS boundaries were sometimes placed in the center of channels instead of including the whole channel. To consistently apply the Service’s objective mapping protocols for channels, the Service modified, as needed, the boundaries of Unit NJ-09 to include the entire width of channels instead of portions of them.<sup>48</sup>

The majority of Hereford Inlet and portions of Grassy Sound Channel and Great Channel have been within the CBRS since the 1990s, and additional aquatic habitat is recommended for addition to the CBRS in these areas. The recommended additions to Unit NJ-09 are appropriate based on CBRA’s criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

CBRA prohibits the dredging of new federal navigation channels within



the CBRS, but it does not prohibit the expenditure of private, state, or local funds. State agencies and local governments are free to pursue efforts to make Hereford Inlet navigable without regard to CBRA so long as no federal funds will be used in that effort.

There are no changes between the proposed and final recommended boundaries for Unit NJ-09 as a result of this comment.

**Comment 106:** The Boroughs of Avalon and Stone Harbor and the City of North Wildwood commented that the Service should make decisions based on science, and that the decision to propose the expansion of System Unit NJ-09 is premature because of an inadequate review of the adverse impacts to the natural and human environments. The commenters mention two studies that they believe should be analyzed prior to expanding the unit: USGS's Seven Mile Island Geophysical Survey Field Plan, which was scheduled for implementation from August 8 to 22, 2018, and Stockton University Coastal Research Center's assessment of the impact of using Hereford Inlet sand for beach stabilization, which was included in the comment letter. Additionally, the Boroughs and the City requested that until their issues are resolved, the Service suspend all actions for Unit NJ-09 (including its expansion).

**Service Response to Comment 106:** Comments regarding the environmental review requirements for proposed changes to the CBRS are addressed in chapter 3 of this report (see issue 9). Additionally, the Department described the scientific context for the Coastal Barrier Resources System in its 1982 Report to Congress:

*In conducting the study [to designate undeveloped coastal barriers] required by the [Omnibus Budget Reconciliation Act of 1981], the Department drew upon a long record of involvement and experience with coastal barrier issues. This record includes years of scientific research by government, university,*

*and other scientists. This research has resulted in the accumulation of a significant body of scientific data on coastal barrier systems; the management of these resources; and the impacts of land uses, development, and human activities upon them. Scientific research efforts of the Department in this area include intensive research by the National Park Service (NPS) on North Carolina's outer banks and various National Seashores; extensive fish and wildlife research; an ecological inventory of the Atlantic and Gulf coastlines and the National Wetlands Inventory, both conducted by the U.S. Fish and Wildlife Service (FWS); a comprehensive bibliography prepared in 1977 by FWS and updated in 1981 by NPS; and an analysis of land use and land cover data on Atlantic and Gulf Coast Barriers by the U.S. Geological Survey.*

*In 1977, the Department established a Barrier Island Work Group, composed of representatives of NPS, FWS, the former Heritage Conservation and Recreation Service, the Office of Coastal Zone Management in the Department of Commerce, and the Council on Environmental Quality. The work group was charged with identifying undeveloped coastal barriers and making recommendations on measures to reduce Federal assistance and encouragement of unwise development in these areas.*

*From 1977 through 1980, the Barrier Island Work Group amassed large amounts of scientific, technical, and descriptive information on the Nation's coastal barriers; prepared analyses of alternative Federal actions*

*to promote their protection and appropriate use; and provided a focal point for interagency collaboration in the study of coastal barriers and the Federal policies and programs affecting them. The work group inventoried units and classified them as developed, undeveloped, or protected. Public review of the amassed information on coastal barriers and Federal programs, as well as a draft environmental impact statement on possible alternative Federal actions, provided still more information.<sup>49</sup>*

Congress endorsed the definitions, criteria, and mapping protocols developed by the Department (based upon a body of scientific information) in the early 1980s by enacting the Coastal Barrier Resources Act, which adopted the initial set of CBRS maps, and by directing the Department to recommend further additions to the System. Unit NJ-09 was identified as a qualifying coastal barrier area with associated aquatic habitat and was added to the CBRS when Congress enacted the CBIA<sup>27</sup> in 1990 (additional details on the creation of Unit NJ-09 are above in the response to Comment 102). Congress directed the Secretary to recommend further additions to the CBRS with section 4(c)(3)(D) of the 2006 CBRRA.<sup>1</sup> As noted above in the response to Comment 99, the recommended additions to Unit NJ-09 are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols. Additionally, it is important to note that Hereford Inlet was first included in the 1990s within the CBRS and there are no changes recommended through this project that would affect the sand borrow site in this area, which is already within the CBRS.

There are no changes between the proposed and final recommended boundaries for Unit NJ-09 as a result of this comment.

### Unit NJ-10P, Cape May

**Comment 107:** The NJ DEP requested that the area within existing OPA Unit NJ-10P not be expanded. The NJ DEP indicated that this revised unit currently does not have an impact on the existing Corps project at Lower Cape May Meadows. However, the commenter is concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects.

**Service Response to Comment 107:** The only federal funding prohibition within OPAs (such as Unit NJ-10P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance of projects for construction and/or maintenance of infrastructure or coastal storm risk management within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-10P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-10P as a result of this comment.

### Unit NJ-11P, Higbee Beach

**Comment 108:** The Corps' Philadelphia District and the NJ DEP requested that the area within existing OPA Unit NJ-11P not be expanded. The commenters indicated that this revised unit currently

does not have an impact on an existing congressionally-authorized Corps project. However, the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the Delaware River Dredged Material Utilization (DMU) study and are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 108:** The only federal funding prohibition within OPAs (such as Unit NJ-11P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance of projects for construction and/or maintenance of infrastructure or coastal storm risk management within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-11P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-11P as a result of this comment.

### Units NJ-12 and NJ-12P, Del Haven

**Comment 109:** The Corps' Philadelphia District and the NJ DEP requested that the area within System Unit NJ-12 not be expanded. The commenters indicated that this revised unit currently does not have an impact on the congressionally-authorized Corps ecosystem restoration projects at Reeds Branch and Pierces Point or at Villas and Vicinity. However, the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the DMU study and are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on these and subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 109:** When identifying potential additions to the CBRs, the Service considers projects to the extent that they impact the current development status of a coastal barrier. As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of infrastructure for coastal storm risk management in the area. Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-12 are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within the CBRs (including some ecosystem restoration and



nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

There are no changes between the proposed and final recommended boundaries for Unit NJ-12 as a result of this comment.

**Comment 110:** The NJ DEP requested that OPA Unit NJ-12P not be reclassified to a System Unit. The NJ DEP indicated that this revised unit currently does not have an impact on the congressionally-authorized Corps ecosystem restoration projects at Reeds Beach and Pierces Point or at Villas and Vicinity. However, the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the DMU study and are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on these and subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 110:** During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are "otherwise protected." The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly

held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRs.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRs unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable.

The Service reached out to the NJ DEP when preparing the proposed boundaries to seek concurrence on classifying some of the conservation and/or recreation areas owned by the NJ DEP as System Unit rather than OPA. Some of these areas were already within System Units of the CBRs, and some were proposed additions. At that time, the NJ DEP concurred with classifying certain DEP-owned areas as System Unit rather than OPA. Therefore, the area within existing OPA Unit NJ-12P was proposed for reclassification to System Unit NJ-12, and the proposed additions of NJ DEP-owned areas were classified as System Unit NJ-12 rather than OPA Unit NJ-12P. However, after further review of the matter during the comment period, the NJ DEP opposed reclassifying any state-owned protected areas from OPA to System Unit or adding any state-owned protected areas to System Units.

Based on the comment received from the NJ DEP during the public review period and the fact that the area in question was held for conservation and/or recreation at the time it was first included in 1990 within the CBRs, the DEP-owned portions of existing Unit NJ-12P are no longer recommended for reclassification to System Unit NJ-12. Additionally, NJ DEP-owned areas that are held for conservation and/or recreation and were proposed for addition to System Unit NJ-12 are now recommended for addition to OPA Unit NJ-12P.

The only federal funding prohibition

within OPAs (such as Unit NJ-12P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance of projects for construction and/or maintenance of infrastructure or coastal storm risk management within OPAs, and consultations with the Service for such projects would not be required (so long as no portion of the project falls within an adjacent System Unit). Recommended Unit NJ-12P is approximately 74 acres and is directly adjacent to System Unit NJ-12, which covers a much larger area (nearly 700 acres). This System Unit is appropriately designated and the areas along the beach have been included within the CBRs since 1990. See the Service's response to Comment 108 above for information concerning exceptions to CBRA's limitations on federal expenditures within a System Unit and the consultation process. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Changes are made between the proposed and final recommended boundaries for Units NJ-12 and NJ-12P as a result of this comment.

**Comment 111:** The NJ DEP requested that the Delaware Bay water areas within System Unit NJ-12 be reclassified to an OPA because Aquaculture Development Zones (ADZ) 4 (A) and (B) have been established in this unit, and that any future water area designations be coordinated with the NJ DEP's Bureau of Shellfisheries, which oversees the leasing of the ADZs. Aquaculture Development Zones are "unique shellfish lease areas that have been identified for structural aquaculture development,"<sup>50</sup> and in which the state and federal permitting process that is required for shellfish farmers is streamlined. The structural shellfish cultivation activities authorized in ADZs by the permits include, but are not limited to, the use of rack and bag systems, intertidal and floating long lines, cages, trays, and spat collecting devices. The NJ DEP is concerned the CBRs designation could impact the ability of shellfish farmers to obtain federal funding for the loss of gear in the event of a storm.



**Service Response to Comment 111:**

The Service does not recommend reclassifying the water areas within System Unit NJ-12 as an OPA. ADZs do not meet the CBIA definition of “otherwise protected,”<sup>13</sup> and ADZs 4 (A) and (B) were first designated in 2012, which was after the establishment in 1990 of the area within CBRS Unit NJ-12. Additionally, the land areas within this unit were privately owned for the most part when they were first included within the CBRS as a System Unit, and therefore the open water area is correctly classified. Comments regarding aquaculture and the impacts of CBRA’s limitations on federal expenditures are addressed in chapter 3 of this report (see issue 8). The Service will ensure that the NJ DEP’s Bureau of Shellfisheries (in addition to the DEP more broadly) is specifically notified of proposed and final recommended CBRS unit modifications affecting New Jersey.

