

Overview
**Next Steps for a
Healthy Gulf of Mexico
Watershed**



Introduction

The greater Gulf of Mexico ecosystem contains a variety of habitats that support an amazing range of wildlife and provides Americans with abundant seafood, valuable energy resources, extraordinary outdoor recreational activities, and a rich cultural heritage.

The U.S. Fish and Wildlife Service (Service) has a deep and enduring commitment to the Gulf watershed. For example, starting with the establishment of Breton Island National Wildlife Refuge in 1904, the Service has been managing 45 national wildlife refuges along the Gulf Coast and an additional 190 in the rest of the Gulf watershed for years. These make up a Service-managed conservation landscape of many million acres, with 2.15 million acres located along the Gulf Coast alone. The Service also has important responsibilities defined by legislation, treaty or similar authority for endangered and threatened species, as well as for migratory birds, certain marine mammals, and fish species that move across boundaries of states and nations (“interjurisdictional fish”). With

staff representing all 31 states in the Gulf watershed, the Service has long provided a combination of planning and on-the-ground contributions to natural resource protection and conservation.

Countless stressors have been altering and degrading the Gulf ecosystem for decades. The degradation of this monumentally important watershed was made even worse after the *Deepwater Horizon* oil spill in 2010. The Service developed and released its “*Vision for a Healthy Gulf of Mexico Watershed*” (*Vision*) in 2013 in response to the restoration challenges facing the Gulf following the *Deepwater Horizon* disaster. *Vision* set the stage for a restoration approach that considers not only the Gulf Coast, but also the entire watershed that feeds the Gulf. The Service’s “*Next Steps for a Healthy Gulf of Mexico Watershed*” (*Next Steps*) is the companion document to our *Vision*. *Next Steps* grows out of and refines themes and action items raised in the *Vision*. It reflects our commitment to taking action in a deliberate way that builds upon existing and ongoing efforts (e.g., Southeastern Aquatic Resources

The Gulf watershed is home to more than 500 federally listed species, of which more than 350 are endangered.

Many bird species call Breton Island home; credit: USFWS/Greg Thompson





Young angler with her catch of the day;
credit: Robert Smith

Partnership (SARP), Migratory Bird Joint Ventures and others). It is intended to put on paper the perspectives, priorities and preferred courses of action held by the Service and partners for the restoration of the Gulf watershed and is founded on the key principles of leveraging the power of partnerships and utilizing the best available science.

Gulf restoration received a significant boost on April 4, 2016, through a global legal settlement with BP and its subsidiaries, the parties primarily responsible for the *Deepwater Horizon* oil spill. The settlement adds \$20.8 billion to state and federal efforts over the next two decades to rehabilitate and improve the natural resources of the Gulf region. The Service believes the unprecedented amount of funding and the enormity of the challenge requires a level of collaboration and coordination never before seen in an ecosystem restoration effort. By pooling our financial and human resources, expertise and experiences, we can find efficiencies, avoid duplication of efforts, meet larger landscape-scale goals and maximize outcomes. This is the time to build upon existing efforts to address ongoing needs, reassess conservation and restoration needs, and generate fresh ideas and innovative approaches for long-term restoration.

