



Gulf Program Strategic Plan 2020–2025

November 2020



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Gulf Program Mission Statement: The National Wildlife Federation’s Gulf Program advances solutions to support healthy waters and sustainable ecosystems for the Gulf’s people and wildlife.

Gulf Program History

The Gulf of Mexico is a national treasure, home to some 15,000 species of fish and wildlife, including sperm whales, West Indian manatees, brown pelicans, snowy plovers, Kemp’s ridley sea turtles, bluefin tuna and whale sharks, to name just a few. The Gulf coast region is also home to more than 50 million people, and is one of the fastest growing regions in the U.S. The Gulf is also America’s energy coast, with more than 45 percent of total U.S. petroleum refining capacity. The Gulf’s natural resources make this coast as important for people as it is for wildlife, and the National Wildlife Federation (NWF) is committed to ensuring that the region’s wildlife and communities thrive now and for years to come.

NWF has a long history of advocacy in the Gulf of Mexico region. In 2000, our members and supporters were instrumental in securing Congressional support for a comprehensive plan to restore the Everglades in Florida. For nearly two decades we have worked to ensure that Texas bays have the fresh water they need to support healthy fish and wildlife populations. And since well before Hurricane Katrina, we championed the restoration of Louisiana’s disappearing coastal wetlands. In 2007, NWF joined forces with Environmental Defense Fund, National Audubon Society, Pontchartrain Conservancy, and the Coalition to Restore Coastal Louisiana to form the Restore the Mississippi River Delta Coalition in Louisiana, which has

worked since then to build public and political support for the largest ecosystem restoration effort in the country.

When the Deepwater Horizon (DWH) oil rig exploded in the Gulf in 2010, precipitating the largest marine oil spill in U.S. history, NWF marshalled its resources to bring national and international attention to the unfolding ecological catastrophe. Our Louisiana-based staff took scores of journalists from around the globe out in boats to view the evidence of the damage and connected them with expert scientists who could explain its significance. In the wake of this disaster, NWF and our state affiliates, together representing millions of sportsmen and outdoor enthusiasts, actively supported the 2012 RESTORE Act, which sends an unprecedented 80 percent of the civil penalties arising from the 2010 oil spill back to the Gulf for restoration and recovery. Former Secretary of the Interior Ken Salazar called the RESTORE Act the “largest investment in conservation in U.S. history” – and NWF is proud of its role in this achievement.

The 2010 DWH oil spill and the subsequent RESTORE Act marked the beginning of NWF’s Gulf of Mexico Restoration Program. Initially, the work focused on ensuring that the nearly \$16 billion in fines and penalties eventually assessed on BP and other responsible parties is spent on high-value, impactful, restoration projects. We have also pushed for sound science and transparency in decision-making around oil-spill funds and have successfully advocated for projects to restore and sustain estuaries—the nurseries for most marine life—across the Gulf coast.

Although the damage from the DWH oil spill is far from repaired—and NWF’s science and advocacy efforts far from complete—we have expanded the Gulf Program’s focus in recent years to address another major challenge to this ecosystem: climate change. On average, the Gulf has more people living in low-lying areas vulnerable to storm surge than any other region, and portions of the Gulf coastal plain are experiencing the highest rates of subsidence in the nation. As a result, the Gulf is widely regarded as being on the front lines of climate change in the U.S. and is becoming a learning lab for nature-based solutions to extreme weather, sea level rise, flooding, and other climate-related threats. The restoration of coastal wetlands, forests, and barrier islands, the creation of living shorelines, improved management of floodplains, and many other strategies are key to preserving the Gulf region’s natural richness in the face of climate-driven challenges. NWF is committed to ensuring that the Gulf of Mexico prospers for generations to come, channeling the

Gulf Program: Key Accomplishments

- Informed the development and helped secure passage of the 2012 and 2017 Louisiana Coastal Master Plans, both of which were groundbreaking in their scope and scientific rigor.
- Helped shape the Assistant Secretary of the Army’s recommendations for more than \$1 billion in projects to restore the vast area damaged by the Mississippi River Gulf Outlet (MRGO) over its 40 years of operation.
- Helped secure passage of the RESTORE Act in 2012 and successfully advocated for more than \$2 billion in restoration projects to date from spill-related fines and penalties.
- Helped secure \$200 million in Congressional appropriations for Everglades restoration in 2019 and advanced key restoration projects, including the Everglades Agricultural Area Reservoir, in 2018.
- Influenced the development of Texas’ first Coastal Resilience Master Plan in 2017 and its update in 2019.

expertise we have developed with our work on restoration, agency coordination, federal and state policy, scientific analysis, advocacy, outreach, and education.

The Challenge and Opportunity Ahead

The Gulf of Mexico ecosystem was in decline long before the 2010 Deepwater Horizon oil spill put the Gulf on the front page of publications around the world. It had been neglected by federal resource agencies and scientific institutions, resulting in a lack of baseline information on species and habitats needed to accurately assess the damage from major hurricanes and the DWH oil spill. Because the Gulf is the chief source of oil and gas for the country, policymakers had long regarded the health of its natural assets as secondary to its role in keeping the nation's energy economy booming.

In 2005, Hurricane Katrina shone a light on the extreme vulnerability of low-lying communities when storm-buffering coastal wetlands have eroded away, and the artificial protection of levees fails: more than 1,000 people died when New Orleans flooded. The 2010 DWH oil spill, by contrast, focused the world's attention on the Gulf's natural assets. In addition to causing the tragic deaths of 11 men, the 87-day disaster closed vast areas of the Gulf to fishing, killed and injured marine mammals, shorebirds, sea turtles, and other wildlife, and damaged the Gulf's delicate web of life in ways that are still unfolding. Hurricane Katrina, subsequent hurricanes, and the DWH oil spill drew attention to the longstanding conservation and restoration needs of the Gulf ecosystem, which supports much of the region's economy, but has been overworked and under-protected.