There are no changes between the proposed and final recommended boundaries for Unit NJ-12 as a result of this comment.

**Unit NJ-13, Kimbles Beach**

**Comment 112:** The Corps’ Philadelphia District and the NJ DEP requested that the area within System Unit NJ-13 not be expanded. The commenters also indicated that this revised unit currently does not have an impact on the congressionally-authorized Corps ecosystem restoration projects at Reeds Beach and Pierces Point. However, the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the DMU study and are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on these and subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 112:**

When identifying potential additions to the CBRS, the Service considers projects to the extent that they impact the current development status of a coastal barrier. As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of infrastructure or coastal storm risk management in the area. Section 4(c) (3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-13 are appropriate based on CBRA’s criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

There are exceptions to CBRA’s limitations on federal expenditures that may be applicable to federally funded projects within the CBRS (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service’s local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit NJ-13 as a result of this comment.

**Units NJ-14 and NJ-14P, Moores Beach**

**Comment 113:** The Corps’ Philadelphia District and the NJ DEP requested that the area within System Unit NJ-14 not be expanded beyond the existing area that is currently within this CBRS unit. The NJ DEP also requested that the area proposed for reclassification to System Unit NJ-14 remain as OPA. The commenters indicated that this revised unit currently does not have an impact on existing Corps or State projects. However, a project under the Continuing Authorities Program is proposed near the Maurice River, and the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the DMU study. Therefore, the commenters are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of CBRS units, and the impacts this could have on these and subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 113:**

During the data mining and research phase of the project, the Service conducted outreach with certain landowners and/or managers of coastal barrier areas that are “otherwise protected.” The Service generally only recommends classification of an area as an OPA if it is (or was) predominantly held for conservation and/or recreation (according to the CBIA definition of otherwise protected)<sup>13</sup> at the time it is (or was) first included within the CBRS.<sup>14</sup> Conservation/recreation area landowners and/or managers were contacted in certain cases where input was needed regarding the CBRS unit type classification (i.e., System Unit or OPA) for a particular conservation and/or recreation area. If the landowner of an area that met the definition of otherwise protected at the time of System Unit designation (either for existing System Units or proposed additions) did not concur with System Unit status, the Service classified such areas as OPA to the extent practicable.

The Service reached out to the NJ DEP when preparing the proposed boundaries to seek concurrence on classifying some of the conservation and/or recreation areas owned by the NJ DEP as System Unit rather than OPA. Some of these areas were already within System Units of the CBRs, and some were proposed additions. At that time, the NJ DEP concurred with classifying certain DEP-owned areas as System Unit rather than OPA. Therefore, the area within existing OPA Unit NJ-14P was proposed for reclassification to System Unit NJ-14, and the proposed additions of NJ DEP-owned areas were classified as System Unit NJ-14 rather than OPA Unit NJ-14P. However, after further review of the matter during the comment period, the NJ DEP opposed reclassifying or adding any state-owned protected areas to System Units.

Based on the comment received from the NJ DEP during the public review period and the fact that the area in question was held for conservation and/or recreation at the time it was first included in 1990 within the CBRs, the NJ DEP-owned portions of existing OPA Unit NJ-14P are no longer recommended for reclassification to System Unit NJ-14. Additionally, NJ DEP-owned areas that are held for conservation and/or recreation and were proposed for addition to System Unit NJ-14 are now recommended for addition to OPA Unit NJ-14P.

The only federal funding prohibition within OPAs (such as Unit NJ-14P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required (so long as no portion of the project falls within an adjacent System Unit). Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

When identifying potential additions to the CBRs, the Service considers projects to the extent that they impact the current development status of a coastal barrier. As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of

infrastructure or coastal storm risk management in recommended System Unit NJ-14. Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit NJ-14 are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within the CBRs (including some ecosystem restoration and nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

Changes are made between the proposed and final recommended boundaries for Units NJ-14 and NJ-14P as a result of this comment.

#### Unit NJ-17P, Monmouth Cove

**Comment 114:** The NJ DEP requested that new OPA Unit NJ-17P not be proposed for addition to the CBRs. The NJ DEP indicated that this new unit includes features (a floodwall, tide gate and pump station, and an engineered beach and dune area that will need periodic nourishment) of a congressionally-authorized Federal Coastal Storm Risk Reduction Project that is currently being constructed. Also within this new unit are a county park, marina, and other structures

that the NJ DEP is concerned may be unable to obtain federal flood insurance if they are added to the CBRs. The NJ DEP is also concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impact this could have on subsequent projects.

#### **Service Response to Comment 114:**

The only federal funding prohibition within OPAs (such as Unit NJ-17P) is on flood insurance. However, new flood insurance coverage may be provided for a structure within an OPA if the building is used in a manner consistent with the purpose for which the area is protected (e.g., county park structures). If new OPA Unit NJ-17P is adopted as recommended (through legislation enacted by Congress), the park structures would remain eligible for federal flood insurance, but the privately owned inholding (i.e., private land within the exterior boundaries of a conservation and/or recreation area) within Bayshore Waterfront Park would become subject to restrictions on new federal flood insurance. The existing structure in the inholding would remain eligible for federal flood insurance until such time as it is substantially damaged or improved.<sup>51</sup> There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-17P to the CBRs is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).



There are no changes between the proposed and final recommended boundaries for Unit NJ-17P as a result of this comment.

### Unit NJ-18, Ware Creek

**Comment 115:** Monmouth County is opposed to the creation of proposed new System Unit NJ-18. In its initial comment letter, the County raised a number of concerns regarding the impact of the proposed designation on existing infrastructure within and adjacent to the unit, including the New York Waterway Ferry terminal and the N-61 Interim Confined Disposal Area. In a follow-up letter, the County requested that the Service no longer propose a new unit in this area and cited several additional concerns. The Belford Landfill (closed in 1993 with possible future uses of the site as a park or golf course) is located immediately adjacent to the unit, and is vulnerable to future storms and sea-level rise. When a storm in the early 1990s resulted in the landfill being exposed and washed into Sandy Hook Bay, an emergency contract had to be issued to fix the breach and clean up the waste. Additional issues raised include concerns regarding the Naval Weapons Station (NWS) Earle pier complex (which is surrounded by the new unit but not included within it) and future structural shoreline stabilization projects that may be necessary in this area to support the operational utility and mission of the NWS Earle facility.

The NJ DEP also requested that new System Unit NJ-18 not be proposed for addition to the CBRS (or if this area cannot be removed as a proposed addition that the unit be classified as an OPA). It cites that this new unit includes the dredged material management site for the ferry terminal on Compton Creek and portions of the Federal Coastal Storm Risk Management study in Leonardo, which has resulted in the project area potentially becoming a project under the Continuing Authorities Program with a nonstructural mitigation solution. The NJ DEP is specifically concerned about the potential impacts to federal funding for the project under the Continuing Authorities Program

and the dredged material management site.

### Service Response to Comment 115:

In reviewing the comments received, the Service reassessed proposed new Unit NJ-18 against our protocol for the mapping of critical facilities located within and immediately adjacent to the CBRS.<sup>39</sup> Under certain limited circumstances, the Service may consider mapping a CBRS area to allow for the protection of existing critical facilities (e.g., sewage treatment facilities, nuclear facilities, and hospitals) that primarily serve areas located outside of the CBRS. For the purpose of this protocol, the Service defines “existing” as being on the ground as of the date the area was added to the CBRS, and “critical facility” as a structure or other improvement that, because of its function, would likely cause catastrophic human health and safety impacts if it is destroyed or damaged or if its functionality is impaired. Though this new unit does contain some qualifying undeveloped coastal barriers and associated aquatic habitat, the hazards to human health and safety posed by the potential restrictions on federal financial assistance to protect the existing Belford Landfill and NWS Earle pier complex warrant exclusion of the unit from the CBRS. Therefore, proposed Unit NJ-18 is no longer recommended for addition to the CBRS.

Changes are made to the draft revised CBRS boundaries as a result of these comments.

### Unit NJ-19P, Malibu Beach

**Comment 116:** The Corps’ Philadelphia District and the NJ DEP requested that new OPA Unit NJ-19P not include Great Egg Harbor Inlet. The northern portion of the congressionally-authorized federal Great Egg Harbor Inlet and Peck Beach project for shore protection and its approved borrow area as well as a jetty in Ocean City and a groin in Longport would be included within Unit NJ-19P as proposed. The commenters believe that these areas do not qualify for inclusion within the CBRS. The NJDEP is also concerned about potential future reclassifications

of OPAs to System Units as well as future expansions of OPAs, and the impact this could have on subsequent projects.

### Service Response to Comment 116:

The only federal funding prohibition within OPAs (such as Unit NJ-19P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance of projects for sand mining, construction and/or maintenance of infrastructure, or coastal storm risk management within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-19P to the CBRS is appropriate based on CBRA’s criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-19P as a result of this comment.

### Unit NJ-20P, Two Mile Beach

**Comment 117:** The Corps’ Philadelphia District and the NJ DEP offered no comments regarding the proposed addition of new OPA Unit NJ-20P provided that future periodic nourishments for protection of the U.S. Coast Guard Training Center are allowable under exception 6(a)(5) of CBRA. The commenters did note their concern about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impact this could have on subsequent projects.



**Service Response to Comment 116:**

The only federal funding prohibition within OPAs (such as Unit NJ-20P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for beach nourishment projects within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-20P to the CBRS is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-20P as a result of this comment.