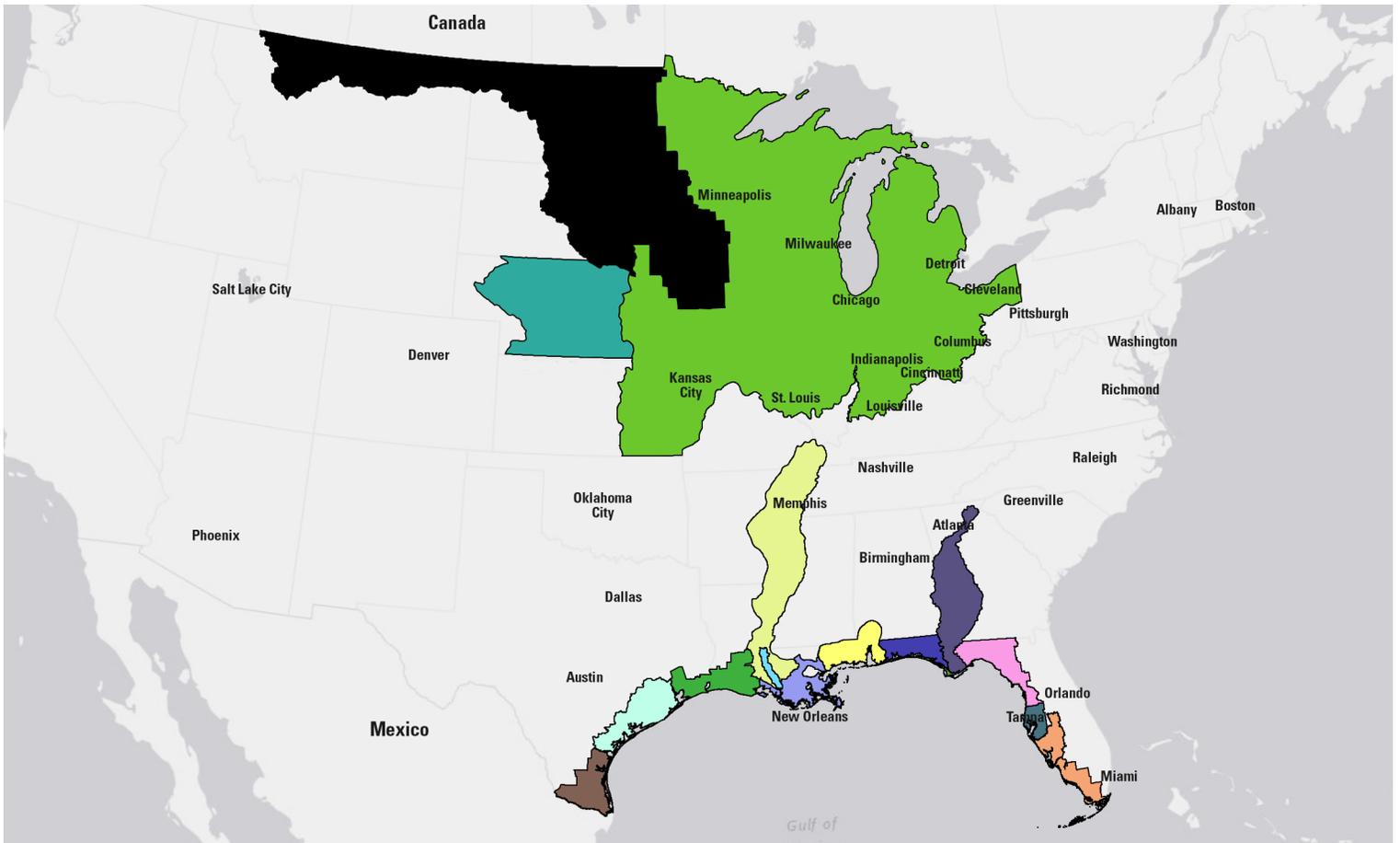
Focal Areas

In the *Vision*, the Service articulated overarching restoration and conservation strategies for sustaining fish and wildlife resources and thriving communities for future generations. The Service also identified geographically based high-priority focal areas and actions to help align the efforts of the Service with its partners and other stakeholders. *Vision* introduced 16 focal areas, sections of the Gulf watershed with indistinct boundaries in which the Service has a particular interest with respect to Gulf restoration. Among the factors we considered in choosing these focal areas were unique ecological features, regional conditions and trends, the Service's and our partners' existing conservation and/or restoration plans and collaborative efforts. *Next Steps* highlights more specific courses of action for the development and implementation of conservation and restoration initiatives in each of the original focal areas. It also reflects the evolving Gulf conservation landscape by updating and including refinements and

additions to the earlier document, such as two new focal areas in Florida. The 18 focal areas in *Next Steps* are:

- Laguna Madre and Lower Rio Grande Valley;
- Coastal Bend;
- Texas Mid-Coast;
- Chenier Plain;
- Atchafalaya Basin;
- Mississippi River Coastal Wetlands and Barrier Islands;
- Mississippi Alluvial Valley;
- Central Gulf Lands;
- Central Gulf and Florida Panhandle Coast;
- Florida Panhandle Lands;
- Greater Apalachicola Basin;
- Florida's Big Bend;
- Tampa Bay (new);
- Southwest Florida;
- Florida Keys (new);
- Upper Mississippi River Watershed;
- Rainwater Basin; and
- Prairie Potholes.

While focal areas are useful in continuing discussions with partners, the Service is transitioning to the use of more distinctly delineated Biological Planning Units in reference to restoration of the Gulf watershed. This is because explicit and quantitative biological objectives are essential for making more strategic investments; likewise, clear geographic boundaries are essential for calculating these objectives. A team composed of individuals from across the Service worked in concert with experts in Landscape Conservation Cooperatives (LCCs), Migratory Bird Joint Ventures, Fish Habitat Partnerships (e.g., SARP) and the U.S. Geological Survey in describing both objectives and boundaries through the Biological Objectives Project in the Gulf states. All of our partners, including state fish and wildlife agencies, have influenced these efforts. Working from ongoing collaborative processes, the Biological Planning Unit boundaries rely upon lines already in use by these partners and others in planning efforts across the Gulf.



