

GULF OF MEXICO AVIAN MONITORING NETWORK

A forum to facilitate integrated and complementary data collection for avian populations and their habitats

The Gulf of Mexico Avian Monitoring Network is a group of avian scientists and land managers working collectively to develop a coordinated and comprehensive approach to avian monitoring that will provide solutions to contemporary and long-term conservation needs within the Gulf of Mexico.

BACKGROUND

The Deepwater Horizon oil spill directly impacted birds and their habitats at an unprecedented scale within the Gulf of Mexico. Early efforts to determine pre-spill baseline conditions for avian resources highlighted the lack of adequate data to inform decision-makers, as well as the lack of any comprehensive, integrated approach that would permit evaluation of realized damages or response to future on-the-ground restoration efforts. However, this environmental disaster has also resulted in an equally unprecedented focus on the Gulf ecosystem and resources to support its restoration and recovery. Designing a coordinated, integrated, and collaborative avian monitoring program for this system has many challenges: (1) the scope and scale of the Gulf ecosystem, (2) the number of partners, stakeholders, and required expertise; and (3) the amount of funding required to successfully design and implement a Gulf-wide avian monitoring program. Yet meeting this challenge is imperative to understanding population trends and cause and effect relationships that underscore demographic processes that drive trends; as well as providing a basis for judging success of Gulf restoration efforts.

GULF OF MEXICO BIRDS & HABITATS

Birds are a remarkable natural resource within the Gulf of Mexico. They occur across a variety of habitats and ecological niches across this region. Barrier islands, beaches, marshes, coastal forests, and the open ocean support hundreds of species and millions of individuals. Colonial-nesting waterbirds feed near the top of the food chain in shallow water, whereas overwintering shorebirds forage on mudflats and beaches, and secretive marshbirds forage in marsh vegetation at the interface of open water and land. Twice a year, coastal habitats provide essential stopover sites for millions of Neotropical migrant songbirds, and this area serves as one of the most important areas for



American Oystercatcher, Walker Golder



Reddish Egret, Clay Green



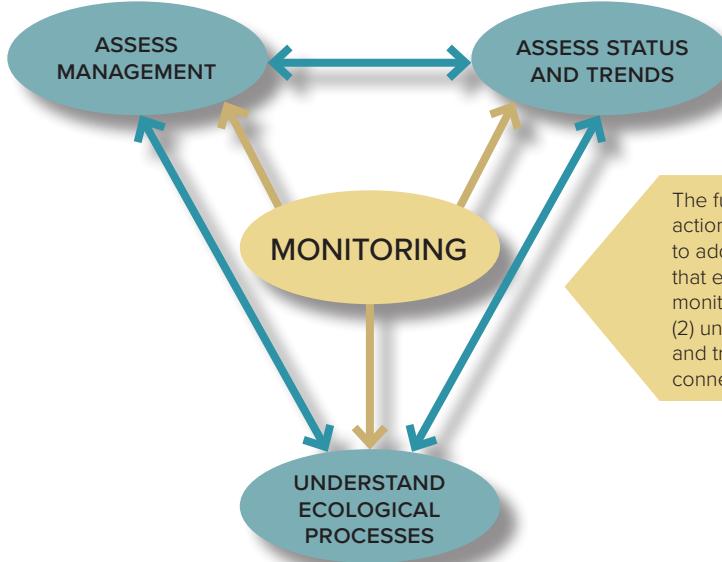
wintering waterfowl on the continent. Yet, coastal habitats are increasingly stressed by a variety of anthropogenic activities and natural events that are often at odds with birds and their use of these habitats. Stressors such as land development, oil and gas activities, hurricanes, sea-level rise, degraded water quality, and pollution can fragment and reduce quality and quantity of habitats in sensitive coastal ecosystems. Quantifying the magnitude of these impacts as well as evaluating contemporary restoration and management actions is a critical, but complex and challenging task given the scope, scale and inter-connectedness of the Gulf ecosystem.