**Unit NJ-21P, Sunray Beach**

**Comment 118:** The Corps' Philadelphia District and the NJ DEP requested that new OPA Unit NJ-21P not be proposed for addition to the CBRS. The commenters indicated that this new unit currently does not have an impact on the congressionally-authorized Corps ecosystem restoration projects at Villas and Vicinity. However, because the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the DMU study, they are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects. Some of the impacts mentioned by the Corps are

a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 118:**

The only federal funding prohibition within OPAs (such as Unit NJ-21P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-21P to the CBRS is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-21P as a result of this comment.

**Unit NJ-22P, Egg Island**

**Comment 119:** The Corps' Philadelphia District and the NJ DEP requested that new OPA Unit NJ-22P not be proposed for addition to the CBRS. The commenters indicated that this new unit currently does not have an impact on the potential Corps project area at Fortescue associated with the DMU study. However, a project under the Continuing Authorities Program is proposed in Commercial Township, and the Corps and the State are investigating other flood risk management and ecosystem restoration projects along

the Delaware Bay as part of the DMU study. Therefore, the commenters are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 119:**

The only federal funding prohibition within OPAs (such as Unit NJ-22P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-22P to the CBRS is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-22P as a result of this comment.

**Unit NJ-23P, Dix**

**Comment 120:** The Corps' Philadelphia District and the NJ DEP requested that new OPA Unit NJ-23P not be proposed for addition to the CBRS. The commenters indicated that this new unit currently does not have an impact on the potential

Corps project area at Gandy's Beach associated with the DMU study. However, because the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of this study, they are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 120:**

The only federal funding prohibition within OPAs (such as Unit NJ-23P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-23P to the CBRS is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-23P as a result of this comment.

**Unit NJ-24P, Greenwich**

**Comment 121:** The Corps' Philadelphia District and the NJ DEP requested that new OPA Unit NJ-24P not be proposed for addition to the CBRS. The commenters indicated that this new unit currently does not have an impact on existing authorized Corps projects. However, because the Corps and the State are investigating other flood risk management and ecosystem restoration projects along the Delaware Bay as part of the DMU study, they are concerned about potential future reclassifications of OPAs to System Units as well as future expansions of OPAs, and the impacts this could have on subsequent projects. Some of the impacts mentioned by the Corps are a reduction in the number of feasible solutions, an escalation in the cost of storm risk management measures, and an increase in the potential risk to existing property and lives.

**Service Response to Comment 121:**

The only federal funding prohibition within OPAs (such as Unit NJ-24P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration or coastal storm risk management projects within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit NJ-24P to the CBRS is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are no changes between the proposed and final recommended boundaries for Unit NJ-24P as a result of this comment.

**DELAWARE**

**Comments affecting multiple CBRS units in Delaware**

**Comment 122:** The Delaware Department of Natural Resources and Environmental Control (DNREC) referenced comments that it raised in 2013 (regarding the 5-year review boundary modifications to reflect changes as a result of natural forces)<sup>52</sup> in which they noted the need for boundary revisions in areas where substantive issues may exist. The substantive issues noted in the 2013 comment include "the possible inadvertent inclusion of private lands in Otherwise Protected Areas, and CBRS boundaries which cross private subdivisions in configurations which may not be consistent with the original definition of an 'undeveloped barrier island.'" The DNREC hopes that these comments were taken into consideration as the current boundary revisions were being developed.

**Service Response to Comment 122:**

The Service receives numerous requests from property owners and other interested parties who seek to remove land from the CBRS. This project, which comprehensively modernizes the maps for nine North Atlantic states most affected by Hurricane Sandy, addresses a significant portion of our backlog of requests for technical correction reviews and many other units that have known mapping errors. 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). The Service generally does not recommend removal of areas from the CBRS unless there is clear and compelling evidence that a technical mapping error led to the inclusion of an area within the CBRS.

Through this project, the Service conducted a comprehensive review of the history of all of the CBRS units in

the project area in order to determine where technical mapping errors exist. This generally included an assessment of the Service's background records for the unit, the controlling and historical CBRS maps of the area, the historical development status of the area, aerial imagery, and any materials submitted by interested parties.<sup>53</sup> The Service then prepared proposed boundaries for all the units in the project, which were made available to the public through the online "CBRS Projects Mapper." After the public comment period, the Service prepared final recommended maps for the units. The updated maps will become effective only if adopted through legislation enacted by Congress. In Delaware, the Service identified numerous legitimate mapping errors in five of the eight existing CBRS units in this project, and has recommended the removal of 118 acres containing 43 structures from the CBRS. The final recommended maps, unit summaries, and technical correction assessments for Delaware are included in appendix I of this report.

There are no changes between the proposed and final recommended boundaries for the CBRS units in Delaware as a result of this comment.

### Unit DE-01, Little Creek

**Comment 123:** The Service received a comment from an individual requesting the removal from the CBRS of a property at the end of North Bay Drive in the Kitts Hummock community. The commenter states that the property should not be within the CBRS because a home has been on this property since 1962 (prior to its inclusion in 1990 within the CBRS).

**Service Response to Comment 123:** The Service has completed a technical correction assessment of several areas within Unit DE-01, including the area at the north end of North Bay Drive in the Kitts Hummock community. The Service found that, based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project), the area in question was appropriately included in 1990 within

the CBRS. Therefore, the Service recommends that this area remain within Unit DE-01. The full assessment can be found in appendix I of this report.

There are no changes between the proposed and final recommended boundaries for Unit DE-01 as a result of this comment.

**Comment 124:** The Corps' Philadelphia District commented that Unit DE-01 should not be expanded to include the northern end of the Kitts Hummock community and the northern and southern ends of Pickering Beach due to the impact of these changes on potential future federal projects designed for reducing the risk to property and life from coastal storm events.

**Service Response to Comment 124:** When identifying potential additions to the CBRS, the Service considers projects to the extent that they impact the current development status of a coastal barrier. As of the date of this report, the Service is not aware of any existing on-the-ground projects for construction and/or maintenance of infrastructure for coastal storm risk management in the area. Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit DE-01 are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

There are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within the CBRS (including some nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation

between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit DE-01 as a result of this comment.

### Unit DE-01P, Little Creek

**Comment 125:** The DNREC commented that it was concerned with the proposed addition of portions of the St. Jones Reserve (which is a part of the Delaware National Estuarine Research Reserve [NERR]) to OPA Unit DE-01P because of the potential for these areas to be reclassified in the future to a System Unit, which could impact projects and operations at the Reserve.

**Service Response to Comment 125:** The only federal funding prohibition within OPAs (such as Unit DE-01P) is on flood insurance. There are no CBRA prohibitions affecting federal funding or financial assistance for ecosystem restoration and coastal storm risk management projects or the general operation of NERRs within OPAs, and consultations with the Service for such projects would not be required. Comments regarding the potential for reclassifying OPAs to System Units in the future are addressed in chapter 3 of this report (see issue 8).

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit DE-01P are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for



this project).

There are no changes between the proposed and final recommended boundaries for Unit DE-01P as a result of this comment.

#### Unit DE-08P, Fenwick Island

**Comment 126:** The Service received a comment from representatives of a condominium association supporting the proposed removal from the CBRs of the Kings Grant Condominium community.

**Service Response to Comment 126:** The Service assesses modifications to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of several areas within Unit DE-08P, including the Kings Grant Condominium community. The Service found that the structures in the Kings Grant Condominium community are appropriate for removal from the CBRs. The full assessment can be found in appendix I of this report.

There are no changes between the proposed and final recommended boundaries for Unit DE-08P as a result of this comment.

**Comment 127:** The Service received a comment from an individual supporting the removal from the CBRs of a property along Coastal Highway, located north of the Seatowne community on Fenwick Island.

**Service Response to Comment 127:** The Service assesses modifications to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of several areas within Unit DE-08P, including the area in question. The Service found that the existing structure and a portion of the

property are appropriate for removal from the CBRs. The full assessment can be found in appendix I of this report.

There are no changes between the proposed and final recommended boundaries for Unit DE-08P as a result of this comment.

#### Unit H00, Broadkill Beach

**Comment 128:** The Service received a comment from The Nature Conservancy (TNC) in Delaware, requesting that no land owned by TNC in the Milford Neck area be included in the remapping project, including land in Broadkill Beach Unit H00. TNC believes any additional protection provided by inclusion of its property in the remapping project would be redundant, and could affect opportunities to receive federal funding in support of TNC's conservation efforts in Delaware.

**Service Response to Comment 128:** Areas in the vicinity of Milford Neck that are owned by TNC are currently within System Unit H00. When these TNC-owned areas were first included within the CBRs, they were not held for conservation and/or recreation, and therefore they do not qualify for reclassification from System Unit to OPA. Additionally, these areas were undeveloped at the time (and are still undeveloped) and do not qualify for removal from the CBRs. These areas are recommended to remain within Unit H00.

A minor undeveloped protected area owned by TNC located on the west side of the excluded area at Big Stone Beach was proposed for addition to System Unit H00 through this project. This addition was in accordance with the Service's protocol for the mapping of minor areas (under 10 acres) held for conservation and/or recreation that are interspersed with and/or adjacent to a larger area that is not held for conservation (or in this case, is adjacent to a System Unit area that was not held for conservation at the time of initial designation).<sup>54</sup> In cases where landowners do not concur with System Unit status for minor protected areas, the Service classifies such areas

as OPA to the extent practicable. Though this property qualifies for inclusion within an OPA of the CBRs, it is too small to delineate separately as an OPA segment. Therefore, as a result of this comment, the draft boundary is revised and the TNC protected property is no longer recommended for addition to the CBRs.

It is important to note that there are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within the CBRs (including some conservation, restoration, and recreational projects), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

Changes are made between the proposed and final recommended boundaries for Unit H00 as a result of this comment.

**Comment 129:** The Corps' Philadelphia District commented that the proposed changes to System Unit H00 at Slaughter Beach extend close to residential structures at both the northern and southern ends of the community. The Corps recommends adjusting the proposed boundaries around Slaughter Beach to provide a sufficient buffer between the development on the ground and the CBRs boundary to allow the use of federal funds for the implementation of solutions that reduce risk to property and life associated with coastal storm events.