In the years since the DWH oil spill, devastating hurricanes and floods have swept the Gulf coast, repeatedly putting the region in the headlines and highlighting the need for more attention from planners and policymakers in the Gulf. It is increasingly clear that we can no longer postpone implementing long-term sustainable solutions to these continuing catastrophic events and the looming threats of climate change if we want to keep the Gulf and its coastal communities functioning and reliable for those who call the region home and for those who benefit from its resources. With substantial funding now available to Gulf states and communities—from oil spill fines, offshore drilling, and both pre-and post-disaster programs—it is time to put into action win-win solutions for people and wildlife in the Gulf.

New Directions: Priority Goal Areas for 2020 - 2025

After two decades working in the Gulf of Mexico, NWF has gained significant experience with the challenges the region faces. We have helped shape and advocated for large-scale ecosystem restoration efforts, based on the best available science. We have taken on tough fights over the protection of rivers and estuaries. We are a major voice for nature-based solutions to flooding, coastal erosion, and other climate impacts. We are marshalling support for the protection of coral reefs and other marine resources. We are committed to advancing equity and justice for vulnerable frontline communities in all that we do.



Anticipating the challenges ahead, we have refocused our priorities and expanded our strategies to better advance our goals for a healthy Gulf. Over the next five years, we will focus our work on three main themes - **habitat restoration, climate change and coastal resilience, and protection of marine environments**. This strategic plan outlines NWF's goals and objectives in each of these areas.

Habitat restoration across the Gulf is the foundation of our program. Policies and projects that restore wetlands, rebuild oyster reefs, protect important habitats from development, and recreate natural patterns of water flow and sediment deposition will help many species. A healthy, restored Gulf of Mexico will support and provide for wildlife and human communities for years to come.

Recognizing the myriad benefits to coastal communities from ecosystem restoration, we will focus more intentionally on efforts to address **climate change** and increase **coastal resilience** in the Gulf region. In addition to helping wildlife, investments in habitat restoration can protect coastal communities from rising seas and extreme weather and otherwise mitigate the impacts of climate change in the region.

Protection of the Gulf of Mexico's **marine environment** is an emerging area of focus for NWF's Gulf Program, one that has grown out of our nearshore work. The Gulf is fed by many rivers, including the great river of grass known as the Everglades and the mighty Mississippi, the fourth longest river in the world. The estuaries that line the Gulf coast provide critical habitat for wildlife throughout the Gulf. Stressors that originate upstream, like nutrient runoff that degrades water quality, or shortages and excesses of freshwater flows that unbalance estuarine salinity levels, must be addressed to support a healthy Gulf ecosystem and enable iconic marine wildlife to thrive. Because restoration of deep ocean habitats is nearly impossible with current understanding of seafloor communities and current technical capability, we must proactively protect these areas by preventing degradation before it begins.

Strategic Plan Goal Areas

Habitat Restoration

Goal 1: Ensure funds from the Deepwater Horizon oil spill and other relevant sources are used to protect and restore Gulf habitat.

Goal 2: Secure federal and state commitment and funding for transformative large-scale restoration, based upon scientifically credible plans, including Louisiana's Comprehensive Master plan for a Sustainable Coast and the Comprehensive Everglades Restoration Plan.

Goal 3: Advance the health and resilience of coastal communities and wildlife by supporting and influencing forward-looking, equitable, comprehensive restoration planning.

Climate Change and Coastal Resilience

Goal 4: Increase the use of nature-based solutions to climate-driven natural hazards in major funding programs.

Goal 5: Equip Gulf community leaders and local elected officials to understand their climate risk, plan for a resilient future, and take appropriate action.

Goal 6: Increase community resilience in historically underserved Gulf communities on the front lines of climate change.

Marine Environments

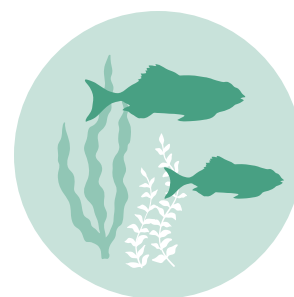
Goal 7: Assist Gulf communities in laying the foundations to protect, expand, and leverage the carbon sequestration benefits associated with Gulf coast ecosystems and transition to a carbon neutral economy.

Goal 8: Reduce pollution in the Gulf of Mexico to enhance the health of marine ecosystems.

Goal 9: Protect marine ecosystems and species.

Habitat Restoration

While the Gulf coast is largely thought of as America's energy coast, the Gulf's coastal and ocean environments are teeming with wildlife. The Gulf's 15,000 species of wildlife include 28 types of dolphins and whales, 49 species of sharks, and five different sea turtles. A wide variety of habitats support this abundance, such as estuaries, wetlands, barrier islands, oyster beds, and coral reefs. From the Texas-Mexico border to the tip of the Everglades, restoring more natural ecological processes, from freshwater flows to sediment delivery, is the surest way to make lasting improvements in the health of the Gulf. At the same time these strategies will enhance the resilience of coastal communities. As the nation's most trusted wildlife organization, NWF will keep the Gulf's fish and wildlife at the forefront of its work in the region.



Goal 1: Ensure funds from the Deepwater Horizon oil spill and other relevant sources are used to protect and restore Gulf habitat.