The Service's Biological Planning Units are derived from partners' existing planning boundaries.

Target Species

In *Next Steps*, the Service discusses target species for each focal area (i.e., migratory birds, species listed as threatened and endangered under the Endangered Species Act, interjurisdictional fish, and certain marine mammals). These are species on which the Service is currently concentrating its science and on-the-ground restoration efforts due to their vulnerability and/or ability to act as indicators of improved habitat conditions on the landscape. These species were identified by collating the plans and priorities of a wide range of partners within each focal area. In the Gulf states, most of the species highlighted are based on the Biological Planning Units, but target species in the upper watershed were derived from other collaborative planning processes.

The Service believes that by identifying target species and biological objectives, it can more clearly connect restoration actions with desired outcomes on the landscape or in the watershed and also will benefit other species. Similarly, while these species are the focus of current efforts and immediate next steps, there



Kemp's Ridley;
credit: USFWS/Adrienne McCracken



Whooping crane;
credit: USFWS/Diane Nunley

The Gulf watershed is home to some of America's beloved and iconic species — from the West Indian manatee, an aquatic relative of the elephant, to the whooping crane, North America's tallest bird.

*Manatee cow and calf;
credit: USFWS/Keith Ramos*

may be other species with conservation needs as issues evolve, landscape changes occur and knowledge increases. The Service's fundamental approach to Gulf restoration includes crosscutting awareness of collateral benefits, and strives to find restoration actions that will help a wide range of species. For example, by promoting the conservation of freshwater inflow into coastal wetlands of the Coastal Bend Focal Area to benefit endangered whooping cranes, we highlight recommended actions that will provide habitat for commercial and recreational species important to our partners such as the blue crab, red drum and speckled trout.

Next Steps (Recommended Actions)

The recommended actions for each focal area in *Next Steps* represent the Service's efforts to date to pull together the best information on the next steps needed to conserve, protect and restore important habitats. While conservation actions are expressed in terms of the benefit they provide to the target species, we reference specific habitat features or conditions that are not only important to sustaining or increasing these species' populations but are beneficial to other species as well.

There is no need to reinvent the wheel. Many of the recommended actions resemble or reinforce recommendations from other efforts, initiatives or plans. These include Migratory Bird Joint Venture strategies, state-based Gulf restoration plans (e.g., the Louisiana Coastal Master Plan), State Wildlife Action Plans, Comprehensive Conservation Plans for National Wildlife Refuges, National Estuary Program Comprehensive Conservation and Management Plans, and the *Deepwater Horizon* NRDAR Trustees' Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement to name a few. Each of these efforts has specific planning processes, stakeholder engagement and implementing features that will determine lead agencies and organizations for those efforts or initiatives. As a result, in many cases the Service will not be the lead, but will be a partner in planning and implementing the recommended actions listed in *Next Steps*.

The "next steps" section of the document does not, of course, list everything that needs to be done. Rather, the objectives identified and the recommendations are





Installing a wildlife crossing;
credit: USFWS/Ryan Hagerty

what the Service believes to be the most compelling and should have the greatest likelihood of success for its natural resource responsibilities in that focal area. The actions are not organized by priority or sequence, but are offered as a package of proposals for consideration as we work with partners toward the long-term restoration and sustainability of the Gulf watershed.

Just as there are differences in topography and hydrology that shape a particular landscape, there naturally are differences in the factors that led to the formulation of the Service's recommendations for action. These factors include the quantity and quality of habitats and associated fish and wildlife populations, the ability to partner and leverage restoration capacity, and the immediacy of restoration actions needed to address pending or immediate threats. The number, specificity and current level of completion of recommended actions for focal areas also differ due to such factors.

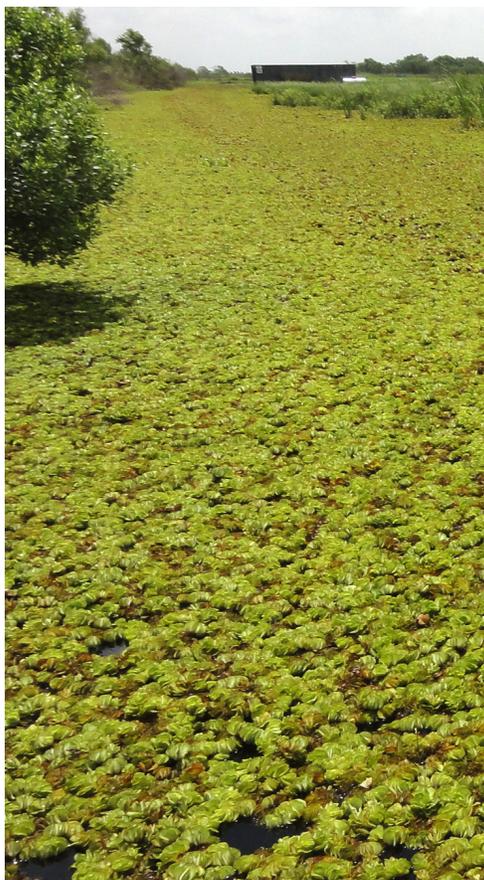
We relay a breadth of recommended actions for addressing priority issues across the Gulf watershed landscape. From working with willing landowners through voluntary actions to conserve priority habitats, to building river diversions that provide sediment to rebuild coastal marshes and using prescribed fire as a landscape-scale habitat management tool, we recognize that Gulf restoration is not a "one size fits all" effort.