**Service Response to Comment 129:** Applying a buffer between the CBRs boundary and existing development in Slaughter Beach would require 1) the omission of qualifying areas from

the Service's recommended additions to the CBRS, and 2) the removal of several structures from the CBRS that are located in an area along Isaacs Shore Drive that was appropriately included within the CBRS at the time of designation.

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended additions to Unit H00 at both the northern and southern ends of Slaughter Beach are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Though there are three scattered structures recommended for addition to the CBRS at the north end of Slaughter Beach, the area qualifies as "undeveloped" according to CBRA's development criteria (which allows for the designation of areas containing a low density of scattered structures).

The Service has completed a technical correction assessment of the areas along Isaacs Shore Drive in the Southern Pointe Shores subdivision that are located within Unit H00. The Service found that the areas in question were appropriately included within the CBRS, and therefore, recommends that the areas remain within the CBRS. The full assessment can be found in appendix I of this report.

There are no changes between the proposed and final recommended boundaries for Unit H00 as a result of this comment.

**Comment 130:** The Corps' Philadelphia District commented that the additional System Unit designation along the open water frontage of Prime Hook Beach should be removed because it prevents the use of federal funds for the implementation of Coastal Storm Risk Management projects that reduce

risk to property and life associated with coastal storm events.

**Service Response to Comment 130:** 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. To address this historical inconsistency, the Service closes the seaward boundaries of the excluded areas along the shoreline (i.e., along the wet/dry sand line as interpreted from the base map imagery). This clarifies that only the developed area (and not the adjacent nearshore area) is excluded from the CBRS unit.<sup>19</sup>

Beach nourishment and dredging projects in System Units along the shoreline of such excluded areas are subject to CBRA. However, there are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within the CBRS (including some nonstructural shoreline stabilization), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit H00 as a result of this comment.

**Comment 131:** The Corps' Philadelphia District commented that several developed areas at Prime Hook Beach are included in existing System Unit H00 immediately adjacent to the proposed additions of the offshore area. When areas in close proximity to developed areas are included within the CBRS, the effectiveness of Coastal

Storm Risk Management efforts can be limited by eliminating the necessary tie-ins or sand tapers at the project limits. The Corps recommends reducing existing System Unit H00 in the Prime Hook Beach area around the existing development to allow for the implementation of Coastal Storm Risk Management measures currently under evaluation for this area.

**Service Response to Comment 131:** The Service is aware that on the north and south sides of Prime Hook Beach, there are structures currently within the CBRS. These areas were first included in 1982 within the CBRS, and the structures were not constructed until 1988 or later (with the exception of one structure built in 1973 that is now recommended for removal from the CBRS). Development that occurs after CBRS designation and the construction of Coastal Storm Risk Management projects to protect such development are not grounds for removal from the CBRS.<sup>30</sup>

Regarding the issue of limited tie-ins or sand tapers at the Coastal Storm Risk Management project limits, the Service recommends that the Corps contact the local Ecological Services Field Office<sup>10</sup> with project specifics to determine whether an exception to CBRA<sup>9</sup> may apply.

There are no changes between the proposed and final recommended boundaries for Unit H00 as a result of this comment.

## MARYLAND

### Comments affecting multiple CBRS units in Maryland

**Comment 132:** The Chesapeake Bay Foundation commented that it supports the proposed additions to and removals from the CBRS in Maryland. The proposed additions would add protection to particular coastal terrestrial and aquatic areas, while at the same time recognizing and adapting to changes to certain fastland, which are occurring or are likely to occur due to climate change, sea level rise, and land subsidence.



**Comment 133:** Audubon Maryland-DC commented that it supports the removals from, and strongly supports the proposed additions to, the CBRS along the Chesapeake Bay and Maryland Coast. These areas support birds and other wildlife, important fisheries, and other natural resources that contribute to coastal resiliency in the State of Maryland. Expanding the protective System would help save federal tax dollars, promote public safety, and conserve the State's vitally important resources.

#### Unit MD-03P, Sound Shore

**Comment 134:** Audubon Maryland-DC commented that proposed new Unit MD-03P contains an extensive area of tidal marsh and was surveyed for birds in 2011 and 2012. Two species of salt marsh obligate bird, Seaside Sparrow and Clapper Rail, were identified in the unit, and Black Rail was detected close to it, indicating that this unit supports a valuable salt marsh bird assemblage which will benefit greatly from the protections afforded by the CBRS.

#### Unit MD-04P, Cedar/Janes Islands

**Comment 135:** The Service received comments from several individuals requesting that a privately owned residential structure on LaVallette Road in Crisfield, Maryland (located on Hammock Point) be removed from the proposed addition to Unit MD-04P. The commenters indicated that the owner has invested significant capital in improving and restoring the property and that the CBRS designation would cause financial hardship. The commenters also state that the house (built in 1899) has historic value and is protected by a 10-foot bulkhead; the house and the surrounding lot have not flooded in the 20 years of this family's ownership; and that there is no intention of developing the surrounding 86 acres that are part of the property.

**Service Response to Comment 135:** Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRS.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped

coastal barrier areas and associated aquatic habitat. The Service assesses modifications (including additions) to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The recommended additions to Unit MD-04P (which include this one isolated privately owned structure on Hammock Point, undeveloped areas that are privately owned and not held for conservation and/or recreation, and conserved areas) qualify as "undeveloped" according to CBRA's development criteria (which allows for the designation of areas containing a low density of scattered structures). Areas are not required to have a recent history of flooding to be included within the CBRS. Comments regarding the inclusion of areas of limited flood risk within the CBRS are more fully addressed in chapter 3 of this report (see issue 4).

CBRA prohibits new federal flood insurance (administered through FEMA's National Flood Insurance Program (NFIP)) for structures within the CBRS, though it is still available for buildings constructed (or permitted and under construction) before the area's flood insurance prohibition date (which is the date on which the prohibition on federal flood insurance within the area took effect). However, if an existing insured structure within the CBRS is substantially improved or damaged after the prohibition date, the federal flood insurance policy cannot be renewed. Therefore, existing structures added to the CBRS through this project would remain eligible for federal flood insurance until they are substantially improved or damaged.

Given the natural hazards that generally affect coastal barrier areas, erosion control structures such as bulkheads are commonly constructed throughout the CBRS. The presence of such structures does not preclude CBRS designation.

There are no changes between the proposed and final recommended boundaries for Unit MD-04P as a result of this comment.

#### Unit MD-27, Benoni Point

**Comment 136:** Talbot County requested that the structure located on the southernmost portion of Benoni Point be removed from the CBRS to allow the homeowner to obtain flood insurance. The County also mentioned that the structure is no longer in the Special Flood Hazard Area (SFHA) on FEMA's Flood Insurance Rate Maps (FIRMs).

**Service Response to Comment 136:** The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of the area in question, and found that the area on the southernmost portion of Benoni Point at the end of Benoni Point Road was appropriately included in 1990 within the CBRS when this area was first designated. Development that occurs after CBRS designation is not grounds for removal from the CBRS.<sup>30</sup> Therefore, the Service recommends that this area remain within Unit MD-27. The full assessment can be found in appendix J of this report. There is no direct relationship between the SFHAs mapped on FEMA's FIRMs and the CBRS boundaries; areas are not required to be in an SFHA or have a history of flooding to be included within the CBRS. Comments regarding the inclusion of areas of limited flood risk within the CBRS are more fully addressed in chapter 3 of this report (see issue 4).

There are no changes between the proposed and final recommended boundaries for Unit MD-27 as a result of this comment.

#### Unit MD-29, Rich Neck

**Comment 137:** Talbot County commented that a large area of uplands (with elevations greater than ten feet) along the southwestern end of the unit could be removed from the CBRS. The County also stated that this area is outside the SFHA and contains farmland that is currently protected under various programs and therefore additional protection under CBRA may not be necessary.



**Service Response to Comment 137:**

The Service assesses modifications to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service's review of Unit MD-29 found that most of the area within the unit was appropriately included in 1990 when this area was first designated within the CBRs. However, there was a cluster of development on the ground in 1990, and therefore, the Service proposed that this cluster of development (now containing approximately 16 structures) be removed from the unit. When the Service re-examined this unit as a result of the comment, we found within the cluster of development an area proposed for removal that was undeveloped at the time it was first included within the CBRs (it currently contains two structures). The Service now recommends that this area containing two structures remain within the CBRs.

Upland areas are commonly included within the CBRs. There is substantial variation in physiographic characteristics among coastal barriers. However, the basic components of a coastal barrier are not just sandbars and wetlands, but also include a fastland (i.e., land above high tide) component where structures are most likely to be built.<sup>42</sup> The SFHAs mapped on FEMA's FIRMs are areas that have a one percent annual chance of flooding in a given year, and these areas are designated for flood insurance rating purposes. There is no direct relationship between the SFHAs mapped on FEMA's FIRMs and the CBRs boundaries; areas are not required to be in an SFHA or have a history of flooding to be included within the CBRs. Comments regarding the inclusion of areas of limited flood risk within the CBRs are more fully addressed in chapter 3 of this report (see issue 4).

Portions of Unit MD-29 are subject to a conservation easement. These areas are not recommended for removal from the CBRs or reclassification to an OPA because the conservation easement was not in place when these areas were first included in 1990 within the CBRs. When 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."<sup>54</sup> The Service agrees with these findings and believes the inclusion of areas within the CBRs gives them an additional layer of protection from future development.

There are no changes between the proposed and final recommended boundaries for Unit MD-29 as a result of this comment.

### Unit MD-51, Piney Point Creek

**Comment 138:** The Service received comments from several individuals requesting the removal of six residential structures at the south end of Whitestone Drive in the Landings at Piney Point subdivision. The commenters assert that these properties were included within the CBRs in error. Other comments are that Unit MD-51 is the only unit in Maryland that contains residences; that the structures at the south end of Whitestone Drive are not in the flood zone and have never been flooded; that the entire area is protected by a 10-foot high, 20-foot wide stone revetment on the Potomac River shoreline and a 4-foot revetment on Piney Point Creek; and that the land where the structures are located is not a sandbar, wetland, or wildlife habitat. The commenters also questioned why there is not a CBRA disclosure requirement for realtors and developers, why the improvements were authorized for the development when it was located within the CBRs, and whether a hearing will be held for this project in the near future.