Rationale: As the Gulf region recovers from the largest oil spill in U.S. history, state and federal leaders have an opportunity to invest wisely in the long-term health and resilience of its coastal lands and waters. Most of the Gulf's estuaries have been harmed by decades of human alterations. Oyster reefs have been over-harvested. Wetlands across the Gulf – particularly in the Mississippi River Delta – have been lost to subsidence and erosion. Most of the rivers that flow to the coast have been leveed, dammed, deepened or straightened, their seasonal cycles of flow altered, and their water diverted for cities, agriculture, or navigation. Sea level rise and extreme storm events threaten the coast and its residents. The Deepwater Horizon penalties make as much as \$16 billion available for habitat restoration. Combined with steady funding from the Coastal Wetlands Planning and Protection Act (CWPPRA) in Louisiana, the Gulf of Mexico Energy Security Act (GOMESA) in the four oil-producing states, the new influx of dollars nationwide into the Land and Water Conservation Fund, and both pre- and post-disaster funds coming to the Gulf, there is unprecedented opportunity at hand. Focusing these funds on improving the health of key estuaries and habitats vital for wildlife will benefit the health of the Gulf and its communities over the long term.

Plan of Action: Marking ten years since the Deepwater Horizon oil disaster, in April 2020 NWF brought the nation's attention back to the Gulf species still in need of restoration investments with its [10 Species 10 Years Later](#) report. With about \$12 billion yet to be allocated, the oil-spill funds remain the largest stream of money coming to the region, and NWF is committed to continuing the advocacy work aimed at helping the Gulf recover. We will do this by identifying scientifically sound, high-value restoration projects and advocating for their funding, by continuing to highlight the species and habitats still in need of recovery through vehicles like our 2019 report [Making the Most of Restoration: Priorities for a Recovering Gulf](#), and by telling the story of how ecosystem investments made thus far have impacted species. Additionally, we will export the lessons learned from this disaster and recovery process to audiences across the country and will continue to advocate for more limited drilling and safer drilling practices in the Gulf.

Objective 1.1: Secure DWH funding for high-priority restoration programs and projects, including the restoration and protection of coastal wetlands, barrier islands, oyster reefs, and shorelines across the Gulf, hydrologic restoration in key coastal systems, and sediment diversions in coastal Louisiana.

Objective 1.2: Build public and decision-maker support for increased investment in habitat restoration by highlighting the recovery status and habitat needs of focal species in the Gulf of Mexico, including but not limited to: Kemp's ridley sea turtle, coastal bottlenose dolphins, deepwater coral, Gulf Bryde's whale, eastern oyster, common loon, Gulf sturgeon, spotted seatrout, and brown pelican.

Objective 1.3: Support and safeguard federal rules adopted after the Deepwater Horizon disaster to strengthen safety measures for offshore oil exploration and drilling, including the Blowout Preventer Systems and Well Control Rule.

Goal 2: Secure federal and state commitment and funding for transformative large-scale restoration, based upon scientifically credible plans, including Louisiana's Comprehensive Master plan for a Sustainable Coast and the Comprehensive Everglades Restoration Plan.

Rationale: The **Mississippi River Delta (MRD)** and coastal wetlands of Louisiana, which once occupied more than 6,000 square miles, are home to two million people and a huge industrial network. They also support some of North America's largest wildlife, waterfowl and seafood populations. These wetlands are disappearing at an alarming rate: an area the size of a football field vanishes into open water every 100 minutes. Since the 1930s, Louisiana has lost over 2,000 square miles of land, an area roughly the size of Delaware. Many factors have contributed to this collapse.

The most significant cause of this transition was the straitjacketing of the lower Mississippi River with flood-control levees, the closure of distributaries, and the dredging of navigation channels. Engineering the river cut the tie between the sediment-filled river and its delta, stopping the delta cycle and new wetland growth ultimately dumping precious sediment into the Gulf of Mexico. Without sediment from the river, the delta is doomed to continue shrinking, endangering people, wildlife and jobs in coastal Louisiana.

Without this land-building sediment input, the natural sinking process of deltas, known as subsidence, dominates and massive areas of land sink and disappear below sea level. Other causes of land loss in the delta include a network of shipping channels and thousands of miles of oil and gas canals in coastal wetlands. These channels disrupt hydrology and allow salt water to seep into and destroy what would otherwise be freshwater marsh, leading to land loss. Finally, climate change is accelerating sea level rise. Together, subsiding land and rising seas make the rate of submergence for the Mississippi River Delta and coastal Louisiana greater than anywhere else in North America. Over the next fifty years, most of the remaining 4,000 square miles of coastal wetlands could disappear without intervention.

After the devastation of hurricanes Katrina and Rita in 2005, Louisiana embarked in 2007 on a coastal master planning process. Updated in 2012 and 2017, the Plan is based on sound scientific and socio-economic analysis. It calls for spending about \$500 million annually for restoration in the form of sediment and freshwater diversions from the river back into the delta, repair of subsiding and eroding marsh and shrinking barrier islands with dredged sediment, and other projects. The challenge now is to make sure



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these projects actually get built by addressing barriers and obstacles that arise and blunting opposition from interests that are thinking narrowly and short term. Moreover, using existing fund sources such as the Gulf of Mexico Energy and Security Act (GOMESA), the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), and DWH settlement funds, there is funding until about 2032, but more could be accomplished with more funds in the short term, and longer term no funding has been identified.

Historically, the **Everglades** also covered more than 6,000 square miles and supported both indigenous people and thousands of plant and animal species. Having once stretched from the Kissimmee Chain of Lakes, through Lake Okeechobee, and down to Florida Bay and the Florida Keys, the Everglades is now half its original size. Diversions of freshwater, agricultural nutrient pollution and loss of habitat have reduced the life-giving ecosystem so drastically that the United Nations now considers the Everglades one of the world's most endangered natural wonders. The Everglades is an American treasure – it is home to more than 70 threatened or endangered species, including the Florida Panther and the American Crocodile.

