

# CHAPTER 7: Next Steps and Conclusions

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

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

## Adoption of the Final Recommended Pilot Project Maps

The Service recommends that Congress adopt the final recommended maps for the 65 CBRS pilot project units in Appendix C. The final recommended maps remove areas that were inappropriately included within the CBRS decades ago, while also adding undeveloped lands and associated aquatic habitat that meet the CBRA criteria for inclusion within the CBRS. These comprehensively revised maps were prepared using modern cartographic tools and techniques, and draft versions were reviewed by interested stakeholders through a 120-day public comment period. The Service assessed the comments received during the public comment period and made appropriate

adjustments to the draft maps based on the CBRA criteria, objective mapping protocols, and the best available data. The unit summaries in Appendix C describe the extent to which the boundary lines on the final recommended maps differ from both the existing controlling maps and the proposed maps that were included in Appendix D of the 2008 pilot project report. Significant issues raised during the public comment period and modifications to existing mapping protocols are described in Chapter 4. Responses to unit-specific comments are included in Appendix E. The final recommended maps and related information can also be found on the Service's website at: <http://www.fws.gov/ecological-services/habitat-conservation/cbra/Act/Pilot.html>.

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

## Next Steps to Comprehensively Modernize the Remainder of the CBRS

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

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

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

## Digital Data Needs and Availability

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

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

### Costs

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

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

- (1) significant advances in GIS technology and data availability since the publication of the initial 2008 report have made

obtaining aerial imagery and other data necessary for the production of the CBRS maps far less labor intensive;

- (2) modifications and efficiencies in the methodology used for acreage calculations (including reliance on NWI data for the wetland/fastland breakdown);
- (3) modifications to the Service's protocol for System Unit versus OPA classification and reclassification;
- (4) a partnership with FEMA facilitated updates to most of the CBRS maps through the digital conversion effort (more than 90 percent of the total CBRS acreage will be digitally converted by the end of 2016); and
- (5) the Department funded a \$5 million project to prepare comprehensively revised maps for the CBRS units in eight northeastern States affected by Hurricane Sandy (comprising approximately 15 percent of the total acreage of the CBRS).<sup>7</sup>

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

### Conclusions

It has been more than 30 years since the CBRA was enacted. This common sense approach to conservation has successfully reduced the intensity of development along some of our Nation's most vulnerable and ecologically sensitive coastlines, without increasing Federal regulatory involvement. In passing the CBRA, Congress recognized that certain actions and programs of the Federal Government had historically subsidized and encouraged development on coastal barriers, resulting in the loss of natural resources; threats to human life, health, and property; and the expenditure of millions of tax dollars each year. In his *Statement on Signing the Coastal Barrier Resources Act (October 18, 1982)*,

President Ronald Reagan stated that "the CBRA meets a national problem with less Federal involvement, not more...with enactment of this landmark legislation, the Nation takes a major step forward on the road to restoring a sound fiscal and environmental balance to the programs of the Federal Government."

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

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

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

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and correction. Comprehensive map modernization allows for the correction of errors that negatively affect property owners and expansion of the CBRS to include eligible undeveloped land and associated aquatic habitat. This report contains updates to mapping protocols and provides a set of guiding principles and criteria for assessing modifications to the CBRS that will guide our mapping efforts well into the future. The Service

supports map modernization and will continue to prepare comprehensively revised maps for remaining areas within the CBRS as resources are made available for this effort.

Today the CBRA is more relevant than ever before. The costs of armoring vulnerable shorelines, replenishing eroded beaches, rebuilding washed out roads, dredging channels, and subsidizing coastal flood insurance will only

continue to increase with projected increases in sea level rise and storm surge, and the increased frequency and severity of storms impacting our coasts. This report highlights the importance of the Service's continuing efforts to bring the CBRS maps into the digital age and provide user-friendly information to a wide range of stakeholders, including other Federal agencies, State and local officials, property owners, developers, and others.

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

<sup>2</sup> See endnote 12 in Chapter 2.

<sup>3</sup> See endnote 13 in Chapter 2.

<sup>4</sup> See endnote 14 in Chapter 2.

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

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

<sup>7</sup> See endnote 10 in Chapter 2.

<sup>8</sup> See endnote 19 in Chapter 1.