**Service Response to Comment 138:**

The Service's responses to the issues raised by the commenters as follows.

### Whitestone Drive Technical Correction Assessment:

The Service assesses modifications to the CBRs based on CBRA's criteria for an undeveloped coastal

barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of the seven properties at the south end of Whitestone Drive that are within Unit MD-51, and found these properties were appropriate for inclusion in 1990 within the CBRs. Therefore, the Service recommends that this area remain within Unit MD-51. The full assessment can be found in appendix J of this report.

**Flood Hazards and Erosion**

**Control Structures:** The SFHAs mapped on FEMA's FIRMs are areas that have a one percent annual chance of flooding in a given year, and these areas are designated for flood insurance rating purposes. The FIRMs "do not provide a depiction of the overall flood risk that includes the impacts of more intense events."<sup>55</sup> Areas that are not mapped within the SFHA may still be vulnerable to storm surge.<sup>56</sup> There is no direct relationship between the SFHAs mapped on FEMA's FIRMs and the CBRs boundaries; areas are not required to be in an SFHA or have a history of flooding to be included within the CBRs.

There is substantial variation in physiographic characteristics among coastal barriers. However, the basic components of a coastal barrier are not just sandbars and wetlands, but also include a fastland (i.e., land above high tide) component where structures are most likely to be built.<sup>42</sup> Given the natural hazards that generally affect coastal barrier areas, erosion control structures such as revetments are commonly constructed throughout the CBRs. The presence of such structures does not preclude CBRs designation and is not grounds for removal from the CBRs.

**Development within the**

**CBRs:** Structures are common throughout the CBRs, and Unit

MD-51 is not the only CBRS unit in Maryland containing residences; there are seven other Maryland units containing at least one residence. Some preexisting structures were included within the CBRS intentionally because they were located in areas that met CBRA's criteria for an undeveloped coastal barrier (which allows for the designation of areas containing a low density of scattered structures). Additionally, because CBRA does not prohibit development conducted with nonfederal funds or restrict permitting, some structures (such as those along Whitestone Drive within Unit MD-51) have been constructed within the CBRS since the initial designation. State and local governments may choose to further restrict development within the CBRS through state laws and local ordinances, but such restrictions are not prevalent.

#### ***Disclosure and Data Integration:***

The Service agrees that there should be greater disclosure of CBRS designations within communities. The Service is regularly contacted by individuals who purchased property without any prior knowledge of the CBRS designation affecting the property. While property owners are generally made aware of the CBRS designation affecting their property when they obtain a mortgage that requires flood insurance, sometimes mistakes are made and flood insurance policies are issued in error and later cancelled. These property owners are left with very few options aside from purchasing significantly more expensive flood insurance on the private market, paying off their loan, or selling their home. Additionally, property owners that are not required to purchase flood insurance or that do not have a mortgage would not necessarily be informed of a CBRS designation.

The Federal Government currently has no mechanism

to mandate CBRS disclosure when land is bought or sold. The Service therefore encourages federal, state, and local officials to integrate CBRS data into their GIS platforms and other information systems so that it is readily available to community officials, project planners, developers, property owners, prospective buyers, and others. We also encourage public officials to consider including CBRS information in building permit forms, planning documents, and outreach materials. Such voluntary actions can help to increase awareness of the CBRS and the associated prohibitions on federal expenditures, and aid stakeholders in making informed decisions about areas affected by the law.

#### ***Public Hearings and Legislative Map Adoption Process:***

The Service's role is to recommend to Congress appropriate modifications to the CBRS boundaries based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). We have also prepared summaries of and responses to the comments received along with final recommended maps (included in the appendixes of this report) for congressional consideration. In accordance with a directive in section 4(c)(2)(B) of the 2006 CBRRA, the Service developed the final recommended maps after providing an opportunity for the submission of public comments and considering any comments received.<sup>1</sup> Though not required as part of the CBRS map revision process, public meetings for Maryland and several of the other states included in this project were scheduled during the public review period in January of 2019. However, the meetings were cancelled due to a 35-day lapse in appropriations that resulted in a

partial shutdown of the Federal Government, including the Service.

There are no changes between the proposed and final recommended boundaries for Unit MD-51 as a result of this comment.

#### **Unit MD-52, McKay Cove**

***Comment 139:*** The Corps' North Atlantic Division commented that the Herring Creek (Tall Timbers) navigation project is located within existing Unit MD-52.<sup>57</sup> The Corps asserts that continued operations and maintenance of this project would be exempt from CBRA's prohibitions on federal expenditures, but is concerned that mitigation needs associated with unintended downdrift mitigation requirements may be affected by the prohibitions. The Corps requested clarification on whether mitigation needs (likely in the form of beach nourishment to counter the erosion problems) would be covered under operations and maintenance of the project and therefore exempt from CBRA's prohibitions.

#### ***Service Response to Comment 139:***

The Herring Creek navigation project falls within an area that was first designated in 1990 within the CBRS. There are no recommended additions to Unit MD-52 that would affect this project. Exceptions to CBRA's limitations on federal expenditures may be applicable to federally funded projects within the CBRS (including some nonstructural shoreline stabilization), and these exceptions are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended



boundaries for Unit MD-52 as a result of this comment.

#### Unit MD-58, Lower Hooper Island

**Comment 140:** The Corps' North Atlantic Division commented that the Muddy Hook Cove navigation project is located immediately north of proposed new Unit MD-58, and a dredged material placement site associated with this project is within the unit. The Corps is concerned that the continued use of the dredged material placement site may be at risk and asked if the use of the placement site could continue under CBRA's exception for maintenance or construction of improvements of existing federal navigation channels (including the disposal of dredge materials related to such maintenance or construction).

**Service Response to Comment 140:** There are exceptions to CBRA's limitations on federal expenditures that may be applicable to federally funded projects within the CBRs (including the disposal of dredge materials related to the maintenance or construction of improvements to a federal navigation channel), and they are each dependent on a number of factors.<sup>9</sup> Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service's local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit MD-58 as a result of this comment.

#### Unit MD-59, Meekins Neck

**Comment 141:** Dorchester County requested that an existing residential structure located on the south end of Bay View Drive be removed from proposed new Unit MD-59. The County stated that the proposed boundary of this unit was clearly drawn to exclude

the existing structures located along Bay View Drive and Belfiore Road near the Tar Bay shoreline, and that this additional structure should also be excluded.

**Service Response to Comment 141:** The Service reviewed the submitted information and aerial imagery from several sources. We agree that an existing structure located at the end of Bay View Drive was inadvertently included within the proposed new unit. This error was made due to tree cover on the aerial imagery used in determining the location for the proposed boundaries, which obscured this structure near the excluded area boundary. The boundary in this area was intended to exclude the cluster of existing residential development on Meekins Neck from the proposed new unit. The boundary around the excluded area is modified so as not to include this structure within recommended new Unit MD-59.

Changes are made between the proposed and final recommended boundaries for Unit MD-59 as a result of this comment.

**Comment 142:** The Service received a comment from an individual requesting that all or portions of 13 lots in the Swan Harbor Subdivision be removed from the proposed addition to new Unit MD-59 as well as the two roads, Swan Harbor and Belfiore Roads, leading to those lots. The commenter asserts that these areas should be removed because they include an existing residential structure, upland areas with approved soil evaluation "perc" tests and existing foundations, and improved roads with existing electric and communication utilities.

**Service Response to Comment 142:** The Service assesses modifications (including additions) to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs

a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. As noted in the response to Comment 140 above, the Service recommends that the existing residential structure (located at the end of Bay View Drive) not be added to the CBRs. Based on the best available information at the time of this report, the other areas that the commenter requested be removed from Unit MD-59 are appropriate for addition to the CBRs.

The Service contacted Dorchester County and the commenter seeking to obtain documentation concerning the availability of infrastructure for the areas in question, and as of the date of this report, we have not received the information that we requested. Upland areas are commonly included within the CBRs. There is substantial variation in physiographic characteristics among coastal barriers. However, the basic components of a coastal barrier are not just sandbars and wetlands, but also include a fastland (i.e., land above high tide) component where structures are most likely to be built.<sup>42</sup>

To be considered "undeveloped" under CBRA, the proposed addition must have a density of no more than one structure for every 5 acres of fastland.<sup>17</sup> There are no existing structures in the area recommended for addition to the CBRs. However, an area is developed if it has 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.<sup>43</sup> 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., subdivision funded by a developer that is under construction). It is clear on aerial imagery that the areas in question are not currently under development, and without more information to confirm whether the infrastructure criterion is met, the Service continues to recommend that this area be added to the CBRs.



Roads such as Swan Harbor and Belfiore are commonly included within the CBRS. There is an exception in 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.”<sup>58</sup> There is also an exception in CBRA for roads that are not essential links in a larger network or system,<sup>46</sup> but under this exception, the project must also be consistent with the purposes of CBRA to be eligible for federal funding.<sup>16</sup>

Determinations regarding whether specific projects or actions meet one of the exceptions are made on a case-by-case basis following consultation between the federal funding agencies and the Service’s local Ecological Services Field Offices. Due to the case-by-case nature of consultations, the Service cannot provide generalized responses as to whether such projects would be allowable under CBRA. Project proponents are encouraged to contact the appropriate field office<sup>10</sup> for assistance with CBRA compliance.

There are no changes between the proposed and final recommended boundaries for Unit MD-59 as a result of this comment.

## VIRGINIA

### Comments affecting multiple CBRS Units in Virginia

**Comment 143:** The Commonwealth of Virginia commented that it supports the Service’s proposed revisions to the CBRS. Especially given the increased hazards associated with climate change, including sea level rise, more frequent flooding, higher storm surges, and more extreme weather, expansion of the CBRS is appropriate and necessary.