The Comprehensive Everglades Restoration Plan, authorized in 2000, was designed to be a 50-50 partnership between the federal government and the State of Florida. Despite decades of public interest in the Everglades and its iconic national parks and broad interagency and intergovernmental support for this groundbreaking, science-based plan, little meaningful progress towards restoration has been achieved in the last twenty years. This is due largely to a lack of federal commitment to this shared partnership and to a series of U.S. administrations that devalued ecosystem restoration as an investment. Over the past 20 years, the state of Florida has funded Everglades restoration at more than \$200 million per year, while federal appropriations –intended to match the state's – have decreased dramatically, due to pressure from commercial agriculture and real estate interests who fundamentally oppose many facets of the restoration plan. While this pattern of underinvestment reversed in 2020, it will be important to sustain this trend to achieve restoration goals. To complete authorized Everglades restoration projects outlined in the Army Corps of Engineers Integrated Delivery Schedule (IDS), the federal government must more than double its financial commitment to Everglades restoration over the next 5 years, reaching a total of \$2.9 billion by 2026.

Plan of Action: NWF will work to secure sustained federal funding at levels needed to advance Mississippi River Delta, Everglades, and other suitably planned restoration projects in the coming years, building on historic investments.

For the MRD, these funds will help accelerate and sustain Master Plan projects, since the pressure of accelerating relative sea level rise means more can be accomplished by building projects sooner rather than later. In the near term, this means accelerating construction of river diversions, seeking alternatives to the current navigation system that wastes sediment, and aggressively building marsh-creation projects like the New Orleans Landbridge in strategic areas.

For the Everglades, these funds will allow for the implementation of the Comprehensive Everglades Restoration Plan, with a special focus on key projects like the new reservoir in the Everglades Agricultural Area, which will send water south of Lake Okeechobee and into the Everglades. This increased federal investment will accelerate other components of the Central Everglades Plan and key water storage projects to the east and west of Lake Okeechobee, including the C-44 St. Lucie Reservoir and C-43 Caloosahatchee Reservoir. These projects, when completed, will reduce the volume and frequency of harmful discharges to coastal estuaries, send water south to Florida Bay, increase resilience in the face of hurricanes and sea level rise, and provide increased storage and treatment capacity to allow water managers greater flexibility during droughts, floods, and storms.

NWF will also seek sustained and adequate sources of funding for other well planned, science-based restoration initiatives across the Gulf, including funding for National Estuary Programs, and we will continue to support broader ecosystem-wide restoration science, planning and implementation initiatives. NWF will employ our policy expertise and our outreach capabilities, including our links to sportsmen across the nation, to build support for these restoration initiatives.

Objective 2.1: In partnership with the MRD Campaign, the Everglades Coalition, and other partners, secure federal funding for Gulf restoration initiatives over the next five years.

Objective 2.2: Build Congressional support for annual appropriations by using NWF's Vanishing Paradise initiative to mobilize sportsmen across the country to communicate the sporting community's commitment to Gulf restoration to their representatives.

Goal 3: Advance the health and resilience of coastal communities and wildlife by supporting and shaping forward-looking, equitable, comprehensive restoration planning.

Rationale: With a steady stream of funds coming to the Gulf from the Deepwater Horizon oil spill, offshore oil and gas royalties, and disaster mitigation and relief efforts, the region must be prepared to make optimal use of these dollars. Specifically, states and local governments should be ready to implement programs and projects that can shore up the region's natural resources for the long-term while taking climate-related projections into account. NWF's Gulf Program is poised to help, building on our long history with comprehensive planning efforts, including the Comprehensive Everglades Restoration Plan, Louisiana's Coastal Master Plan, and more recently, Texas' Coastal Resiliency Master Plan.

We know from the experience of DWH funding that there will always be a tendency to atomize funding intended for large-scale restoration. States will each want a piece of the action, regardless of the bigger ecosystem picture. Within states, counties and parishes will each be fighting for their share. Federal and state resource agencies, many facing decades of inadequate funding and huge backlogs of identified needs, will naturally seek funds to plug their own budget holes. Finally, NWF is keenly aware that the communities most affected by storm damage and deteriorating ecosystems are often left out of planning and implementation efforts. NWF has long played the role of putting forward large-scale, science-based projects, regardless of jurisdictions or parochial priorities, and we will continue to do so. We will also redouble our efforts to engage frontline communities and ensure that their needs are addressed in the overall restoration initiatives.

Plan of Action: NWF will advocate for Gulf states to take on planning efforts that prioritize impacted stakeholders and are comprehensive in scope, grounded in sound science, and focused on large-scale ecosystem restoration. Experts on our team regularly participate in technical advisory teams for state agencies and estuary programs, and we help to shape the plans that serve as guides for the future of project-level investments in the Gulf coast.

Objective 3.1: Advance our restoration priorities by engaging with state agency technical advisory committees, estuary programs, hazard mitigation, and other localized planning efforts across the Gulf, bringing the best available science and advocating for large-scale solutions to ecosystem stressors.

Objective 3.2: Increase equity for vulnerable communities and foster broader commitment to coastal restoration by engaging impacted stakeholders as full partners throughout state and local restoration planning processes.

Climate Change and Coastal Resilience

The Gulf of Mexico region is on the front lines of climate change in the United States. In 2019, the United Nations Intergovernmental Panel on Climate Change's (IPCC) *Special Report on the Ocean and Cryosphere in a Changing Climate* included alarming new data showing that seas (including the Gulf of Mexico) are rising about twice as fast over the long term as was previously anticipated and are warming and losing oxygen quickly. But there is a silver lining in the latest IPCC assessment: some of the worst-case sea level rise (SLR) projections for the next 50 years may be too pessimistic. In other words, though the long-term prospects are worse, over the near term they are somewhat better. This scenario highlights the urgency of taking decisive action over the next few decades to both reduce carbon emissions (thus staving off some of the worst impacts) and mitigate near-term effects through restoration and resilience efforts.