Common Restoration Themes

Throughout the focal areas, there are, however, some common themes in "next steps" recommendations. Examples include an emphasis on increasing habitat connectivity for target species and management practices or techniques that ultimately provide habitat benefits for target species and others.

Water quality and quantity are central themes throughout the document. From the need to conserve existing wetlands for the habitat they provide, to actions that restore hydrology or provide sufficient flow levels, as well as actions that store and filter water and provide downstream benefits. Equally as far-ranging as the "next steps" are across the landscape, the potential species expected to benefit from such a focus on water quality and quantity are widespread, including migratory waterfowl, Gulf sturgeon and mussels.

Additionally, other habitat management techniques like the use of prescribed fire and control of aquatic and terrestrial invasive species are prevalent throughout all of the coastal focal areas. For example, the management of hydrilla, salvinia, water hyacinth, Asian carp, feral hogs, nutria, Brazilian pepper and Australian pine are specifically named as essential to the restoration of the ecosystem of the Gulf watershed. Establishing and/or supporting cooperative teams to control invasive species is specifically recommended in nine focal areas.



Giant salvinia infestation in a canal waterway;
credit: USFWS/Ronald Paille



Gulf sturgeon; credit: USFWS/Kayla Kimmel



Brown pelican; credit: USFWS/Woody Woodrow

The use of prescribed fire, recommended in as many as ten focal areas along the Gulf coast, is a management tool utilized in multiple habitats (e.g., coastal marshes and prairies, and longleaf pine systems) to not only control invasive plant species but also restore and/or maintain appropriate habitat conditions for target species such as the whooping crane, LeConte's sparrow, Henslow's sparrow and red-cockaded woodpecker.

For many focal areas, the Service emphasizes working with willing landowners, and state and local land conservation organizations, to establish wildlife corridors through a combination of conservation easements and agreements and voluntary fee title purchases. For example, the Service recommends managing key parcels for landscape connectivity in the Laguna Madre Focal Area in order to contribute towards ocelot and northern aplomado falcon recovery objectives; conserving interconnected grassland corridors in the Coastal Bend Focal Area to allow for dispersal and genetic exchange among Attwater's prairie chickens; and applying the "Green Links" Landscape Conservation Model in the Florida Panhandle Focal Area to identify and prioritize Panhandle Lands that provide habitat connectivity and have the highest ecological value for restoration and conservation of 79 State-listed species known to occur there.

Connectivity, however, isn't limited to terrestrial habitat. For example, the Service encourages installing, replacing or enlarging undersized culverts and removing other structures acting as barriers to aquatic species in several places. We believe taking these steps along the Florida Gulf coast would not only enhance passage for the Gulf sturgeon and managed fishery species, but also improve connectivity and water quality for other fish and wildlife species and adjacent salt marsh habitat.



Prescribed fire; credit: USFWS/John Maxwell

The full text of "Next Steps for a Healthy Gulf of Mexico Watershed" can be found at: <https://fws.gov/gulfrestoration/next-steps/>

Conclusion

The Service is keenly aware that a long-term, watershed-level approach to restoration and conservation is important if we are to achieve a healthy Gulf ecosystem. The Service is working on this important restoration and contributing for consideration *Next Steps*, which promotes a bold and visionary approach to achieving conservation results within the Gulf watershed. The actions outlined in *Next Steps* are not, of course, the only options for conservation in the Gulf watershed. The Service is hopeful that by articulating its perspective, it will open the door for conversations with all partners on the landscape and within the watershed that focus on desirable collaborations; creative problem solving; and increased transparency and coordination. *Next Steps* is a "living document" that we intend to amend as conditions change and the results of choices taken become apparent. As such, it illustrates the Service's iterative and adaptive approach to conservation and restoration.

With a plan, shared accountability and adherence to adaptability, together we can achieve a healthy Gulf of Mexico watershed.

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Birds in coastal marsh;
credit: USFWS/Woody Woodrow