**Comment 144:** The Chesapeake Bay Foundation commented that it supports the proposed additions to and removals from the CBRS in Virginia. The proposed additions would add protection to particular coastal terrestrial and aquatic areas, while at the same time recognizing and adapting to changes (which are

occurring or are likely to occur due to climate change, sea level rise, and land subsidence) to certain fastland.

**Comment 145:** The Southern Environmental Law Center commented that it supports the proposed CBRS additions in Virginia (including the 11 new units), which should help safeguard important environmental resources, promote public safety, and support federal fiscal responsibility.

### Unit VA-12, Great Neck

**Comment 146:** The Southern Environmental Law Center is supportive of proposed removals from the CBRS that correct legitimate mapping errors; however, the Center has questions concerning the proposed removals from Unit VA-12 and requested that the Service provide an additional explanation of the basis for the removals.

**Service Response to Comment 146:** The Service assesses modifications to the CBRS based on CBRA’s criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service found that the proposed removal from Unit VA-12 of approximately 30 structures (and adjacent fastland) along Heron Drive, Trout Lane, and Swan Drive in the Vancluse Shores subdivision is appropriate based on those criteria. Of the approximately 30 structures proposed for removal, 17 were built between 1976 and 1990 (most of the structures built after 1990 are interspersed with the structures that were already on the ground). The structures are within an area that was first included in 1990 within the CBRS.

To be considered “undeveloped” under CBRA, a coastal barrier must have a density of no more than one structure for every 5 acres of fastland (i.e., land above high tide).<sup>17</sup> The Service’s review of Unit VA-12 considered the density of development that existed on the ground when the unit was designated. At that time, Unit VA-12 was comprised of approximately 65 acres of fastland

and contained 17 structures, and therefore, the density of development on the ground was 1 structure per 4 acres of fastland, which exceeded the statutory density threshold. It appears that the intent of the boundary in 1990 was to exclude the development on the ground in the Vancluse Shores subdivision from the CBRS. In addition, the Service found that the development in this subdivision was not depicted on the underlying 1968 USGS topographic quadrangle that was used as the base map for the October 24, 1990, CBRS map.

Changes are made between the proposed and final recommended boundaries for Unit VA-12 as a result of this comment.

### Units VA-16 and VA-16P, Scarborough Neck

**Comment 147:** The Southern Environmental Law Center is supportive of proposed removals from the CBRS that correct legitimate mapping errors; however, the Center has questions concerning the proposed removals from Unit VA-16 (which was partially proposed for reclassification to Unit VA-16P) and requested that the Service provide an additional explanation of the basis for the removals.

**Service Response to Comment 147:** The proposed removals from Unit VA-16 were two small areas of fastland (i.e., land above high tide) located on Scarborough Neck, one that is on the northern side of Bull Cove and the other along the southern side of a coastal pond located south of Bull Cove (the adjacent areas were proposed for reclassification to OPA Unit VA-16P). On the CBRS map dated October 24, 1990, that first established Unit VA-16, the boundary was intended to follow the shoreline of Bull Cove and the coastal pond south of Bull Cove. However, the shoreline configuration was not accurately depicted on the underlying 1968 USGS topographic quadrangle that was used as the base map for the 1990 CBRS map, and an area of fastland was inadvertently included within the CBRS. The proposed CBRS boundary was adjusted to more accurately follow

the shoreline of Bull Cove and the coastal pond south of Bull Cove as depicted on recent aerial imagery.

As a result of this comment, the Service reviewed the areas in question and found that we had mistakenly proposed removing a fastland area to the north of the Bull Cove shoreline. Therefore, this portion of the boundary is modified to follow the existing boundary and reduce the area of removal. The remaining removals (including the area along the coastal pond to the south of Bull Cove) are appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

Changes are made between the proposed and final recommended boundaries for Unit VA-16P as a result of this comment.

### Unit VA-33, Sandy Point

**Comment 148:** The Southern Environmental Law Center is supportive of proposed removals from the CBRS that correct legitimate mapping errors; however, the Center has questions concerning the proposed removal of an area from Unit VA-33 and requested that the Service provide an additional explanation of the basis for the removal.

**Service Response to Comment 148:** The proposed removal from Unit VA-33 of the undeveloped fastland (i.e., land above high tide) located west of Skipjack Road is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). This fastland area was first included in 1990 within the CBRS. On the CBRS map dated October 24, 1990, that first established Unit VA-33, the boundary was intended to follow the wetland/fastland interface and to include associated aquatic habitat landward of Sandy Point within the unit. However, that interface was not depicted correctly on the underlying 1982 USGS topographic quadrangle that

was used as the base map for the 1990 CBRS map, and an area of fastland was inadvertently included within the CBRS. The proposed CBRS boundary was adjusted to follow the true wetland/fastland interface as depicted on recent aerial imagery.

There are no changes between the proposed and final recommended boundaries for Unit VA-33 as a result of this comment.

### Unit VA-55, Rigby Island/ Bethel Beach

**Comment 149:** The Service received a comment from an individual who is pleased with the proposed removal from the CBRS of a home located on Whites Creek Lane.

**Service Response to Comment 149:** The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of several areas within Unit VA-55, including the residential structure located on Whites Creek Lane. The Service found that the structure on this property is appropriate for removal from the CBRS. The full assessment can be found in appendix K of this report.

There are no changes between the proposed and final recommended boundaries for Unit VA-55 as a result of this comment.

**Comment 150:** The Service received a comment from an individual concerning an undeveloped private property located southeast of the terminus of Piney Point Road. The property in question is located within the CBRS, and the commenter requested that the CBRS boundary be modified to remove a substantial portion of the property where the commenter would like to build a residential structure. The commenter stated that the CBRS boundary is incorrect in this area due to inaccuracies on the original base maps and submitted information claiming to show that:

- the elevation of the property is at the same elevation or higher than the area outside of the CBRS;
- the area was wooded;
- the shoreline has not changed since 1937;
- the water surrounding the property is shallow and cannot generate wave action;
- the soils on the property are non-highly erodible, well-drained, upland soils; and
- the property experiences very low erosion rates.

**Service Response to Comment 150:** The Service assesses modifications to the CBRS based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of several areas within Unit VA-55, including the property located southeast of the terminus of Piney Point Road. The Service found that the property in question was appropriately included in 1990 within the CBRS, and therefore, recommends that this area remain within Unit VA-55. The full assessment can be found in appendix K of this report.

There are no changes between the proposed and final recommended boundaries for Unit VA-55 as a result of this comment.

**Comment 151:** The Service received a comment from an individual concerning a private property located on Tidal Pond Lane. Portions of the property in question (including the residential structure) are located within the CBRS, and the commenter requested that the CBRS boundary be modified to remove from the CBRS the residential structure on the property. The commenter stated that the CBRS boundary is incorrect in this area due to inaccuracies on the original base maps and submitted information claiming to show that:

- the elevation of the structure is the same as the residential structures

on adjoining properties to the north, which are outside of the CBRs;

- the area was wooded in 1965 and remains wooded within 5 feet of the mean high tide line;
- the shoreline has not changed since 1937;
- the water in front of the property is shallow and cannot generate wave action;
- the soils on the property are non-highly erodible, well-drained, upland soils; and
- the property experiences very low erosion rates.

**Service Response to Comment 151:**

The Service assesses modifications to the CBRs based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project). The Service has completed a technical correction assessment of several areas within Unit VA-55, including the property on Tidal Pond Lane. The Service found that the property in question was appropriately included in 1990 within the CBRs, and therefore, recommends that this area remain within Unit VA-55. The full assessment can be found in appendix K of this report.

There are no changes between the proposed and final recommended boundaries for Unit VA-55 as a result of this comment.

**Unit VA-60P, Long Creek**

**Comment 152:** The Service received a comment from an individual requesting that the private property located on Bells Island Drive not be included within Unit VA-60P. According to the property owner at the time the comment was submitted, this property had four undeveloped building lots, a marina, and a commercial/residential structure. The property owner purchased the property with the intent of building some houses on the property and was concerned

that the inclusion of the property within the CBRs would prevent that. Following the close of the comment period and prior to the completion of the final recommended maps, the property owner submitted additional information and constructed seven new buildings that meet the CBRA definition of a "structure."<sup>59</sup>

**Service Response to Comment 152:**

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. At the time the proposed boundary was drawn, the recommended addition to Unit VA-60P of the property on Bells Island Drive was appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register*<sup>2</sup> notice for this project). However, since the close of the comment period, a portion of the property has been further developed and no longer meets the density criteria for an undeveloped coastal barrier. The final recommended boundary for Unit VA-60P has been revised to exclude the upland portions of this property in the developed area. Wetland portions of the property and about one acre of uplands are still recommended for inclusion within the unit.

Changes are made between the proposed and final recommended boundaries for Unit VA-60P as a result of this comment.

**Unit VA-68, Bay Tree Beach**

**Comment 153:** York County commented that the CBRs boundary for proposed new System Unit VA-68 was drawn to exclude the existing structures on Bay Tree Beach Road except for two structures at the end of the road, which are included within proposed new Unit VA-68. The County requested that these two structures

and the properties that they sit on be removed from the proposed new CBRs unit.

**Service Response to Comment 153:**

Section 4(c)(3)(D) of the 2006 CBRRA directs the Secretary to recommend additions when carrying out digital mapping for the CBRs.<sup>1</sup> Consistent with this directive, the Service employs a comprehensive remapping approach that identifies qualifying additions of undeveloped coastal barrier areas and associated aquatic habitat. The recommended addition of new Unit VA-68 to the CBRs is appropriate based on CBRA's criteria for an undeveloped coastal barrier as well as guiding principles and objective mapping protocols (outlined in chapter 4 of this report and the initial *Federal Register* notice<sup>2</sup> for this project).