Photo courtesy Kaila Drayton of NWF

The impacts of a changing climate threaten people, wildlife, and economies in the Gulf. As we advocate for restoration in the Gulf region, NWF is setting the stage for a greater emphasis on ecosystem resilience and innovation in the face of climate change. The myriad benefits associated with the protection and restoration of the region's natural resources -- coastal wetlands, mangroves, coral reefs, and seagrasses -- are driving new conversations about the human community's reliance on healthy ecosystems to sustain our way of life. In addition to resilience measures that will help communities and wildlife adapt to climate change, NWF is dedicated to advancing solutions that will help keep carbon out of the atmosphere and mitigate climate-impact projections.

Goal 4: Increase the use of nature-based solutions to climate-driven natural hazards in major funding programs.

Rationale: A growing body of evidence suggests that both natural and nature-based approaches to hazard mitigation can be equally as or more effective than conventional structural approaches, and they are often more cost-effective. Since healthy, intact ecosystems can adapt over time to natural disturbances such as floods and wildfires, they are better able to withstand or recover from extreme weather and other climate-related hazards and adjust to ongoing environmental changes. Conventional structural approaches (i.e., "gray infrastructure" such as seawalls, levees, and concrete drainage systems), on the other hand, often require ongoing maintenance, and may need costly repairs when they fail or are damaged. Thus, natural defenses can play a critical role in enhancing the resilience of human and ecological systems to natural disasters and climate change. An acre of wetlands, for example, can typically store 1-1.5 million gallons of floodwaters, and in the Gulf region, every dollar spent on wetland restoration can yield more than \$7 in flood-reduction benefits.

Plan of Action: In the short-term, the Gulf Program will build on NWF's national expertise on the role that nature plays in combating climate-related impacts. We will develop regionally specific information on the protective value of nature to make the case to local and regional decision-makers for nature-based

solutions to climate threats. Utilizing the best available science, NWF will ensure that investments in restoration and resilience are realized through major funding opportunities, and that nature-based approaches are implemented across the region. Additionally, and more long-term, the Gulf program will help position the region as national leaders advancing understanding of the protective benefits of natural infrastructure. As the Deepwater Horizon fines and penalties are invested in ecosystem restoration and subsequently tested year-after-year during hurricane seasons, the region could serve as a model for the rest of the nation's coasts on how to use nature to shield against impacts from extreme storms.

Objective 4.1: Increase federal and state decision-makers' receptivity to nature-based defenses by assessing and communicating the benefits of these investments through data and case studies.

Objective 4.2: Remove regulatory obstacles to the permitting and implementation of living shoreline projects.

Objective 4.3: Improve the competitive position of nature-based approaches to hazard mitigation by working with agencies and stakeholders to quantify the value of ecosystem services in cost-benefit determinations and other assessments and to develop supportive financing models.

Objective 4.4: Influence project selection in favor of nature-based defenses in major pre- and post-disaster funding opportunities, such as the Department of Housing and Urban Development's Community Development Block Grant Mitigation program and FEMA's Building Resilient Infrastructure and Communities program, among others.

Goal 5: Equip Gulf community leaders and local elected officials to understand their climate risk, plan for a resilient future, and take appropriate action.

Rationale: As Gulf coast communities face increasingly dangerous hurricane seasons and other climate-related threats, ensuring that they have the most up-to-date information and science is key to their decision-making around ongoing opportunities for restoration and post-disaster investments. As we steer the region to better value its natural assets and incorporate nature in its protection and mitigation strategies related to major storm events, building stronger relationships with local leaders and planners is critical to our success.

Plan of Action: Collaborating with partners like local universities and other experts, NWF will work across the region to bring the best available science to community decision-makers, help them craft plans of action, and match project-based solutions to localized climate threats with potential funding opportunities. NWF will garner support from key stakeholders, such as business and community leaders, to advocate for long-term, science-based solutions to promote healthy ecosystems, supported by and developed with affected communities.

Objective 5.1: Build climate resilience in coastal communities by working with community leaders and elected officials to assess locally relevant climate-impact projections and create resilience plans that inform investment-related decision-making.

Objective 5.2: Build climate resilience in coastal communities by helping state and local officials navigate funding opportunities for restoration and resilience projects, using community resilience assessments to identify appropriate projects for application.

Goal 6: Increase community resilience in historically underserved Gulf communities on the front lines of climate change.

Rationale: A resilient Gulf is not possible unless all communities are part of the climate and coastal dialogue. Efforts to protect communities must include those most vulnerable to climate impacts. Research shows that investments in infrastructure, including flood-mitigation infrastructure, are lower in low-income zip codes and higher in high-income zip codes. Additionally, historically underserved communities have a harder time “bouncing back” from a disaster, and sometimes never do, thereby widening the gap between rich and poor for the long-term. NWF is committed to advancing climate resilience in these communities, using green and natural infrastructure where appropriate. However, the nexus between green infrastructure and equity is important. While natural infrastructure provides benefits to communities every day, is more sustainable, and stacks benefits over time, it can also result in unintended adverse impacts like gentrification. We believe the key to finding a feasible and equitable path to climate resilience is to work in full partnership with frontline communities and to mutually advance agreed-upon solutions.