The geographic extent is bounded on the Gulf side by the southern edge of the Marine Bird Conservation Region with the inland extent defined by the RESTORE Act boundary, except in Florida where it is defined by Water Management Districts.

APPROACH

Over the last two years, an ad-hoc working group of conservation partners representing >20 agencies and organizations have been utilizing a Structured Decision Making framework to identify and agree upon a set of core values and fundamental objectives that underpin avian monitoring needs within the Gulf of Mexico. Through a series of facilitated workshops, the working group agreed that any on-going or proposed avian monitoring efforts should:

- (1) maximize the relevance of monitoring data by:
 - (a) establishing reliable estimates of population size and trends;
 - (b) evaluating management effectiveness on these avian populations; and
 - (c) providing a means to understand how ecological processes affect birds and their habitats;
- (2) maximize the scientific rigor underpinning all surveys; and
- (3) maximize the integration of surveys across agencies and organizations.



Recognizing the need to incorporate additional stakeholders, partners, expertise, and a more formalized means of coordinating and integrating avian monitoring activities across the Gulf of Mexico, the initial working group has evolved into the Gulf of Mexico Avian Monitoring Network. The Network aims to provide a forum by which conservation partners can collaborate and implement a coordinated monitoring system that recognizes and builds upon established monitoring programs to connect, leverage, and integrate existing efforts into a comprehensive Gulf-wide avian monitoring program to address contemporary and long-term conservation needs of avian populations and their habitats within the Gulf of Mexico.



Prothonotary Warbler, Bao Nguyen



Clapper Rail, Mike Gray

The fundamental objective to maximize relevance of data to inform conservation actions has three sub-objectives (depicted above). Monitoring is central and critical to addressing these sub-objectives; double-headed arrows (in blue) demonstrate that each sub-objective often informs the others. Without a scientifically rigorous monitoring program, one cannot (1) gauge effectiveness of our management efforts; (2) understand ecological processes that affect birds; or (3) assess the status and trends of avian populations, much less recognize and untangle the inter-connectedness among the sub-objectives.

OUTCOME

An integrated and coordinated network of scientists and land managers provides a much needed forum to collaborate, share information and provide overall support for the implementation of bird monitoring efforts in a unified fashion, as well as, to provide a venue to ensure the most up-to-date science is integrated into conservation strategies and disseminated to decision-makers, managers, landowners, and the general public about the invaluable natural resources of the Gulf of Mexico. The Gulf of Mexico Avian Monitoring Network will provide such a forum and allow conservation partners to more efficiently and effectively monitor birds and their habitats as an indicator of Gulf restoration.

For more information, contact Randy Wilson (randy_wilson@fws.gov) or Jeff Gleason (jeffrey_gleason@fws.gov).

COLLABORATORS: Alabama Cooperative Fish and Wildlife Research Unit, Alabama Department of Conservation and Natural Resources, American Bird Conservancy, Audubon Mississippi, Barataria Terrebonne National Estuary Program, Biodiversity Research Institute, Connecting Conservation, East Gulf Coastal Plain Joint Venture, Florida Fish and Wildlife Conservation Commission, Grand Bay NERR, Gulf Coast Bird Observatory, Gulf Coast Joint Venture, Gulf Coastal Plains & Ozarks Landscape Conservation Cooperative, Gulf Coast Prairie Landscape Conservation Cooperative, Louisiana Department of Wildlife and Fisheries, Manomet Center for Conservation Sciences, Mississippi Department of Environmental Quality, Mississippi Department of Wildlife, Fisheries, and Parks, Mississippi State University, National Audubon Society, National Fish and Wildlife Foundation, National Park Service, North Carolina State University, Ocean Conservancy, Southeast Climate Science Center, Smithsonian Institution, Texas Parks and Wildlife Department, The Nature Conservancy, Tulane University, University of Florida, University of Georgia, University of West Florida, U.S. Fish and Wildlife Service, U.S. Geological Survey