The proposed boundary of Unit VA-68 was intended to include the relatively undeveloped coastal barrier area at Bay Tree Beach and its associated aquatic habitat within the CBRs, while excluding a dense cluster of development located at the northern end of Bay Tree Road. Some preexisting structures are included within the CBRs intentionally because they are located in areas that meet CBRA's criteria for an undeveloped coastal barrier (which allows for the designation of areas containing a low density of scattered structures). The two structures at the end of Bay Tree Beach Road are over 1,000 feet south of the northern development cluster. The unit as proposed does not exceed the statutory density threshold of one structure per 5 acres of fastland (i.e., land above mean high tide),<sup>17</sup> and the area qualifies for inclusion within the CBRs.

There are no changes between the proposed and final recommended boundaries for Unit VA-68 as a result of this comment.



- <sup>1</sup> Coastal Barrier Resources Reauthorization Act of 2005, Public Law 109-226, U.S. Statutes at Large 120 (2006): 381-384, <https://www.congress.gov/109/plaws/publ226/PLAW-109publ226.pdf>.
- <sup>2</sup> U.S. Fish and Wildlife Service (USFWS), “John H. Chafee Coastal Barrier Resources System; Hurricane Sandy Remapping Project for Delaware, Massachusetts, New Hampshire, and New Jersey,” *Federal Register* 83, no. 48 (March 12, 2018): 10739-10747, <https://www.federalregister.gov/documents/2018/03/12/2018-04889/john-h-chafee-coastal-barrier-resources-system-hurricane-sandy-remapping-project-for-delaware>.
- <sup>3</sup> Though the Massachusetts units were primarily included in the first batch of this project, a minor portion (about 3 acres) of Rhode Island Unit D01 in the second batch is located in Massachusetts. Therefore, there were areas in Massachusetts included in both comment periods.
- <sup>4</sup> USFWS, “John H. Chafee Coastal Barrier Resources System; Hurricane Sandy Remapping Project for Connecticut, Maryland, Massachusetts, New York, Rhode Island, and Virginia,” *Federal Register* 83, no. 242 (December 18, 2018): 64861-64869, <https://www.federalregister.gov/documents/2018/12/18/2018-27322/john-h-chafee-coastal-barrier-resources-system-hurricane-sandy-remapping-project-for-connecticut>.
- <sup>5</sup> The National Audubon Society submitted a written comment letter via [www.regulations.gov](http://www.regulations.gov) that was accompanied by a spreadsheet containing 107 unique comments from individuals and 2,224 additional names of people who supported the Audubon Society’s comments but did not provide unique comments.
- <sup>6</sup> Batch 1 comments are accessible at <https://www.regulations.gov/document/FWS-HQ-ES-2018-0004-0001>. Batch 2 comments are accessible at <https://www.regulations.gov/document/FWS-HQ-ES-2018-0034-0001>.
- <sup>7</sup> USFWS, *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project* (Washington, D.C.: USFWS, 2016), 42-43.
- <sup>8</sup> Additional information about the Service’s shoreline and development feature buffering is found on pages 24-26 of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.
- <sup>9</sup> *Coastal Barrier Resources, U.S. Code* 16 (2018), § 3505.
- <sup>10</sup> Field office contact information is available at: <https://www.fws.gov/cbra/consultations/Contacts.html>.
- <sup>11</sup> A full complement of existing infrastructure consists of reinforced roads, a wastewater disposal system, electric service, and a fresh water supply to each lot or building site in the area. *Coastal Barrier Resources*, § 3503(g)(1)(B).
- <sup>12</sup> The commenters indicated that the water supply will come from a well and the wastewater disposal from a septic system. A Federal Register notice (47 FR 35696) published in August 1982 indicates that the infrastructure review may consider wells and septic systems: “Ability to use on-site wells and/or septic systems on each later building site in a development, when legally authorized and the normal practice in the vicinity, will constitute water supply and sewage infrastructure since they can be drilled and/or installed concurrently with the construction of the structure.” U.S. Department of the Interior, Office of the Secretary, “Federal Flood Insurance Prohibition for Undeveloped Coastal Barriers; Proposed Identification,” Federal Register 47, no. 158 (August 16, 1982): 35712, <https://www.loc.gov/item/fr047158/>.
- <sup>13</sup> As defined by the CBIA in 1990, “otherwise protected” means within the boundaries of an area established under federal, state, or local law, or held by a qualified organization (defined under the Internal Revenue Code, 26 U.S.C. § 170(h)(3)), primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. Areas that do not meet the CBIA definition of otherwise protected include areas zoned or regulated by state or local governments for the purpose of restricting the nature or density of development, but where such regulation does not necessarily reflect the intent of the property owners to protect the area for conservation and/or recreation in perpetuity. Coastal Barrier Improvement Act of 1990, Public Law 101-591, U.S. Statutes at Large 104 (1990): 2931-2942, <https://www.congress.gov/101/statute/STATUTE-104/STATUTE-104-Pg2931.pdf> and U.S. Department of the Interior, Coastal Barriers Task Force, Preliminary Draft Criteria for Defining and Delineating Protected Coastal Barriers (Washington, D.C.: U.S. Department of the Interior, November 1982).
- <sup>14</sup> Additional information regarding the Service’s protocols for determining CBRS unit type classification is outlined in chapter 4 of this report and the initial Federal Register notice (83 FR 10739) for this project.
- <sup>15</sup> The Town of Duxbury’s comment originally expressed concern regarding possible restrictions on non-hardscape restoration and living shoreline improvements in the area of Duxbury Beach. The Town was also concerned with the availability of federal funding for the preservation of the Powder Point Bridge. The Service clarified the implications of the proposed reclassification of the areas in question from System Unit to OPA with the Town via email after the comment period, and the Town is now supportive of the proposed reclassification.
- <sup>16</sup> The purposes of CBRA are 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 by restricting future federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers and by considering the means and measures by which the long-term conservation of these fish, wildlife, and other natural resources may be achieved. *Coastal Barrier Resources*, § 3501(b).
- <sup>17</sup> *Coastal Barrier Resources*, § 3503(g)(1)(A).
- <sup>18</sup> The individual’s comment originally requested that the structures located along Nutmeg Lane be removed from the CBRS. The commenter was also concerned that if any portion of a property was located within the CBRS, then purchasing insurance from FEMA’s National Flood Insurance Program for a structure on the property would be prohibited. The Service contacted the individual during the comment period to clarify that the proposed boundary changes along Nutmeg Lane do remove four structures, and that if a structure is located on the portion of the property outside the CBRS, then it would be eligible for federal flood insurance. The commenter then submitted a subsequent comment in support of the proposed changes in Unit D05 along Nutmeg Lane.
- <sup>19</sup> USFWS, *Digital Mapping Pilot Project*, 27.

- <sup>20</sup> U.S. Department of the Interior, Office of the Secretary, “Availability of Draft Maps of Areas Under Consideration for Inclusion in the Coastal Barrier Resources System,” Federal Register 50, no. 42 (March 4, 1985): 8702, <https://www.loc.gov/item/fr050042/>.
- <sup>21</sup> In December 2019 (after the comment period), the Service contacted the Connecticut Department of Energy and Environmental Protection to inform them of the recommended addition and to request comments. The Service did not receive a response from this state agency.
- <sup>22</sup> U.S. Department of the Interior, Coastal Barriers Study Group, *Report to Congress: Coastal Barrier Resources System with Recommendations as Required by Section 10 of Public Law 97-348, the Coastal Barrier Resources Act of 1982*, vol. 1 (Washington, D.C.: U.S. Department of the Interior, 1988), 112.
- <sup>23</sup> *Coastal Barrier Resources*, § 3504(a)(3).
- <sup>24</sup> *Coastal Barrier Resources*, § 3505(a)(6)(A).
- <sup>25</sup> *Coastal Barrier Resources*, § 3505(a)(6)(G).
- <sup>26</sup> *Coastal Barrier Resources*, § 3502(1)(B).
- <sup>27</sup> Coastal Barrier Improvement Act of 1990, Public Law 101-591, U.S. Statutes at Large 104 (1990): 2931-2942, <https://www.congress.gov/101/statute/STATUTE-104/STATUTE-104-Pg2931.pdf>.
- <sup>28</sup> Congress’s House Report 101-657 on H.R. 2840 (the CBIA bill) states that the change to CBRA’s exception for federal navigation channels was made at the recommendation of the Department of the Interior. With the expansion of the CBRS to include all associated aquatic habitat, more navigation and shipping channels were included within the System and without the changes to this exception, deepening or improvements to those channels would be prohibited. The Department’s views on H.R. 2840 (also included in House Report 101-657) agreed that the changes to this exception “will be sufficient however, to allow for construction and maintenance of improvements authorized by Congress.” CBRA’s channel exception is found in 16 U.S.C. § 3505(a)(2), and the definition of a federal navigation channel is in § 3505(b). U.S. Congress, House, Committee on Merchant Marine and Fisheries, *Coastal Barrier Improvement Act of 1990: Report Together with Additional Views and Appendix (to Accompany H.R. 2840)*, 101st Congress, 2d Session, 1990, H. Rept. 101-657, pt. 1, 14 and 19.
- <sup>29</sup> *Coastal Barrier Resources*, § 3505(a)(2).
- <sup>30</sup> The issue of removals from the CBRS is addressed in a Federal Register notice (48 FR 54542) published approximately one year after the enactment of CBRA: “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.... 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.” U.S. Department of the Interior, Office of the Secretary, “Coastal Barrier Resources Act; Section 10—Report to Congress,” Federal Register 48, no. 234 (December 5, 1983): 54543, <https://www.loc.gov/item/fr048234/>.
- <sup>31</sup> *Coastal Barrier Resources*, § 3504(a).
- <sup>32</sup> USFWS, “Coastal Barrier Improvement Act of 1990 (Pub. L. 101-591); Section 4(c)—5-Year Review and Modification to the Coastal Barrier Resources System as a Result of Natural Forces,” Federal Register 62, no. 36 (February 24, 1997): 8259, <https://www.govinfo.gov/content/pkg/FR-1997-02-24/pdf/97-4462.pdf>.
- <sup>33</sup> *Coastal Barrier Resources*, § 3502(1).
- <sup>34</sup> U.S. Department of the Interior, Coastal Barriers Task Force, *Final Environmental Statement: Undeveloped Coastal Barriers* (Washington, D.C.: U.S. Department of the Interior, May 1983), II-13.
- <sup>35</sup> Ibid.
- <sup>36</sup> *Coastal Barrier Resources*, § 3505(a)(6)(E).
- <sup>37</sup> Additional information regarding the December 16, 2016, map revision is available at <https://www.fws.gov/cbra/historical-changes-coastal-barrier-resources-system> and in the July 7, 2016, *Federal Register* (81 FR 44320).
- <sup>38</sup> USFWS, “John H. Chafee Coastal Barrier Resources System; Bay and Gulf Counties, FL; Middlesex and Monmouth Counties, NJ; Availability of Draft Maps and Request for Comments,” *Federal Register* 81, no. 130 (July 7, 2016): 44320-44321, <https://www.govinfo.gov/content/pkg/FR-2016-07-07/pdf/2016-16100.pdf>.
- <sup>39</sup> There is increasing scientific information on this topic. For example, see the following sources:
- Patty Glick et al., *The Protective Value of Nature: A Review of the Effectiveness of Natural Infrastructure for Hazard Risk Reduction* (Washington, D.C.: National Wildlife Federation, 2020), accessed May 12, 2021, [www.nwf.org/protective-value-of-nature](http://www.nwf.org/protective-value-of-nature).
- Ali Mohammad Rezaie, Jarrod Loerzel, and Celso M. Ferreira, “Valuing Natural Habitats for Enhancing Coastal Resilience: Wetlands Reduce Property Damage from Storm Surge and Sea Level Rise,” *PLOS One* 15, no. 1 (January 2020): e0226275, accessed June 17, 2021, <https://doi.org/10.1371/journal.pone.0226275>.
- Siddharth Narayan et al., “The Effectiveness, Costs, and Coastal Protection Benefits of Natural and Nature-based Defences,” *PLOS One* 11, no. 5 (May 2016): e0154735, accessed June 17, 2021, <https://doi.org/10.1371/journal.pone.0154735>.
- Siddharth Narayan et al., “The Value of Coastal Wetlands for Flood Damage Reduction in the Northeastern USA,” *Scientific Reports* 7 (August 2017): 1-12, accessed June 17, 2021, <https://doi.org/10.1038/s41598-017-09269-z>.