Plan of Action: NWF will support communities on the front lines of climate change by building our networks in the field and forming partnerships to help amplify and advance community resilience efforts. To better serve vulnerable and historically underserved communities on the front lines of climate change in the Gulf, NWF will conduct internal equity training, build partnerships with communities through our networks, and become smarter advocates for green and natural infrastructure by understanding its nexus to climate gentrification.

Objective 6.1: Prepare NWF staff to work successfully with underserved communities by conducting staff training (using the Restore the Mississippi River Delta Campaign’s Diversity, Equity, Inclusion, and Justice (DEIJ) strategy and DEIJ resources from NWF) and developing program protocols and best practices.

Objective 6.2: Build relationships and partnerships with frontline communities in the Gulf, including representatives of historically underserved neighborhoods, to shape and influence funding requests for projects that mitigate the climate impacts they are experiencing, supporting the needs identified by community members themselves.

Objective 6.3: Become better-informed advocates for underserved communities by exploring the nexus between equity and green and nature-based projects, and by finding ways, including financial mechanisms, to mitigate unintended negative impacts of green infrastructure.

Goal 7: Assist Gulf communities in laying the foundations to protect, expand, and leverage the carbon sequestration benefits associated with Gulf coast ecosystems and transition to a carbon neutral economy.

Rationale: While it is important for the Gulf region to increase its climate resilience as the severity of climate impacts intensifies, the region can also play a vital role in mitigating climate change by keeping

carbon out of the atmosphere, and we anticipate there will be economic incentives to do so within the next five years. Specifically, the region is a prime locale for the storage of blue carbon and other natural carbon solutions. Blue carbon refers to carbon dioxide removed from the atmosphere by the world's coastal ocean ecosystems—primarily mangroves, tidal marshes, and seagrasses—through plant growth and the accumulation and burial of organic matter in the soil. There are other carbon solutions that relate to the same process in freshwater ecosystems and forests. Even farmland can be used to remove carbon, through improved management of soil, cover crops, and natural buffers.

Blue Carbon: Gulf estuaries, where blue carbon is stored, account for 42 percent of the country's estuaries, making the region very significant in terms of the nation's blue carbon stock. In fact, the Gulf region is considered to be a North American "hot spot" for blue carbon. A significant part of the Gulf coast remains undeveloped, with large swaths of protected habitat set aside. However, much of that habitat is degraded, and scientists are calling for a massive restoration program to significantly bolster the quantity of blue carbon stored in the Gulf. The mangrove forests in the Gulf alone hold more carbon than seagrass, mangroves, and marsh combined on the Atlantic coast. Promoting blue carbon as part of the playbook for restoration decision-making and investing in the Gulf will better position the region to become part of climate solutions globally.

Natural Carbon Solutions: Reforestation of floodplain forests through landowner incentives, conversion of unproductive farmland to wildlife friendly habitats, levee setbacks for expansion of floodplain forests, and other techniques provide huge opportunities for carbon storage. In the active delta, river reintroduction projects like sediment diversions that build new deltaic wetlands, river water diversions that revitalize and sustain freshwater swamps and marshes, wetland creation projects using placement of dredged material, and hydrologic modifications to restore natural flows, all provide additional opportunities for long-term carbon storage.

Understanding and elevating awareness of Gulf blue carbon stocks in relation to restoration opportunities has potential to enhance the value of the ecosystem services that the Gulf and the Gulf's drainage basin's ecosystems provide. With voluntary and government-sponsored economic incentives, carbon sequestration could open up new pathways for financing protection and conservation. Many signals suggest that the world is trending towards expanded voluntary and regulatory programs that enable verifiable ecosystem protection and restoration initiatives to capture some of the value of the climate protection benefits and ecosystem services that they provide. In addition, broad-based understanding of the climate-mitigation benefits and the value of the Gulf's blue carbon resources can be leveraged to shape decisions, policies, programs, and investments affecting Gulf coast ecosystems.

At the same time, few regions of the world contribute more carbon to the earth's atmosphere and oceans than Gulf states due to the region's primary role in the nation's energy and industrial production. From the sprawling growth of Florida, to the massive production of oil and gas off the Outer Continental Shelf, refining in Texas and Louisiana, and the largest bulk port complex in the western hemisphere with shipping coming and going from all over the world, carbon drives the Gulf economy. Fortunately, the Gulf region has numerous assets and opportunities for transitioning to a carbon neutral future through blue carbon and other means. For example, the Gulf region has tremendous potential to advance industrial sector carbon capture and sequestration and development of renewable offshore wind energy on the vast shallow shelf, among other solutions. The future for people and jobs depends upon such a transition, accomplished

equitably, so that people now dependent upon carbon-based jobs can continue to live in the region and earn a just living.

Plan of Action: To better prioritize and advocate for restoration needs in the Gulf, NWF will promote the role of natural carbon storage as a climate change mitigation strategy, support increased research into natural carbon storage potential, and identify specific natural carbon “hotspots” that should be restored or protected. We will work to amplify awareness of the carbon-storage benefits of Gulf ecosystems to strengthen public and political will to protect and restore those ecosystems. We will also work to advance the application of measurement and assessment methodologies to measure and verify carbon sequestration in Gulf ecosystems. Through such efforts, we will work with communities to develop the systems to enable Gulf communities’ ecosystems to prepare for and participate in emergent carbon markets advanced by voluntary initiatives and/or regulated market-based programs. We will help policymakers understand the value of these ecosystems through this lens as the United States moves closer to creating a market for carbon, and work with other NWF programs and partners toward truly international solutions.