Fanglin Sun and Richard T. Carson, “Coastal Wetlands Reduce Property Damage during Tropical Cyclones,” *Proceedings of the National Academy of Sciences* 117, no. 11 (March 2020): 5719–5725, accessed June 17, 2021, <https://doi.org/10.1073/pnas.1915169117>.

Eleonor B. Taylor et al., “Assessment and Monetary Valuation of the Storm Protection Function of Beaches and Foredunes on the Texas Coast,” *Journal of Coastal Research* 31, no. 5 (September 2015): 1205–1216, accessed June 17, 2021, <https://doi.org/10.2112/JCOASTRES-D-14-00133.1>.

Jennifer L. Miselis and Jorge Lorenzo-Trueba, “Natural and Human-induced Variability in Barrier-island Response to Sea Level Rise,” *Geophysical Research Letters* 44, no. 23 (2017): 11922–11931, accessed May 11, 2021, <https://doi.org/10.1002/2017GL074811>.

Ariana E. Sutton-Grier, Kateryna Wowk, and Holly Bamford, “Future of Our Coasts: The Potential for Natural and Hybrid Infrastructure to Enhance the Resilience of Our Coastal Communities, Economies and Ecosystems,” *Environmental Science & Policy* 51 (2015): 137–148, accessed June 9, 2021, <https://doi.org/10.1016/J.ENVSCL.2015.04.006>.

Steven B. Scyphers et al., “Natural Shorelines Promote the Stability of Fish Communities in an Urbanized Coastal System,” *PLOS ONE* 10, no. 6 (2015): e0118580, accessed June 9, 2021, <https://doi.org/10.1371/journal.pone.0118580>.

Jeanne L. Nel et al., “Natural Hazards in a Changing World: A Case for Ecosystem-based Management,” *PLOS ONE* 9, no. 5 (May 2014): e95942, accessed June 17, 2021, <https://doi.org/10.1371/journal.pone.0095942>.

Edward B. Barbier et al., “The Value of Wetlands in Protecting Southeast Louisiana from Hurricane Storm Surges,” *PLOS ONE* 8, no. 3 (March 2013): e58715, accessed June 22, 2021, <https://doi.org/10.1371/journal.pone.0058715>.

Mark D. Spalding et al., “Coastal Ecosystems: A Critical Element of Risk Reduction,” *Conservation Letters* 7, no. 3 (May/June 2014): 293–301, accessed June 22, 2021, <https://doi.org/10.1111/conl.12074>.

Katie K. Arkema et al., “Coastal Habitats Shield People and Property from Sea-level Rise and Storms,” *Nature Climate Change* 3 (2013): 913–918, accessed May 12, 2021, <https://doi.org/10.1038/nclimate1944>.

<sup>40</sup> The issue of the inclusion of docks, piers, and marinas within the CBRS is also discussed on page 24 of the 2016 *Final Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project*.

<sup>41</sup> U.S. Department of the Interior, “Coastal Barriers; Proposed Identification,” *Federal Register* 47, 35706–35707.

<sup>42</sup> *Coastal Barrier Resources*, § 3503(g)(1)(B).

<sup>43</sup> U.S. Department of the Interior, “Coastal Barriers; Proposed Identification,” *Federal Register* 47, 35712.

<sup>44</sup> *Coastal Barrier Resources*, § 3503(d).

<sup>45</sup> *Coastal Barrier Resources*, § 3505(a)(6)(F).

<sup>46</sup> U.S. Department of the Interior, Coastal Barriers Study Group, Report to Congress: Coastal Barrier Resources System with Recommendations as Required by Section 10 of Public Law 97-348, the Coastal Barrier Resources Act of 1982, vol. 7, Recommendations for Additions to or Deletions from the Coastal Barrier Resources System: New Jersey (Washington, D.C.: U.S. Department of the Interior, 1988), 6.

<sup>47</sup> U.S. Congress, House, Committee of Conference, Coastal Barrier Resources Act: Conference Report (to Accompany S. 1018), 97th Congress, 2d Session, 1982, H. Rept. 97-928, 14 and U.S. Congress, Senate, Committee on Environment and Public Works, Coastal Barrier Resources Act: Report Together with Additional Views (to Accompany S. 1018), 97th Congress, 2d Session, 1982, S. Rept. 97-419, 7-8.

<sup>48</sup> USFWS, Digital Mapping Pilot Project, 21-22.

<sup>49</sup> U.S. Department of the Interior, *Undeveloped Coastal Barriers: Report to Congress*, (Washington, D.C.: U.S. Department of the Interior, 1982), 17-18.

<sup>50</sup> New Jersey Department of Environmental Protection (NJ DEP), Division of Fish and Wildlife, *Shellfish Aquaculture Leasing Policy of the Atlantic Coast Section of the New Jersey Shellfisheries Council* (New Jersey Division of Fish and Wildlife, March 2019), 11, accessed May 19, 2021, [https://www.nj.gov/dep/fgw/pdf/marine/shellfish\\_leasing\\_policy\\_atlantic.pdf](https://www.nj.gov/dep/fgw/pdf/marine/shellfish_leasing_policy_atlantic.pdf).

<sup>51</sup> For the definition of “substantially damaged building” and “substantially improved building”, see <https://www.fema.gov/flood-insurance/terminology-index>, and for more information on flood insurance eligibility within the CBRS for such buildings, see appendix D in the NFIP’s Flood Insurance Manual (which is used primarily by insurers and agents selling and servicing Federal flood insurance) found at: <https://www.fema.gov/flood-insurance/work-with-nfip/manuals#flood-insurance>.

<sup>52</sup> Additional information regarding this effort is available on the Service’s website at: <https://www.fws.gov/project/digital-conversion-and-5-year-review/>.

<sup>53</sup> The methodology used to prepare the proposed boundaries in Delaware is described in further detail in the initial *Federal Register* notice (83 FR 10739) for this project.

<sup>54</sup> *Coastal Barrier Resources*, § 3501(a)(4) and (5).

<sup>55</sup> “Two Coastal Flood Maps: Flood Insurance Rate Maps vs. Storm Surge Inundation Maps,” Federal Emergency Management Agency, U.S. Army Corps of Engineers, and National Oceanic and Atmospheric Administration, accessed April 21, 2021, [https://www.iwr.usace.army.mil/Portals/70/docs/fmrp/FMRP%20Summer%202014/CoastalFloodMapsFactsheet\\_Final.pdf](https://www.iwr.usace.army.mil/Portals/70/docs/fmrp/FMRP%20Summer%202014/CoastalFloodMapsFactsheet_Final.pdf).

<sup>56</sup> According to NOAA, storm surge is an abnormal rise in seawater level generated by a storm, over and above the normal predicted astronomical tide,



is caused primarily by the strong winds of a storm pushing a huge volume of water onto the shore, and can penetrate many miles inland. Storm surge is a complex phenomenon and its severity is affected by the storm's intensity, the forward speed and size of the storm, the angle of its approach to the coast, atmospheric pressure, the slope of the ocean bottom, and the shape and characteristics of coastal features such as bays and estuaries. NOAA, "What is storm surge?" National Ocean Service website, last modified February 26, 2021, accessed April 13, 2021, <https://oceanservice.noaa.gov/facts/stormsurge-stormtide.html>.

<sup>57</sup> The Corps' comment originally identified the Herring Creek (Tall Timbers) navigation project as being within proposed new Unit MD-63, but the Corps later clarified that the project is actually within existing Unit MD-52.

<sup>58</sup> *Coastal Barrier Resources*, § 3505(a)(3).

<sup>59</sup> *Coastal Barrier Resources*, § 3503(g)(2).



U.S. Department of the Interior  
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April 2022