NWF will also be opportunistic in advocating for broader regional transitions to a carbon neutral economy. In undertaking our advocacy for nature-based solutions, we will remain cognizant of the potential for economic dislocation for those whose livelihood and identity is tied up in the carbon economy, being especially sensitive to the potential for disproportionate impacts on disadvantaged communities. Therefore, working with communities, we will seek out and advance Just Transition solutions that are fair and consider the needs of all. In pursuing such advocacy efforts, NWF will leverage its strengths and its constituencies to advocate for responsible renewable energy development, carbon capture and sequestration, and industrial sector management.

Objective 7.1: Build the foundation for increasing the role of blue carbon as a climate change mitigation strategy in the Gulf by assessing the carbon sequestration potential of the Gulf’s coastal forests, wetlands, seagrass, and mangroves, and by developing blue carbon assessment and verification capacities across the region.

Objective 7.2: Increase regional support for protection and restoration of the Gulf’s coastal and riverine ecosystems by informing decision-makers and communities about the carbon-storage potential of mangroves, seagrass, swamps, floodplain bottomland forests, marshes, grasslands, urban parks, gardens and well managed farmland.

Objective 7.3: Enlist regional decision-makers in support of federal efforts to promote natural carbon storage as a climate mitigation strategy by strengthening federal research on carbon and by protecting and restoring coastal and riverine carbon storage ecosystems.

Objective 7.4: Advocate for just transitions away from carbon-based economy and towards clean, renewable energy and a low-carbon industrial sector supported by carbon capture and sequestration.



Marine Environments

Healthy coastal systems, ranging from estuaries to the marine environment, are necessary to ensure the Gulf of Mexico can continue to provide the abundant ecosystem services that the communities of the Gulf coast have come to rely on. Inland rivers drain into the estuaries, which in turn flow into the Gulf and circulate among its deeper waters. Because the Gulf of Mexico is a semi-enclosed basin, water quality and quantity issues upstream have potentially immense consequences for the marine systems. Overabundance or scarcity of nutrients and/or fresh water entering the marine environment will impact this system and must be addressed to support a healthy Gulf ecosystem. Protecting and restoring marine environments and addressing upstream threats are essential if the Gulf's abundant marine life, and the industries and communities that depend on it, is to thrive.



Goal 8: Reduce pollution in the Gulf of Mexico to enhance the health of marine ecosystems.

Rationale: The Gulf of Mexico faces extensive threats associated with numerous forms of pollution, including excess nutrients from agriculture, inadequate sewage treatment, and urban and suburban lawns; discharge from ships, commercial fishing vessels and recreational boaters; harmful and toxic chemicals from manufacturing, agriculture, forestry and urban runoff; and plastic trash and microplastics.

Nitrogen and Phosphorus. Excess nutrients entering waterways can lead to eutrophication, promoting overgrowth of algae. This in turn can lead to Harmful Algal Blooms (HAB), such as red tide and blue-green algae blooms, and the development of areas of low-oxygen (hypoxic) waters, otherwise known as dead zones.

The results of excess nutrients are increasingly seen in the Gulf region: south Florida is plagued by recurring blue-green algae outbreaks and devastating red tides at least once a decade. The second largest hypoxic zone in the world develops each year along the Louisiana-Texas coast, fueled by excess nitrogen largely caused by agricultural practices in Mississippi River drainages. Red tide and blue-green algae can produce toxins that can kill fish and other wildlife, can make shellfish dangerous to eat, and can cause illness in people who are exposed. Meanwhile, oxygen depletion in estuaries in the open Gulf can lead to fish kills and reduce available habitat for fish and wildlife.

Chemical Pollution is a serious problem for wildlife in the Gulf of Mexico. Because the Gulf has the highest concentration of offshore petrochemical production platforms and a vast network of pipeline and support vessels, oil spills and gas leaks are a constant occurrence. Spills and deliberate discharges are a constant threat to Gulf ecosystems.

Because the Gulf receives the drainage of 43 percent of the U.S. and Mexico, it is hardly surprising that many factors contribute to the pollution burden on the Gulf. In addition to the sheer volume of pollutant carrying waters, some of the highest concentrations of industrial facilities in the world discharge pollutants into the Ohio River, along the lower Mississippi River, as well as on smaller Gulf drainages, especially on the Texas coast.

Plastics Pollution. For similar reasons, the Gulf has one of the highest concentrations of plastic and microplastics in the world. Plastic tends to concentrate in seas surrounded by land, and vast quantities enter the Gulf, a semi-enclosed sea, by way of runoff, especially from the Mississippi River's vast drainage basin. In addition, fishing and shipping industries produce high outputs of plastic. Microplastics are as abundant in the Gulf as most types of zooplankton. Many fish and wildlife mistake plastic as food and consume it, which can lead to their death and to plastic making its way through the food chain.

Plan of Action: Excess nutrients, plastics, and other pollution come from numerous sources, many far upstream from where the effects are felt. While the myriad sources of pollutants raise issues far too massive and complex for the Gulf Program to address alone, we will work with other NWF programs and partner organizations to support projects and policies on the local, state, and federal level that reduce pollution into the Gulf of Mexico. In addition, NWF will continue to lead efforts to restore historic Clean Water Act protections for upstream wetlands, streams, and rivers, and to secure robust federal funding for key Clean Water Act programs that reduce pollution (Section 319 and 106 grants).

Objective 8.1: Reduce pollution in the Gulf contributed by the Mississippi River and other sources by supporting pertinent federal, state, and local legislation, and partnering with NWF's National Advocacy Center and its Agriculture and Forestry programs to identify and capitalize on opportunities to reduce pollution.

Objective 8.2: Reduce nutrient runoff from the Gulf's largest source by advocating for improved management of the Mississippi River, its tributaries and its floodplain.

Objective 8.3: Reduce plastic pollution in the Gulf of Mexico by educating the public on how plastics harm marine wildlife, supporting efforts to reduce production of single-use plastics, and supporting relevant legislation.

Goal 9: Protect marine ecosystems and species.

Rationale: Marine protected areas (MPAs) are clearly defined areas managed to achieve long-term conservation of ocean habitats and marine life. Scientists believe that setting aside large and strategic areas of ocean is critical for their long-term health. In addition, as a recent report by the Ocean Conservancy (["Climate-Smart" Marine Protected Areas for Mitigation and Adaptation Policy, 2020](#)) documented, MPAs are increasingly viewed as having a role in addressing climate change. MPAs in the Gulf of Mexico also improve ecosystem resilience by ensuring more sustainable fisheries and by protecting sensitive habitats like corals and seagrass. However, there is often resistance to marine protected areas, particularly by extractive industries (oil and gas, commercial fishing), and sometimes by the recreational fishing communities. Because of this, MPAs exist along a spectrum of protections, from minimal (which still allow extractive activities) to partial, to fully protected (which prohibit extractive activities and limit other uses).

Numerous marine species benefit from protected areas and sanctuaries in the Gulf, ranging from the largest fish (whale sharks) to the smallest larvae. Iconic marine species such as manatees, sea turtles, and corals often serve as "poster children" for protected areas. Coral reefs across the Gulf of Mexico—the oceanic reefs of the Flower Garden Banks, the shallow coastal reefs of the Florida Keys, and the deep sea corals growing on the slope of the Continental Shelf—have all undergone significant losses and face continued threats such as climate change, ocean acidification, sedimentation, marine debris, and oil spills. These coral reef systems are biodiversity hotspots. They play critical roles both ecologically and economically, and the shallow coastal systems help protect communities by buffering storm surge and wave energy. The degradation of healthy coral reef systems results in loss of habitat, decreased biodiversity, and more vulnerable coastlines. Similarly, habitats such as seagrass meadows, sandy beaches, and warm-water refugia are essential for sea turtles and manatees, as well as a host of other species, and also play a role in ecosystem resilience.

Plan of Action: NWF will work closely with Gulf communities to establish and expand networks of protected areas and sanctuaries to conserve marine resources and increase the resilience of marine systems. In addition, NWF will support protection of iconic marine species, including corals, manatees and sea turtles, and investment in habitat protection and restoration through regulatory initiatives and legislative activities.

Objective 9.1: Expand National Marine Sanctuaries (NMS) and marine protected areas through science-based advocacy, community partnerships, and the engagement of diverse stakeholders, including sportsmen, to build community and political support.

Objective 9.2: Support the study, preservation and restoration of the Gulf's marine communities, deep sea corals and hydrocarbon seeps by leveraging DWH funding and by highlighting these unique and imperiled communities in our communications.

Objective 9.3: Increase protection and restoration of coral reef systems by supporting state and federal legislation and funding.

Objective 9.4: Support policies and projects to safeguard essential habitat for manatees and sea turtles.

How We Work

NWF's Gulf Program uses a range of approaches to achieve its mission, goals, and objectives. These include:



Policy Advocacy

Advocate for federal, state and local legislation, policies and practices that advance Gulf Program goals and objectives.



Partnerships and Coalition Building

Work in close partnership with diverse organizations to support advocacy and outreach around specific issues.



Communications, Education, and Outreach

Inform and engage key stakeholders and the public so that they can participate effectively in decision-making processes related to Gulf restoration and resilience.



Scientific and Technical Analysis

Conduct scientific research and analysis to better define environmental threats and support scientifically robust decisions and action.

What It Will Take to Implement This Plan

This new, five-year NWF Gulf of Mexico Strategic Plan emerged out of a need to re-think and refresh our strategies in the Gulf region.

The Gulf Program realizes, though, that the plan's goals are ambitious, and that we cannot advance them with the structure and resources we have at hand. Specifically, we will require additional staff and will need to cultivate new partnerships to make the sort of progress this plan envisions. These needs will translate, in turn, into the need for additional funding.

Staffing

The Gulf program has benefited over the years from strong policy and scientific expertise, but our outreach capacities have been limited to Mississippi River Delta work. As we move forward, we are committed to expanding this capacity to better engage the many interests who have a stake in environmentally sound water policy and practices. We will also need to augment our resilience expertise in order to grow in this area of work.

Partnerships

The Gulf Program spans Texas to Florida and is directly connects to major rivers like the Mississippi River. In Louisiana, our major partners are part of a joint campaign of the National Wildlife Federation, Environmental Defense Fund, National Audubon Society, Coalition to Restore Coastal Louisiana, and Pontchartrain Conservancy. Our innovative campaign combines forces and makes efficient use of the varied talents and skills each organization brings to the table. We also have dozens of other local partners throughout Coastal Louisiana, with pass-through grants to Restore or Retreat and Louisiana Wildlife Federation. And we have long-standing partnerships with the City of New Orleans, Lower 9th Ward Center for Sustainable Engagement and Development, and the Nature Conservancy. Other partnerships throughout the Gulf include Mississippi Wildlife Federation and Florida Wildlife Federation. In Texas, NWF works with key partners through the Texas Living Waters Project, including Sierra Club and Galveston Bay Foundation. As we move forward, we anticipate forming new partnerships, both formal and informal, to extend and strengthen our reach.

Funding

The Gulf Program has benefitted from sustained, generous funding from a number of charitable foundations. We owe our achievements thus far to their confident, steady support and we hope to earn their renewed support as we embark upon implementation of this strategic plan. We also believe that the important work we are doing in the Gulf is nationally significant, particularly as climate change puts coastal and riverine ecosystems under unprecedented stress, and we intend to cultivate relationships with new funders and identify other revenue streams.

Gulf Program Strategic Plan 2020–2025

