



Co-production in Habitat Restoration to Benefit Coastal Birds

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INTRODUCTION

The ecosystems of coastal Louisiana are in danger due to human activity, which is made worse by sea level rise brought on by climate change. Coastal birds in Louisiana suffered damage and even died as a result of the deep water horizon oil disaster in 2010 and the continued habitat destruction has reduced the likelihood that resident birds would successfully nest throughout the whole coast. With settlement money from the deep water horizon oil spill, more extensive ecosystem restoration is being done to alleviate habitat loss. An avian restoration guidance document was created to achieve both larger habitat restoration goals and the greatest restoration benefits for coastal breeding birds in order to provide additional information for bird restoration in Louisiana. Professionals with expertise in the field, such as engineers, project managers for coastal restoration and specialists in birds, collaborated to create the developed restoration guidelines. This cross-disciplinary effort produced targeted and precise guidance that offers critical high value bird nesting habitats (such as edge habitat, elevation variety and coastline access) that are also designable habitat elements under project engineers' control.

DESCRIPTION

For the first time in Louisiana, monitoring strategies and well-defined nest site features are easily accessible to guide the execution of ecosystem restoration projects. Restoration managers can use these guidelines to explicitly incorporate bird nesting habitat elements into coastal restoration planning, design and execution. The restoration document specifically highlights bird species that breed and nest in coastal environments in Louisiana. Numerous data requirements and knowledge gaps unique to engineering and project design were found throughout the development of this guideline, allowing the scientific community to formulate research topics around particular coastal restoration issues.

The co-production of scientific methodology used here for bird resources is representative of the advantages of collaborative efforts, communication and shared goal-setting and it may be adapted to a broad range of other living marine resources that could gain from extensive ecosystem restoration.

Terminologies related to bird groups and habitat classifications that are widely recognized by bird biologists and CPRA were created and given priority in order to foster mutual understanding among end users. All SMEs participated in a number of talks and meetings that helped accomplish this. First, utilizing the strategic framework for bird restoration activities, a select list of coastal nesting birds was chosen to be included in the proposed restoration guidelines. The project team members who represented each bird group in the ensuing discussions and information gathering/synthesis were chosen as SMEs for bird and habitat restoration.

The most representative habitat classes to be included in the created restoration guidance were then determined by evaluating a variety of coastal restoration resources under the guidance of CPRA. To be assessed for each of the three bird groups, habitat types were grouped at a broader scale by landforms (coastal wetland, coastal Bay Island, barrier island/headland and over wash fans). After all parties involved reached a consensus on nomenclature and carefully clarified their demands, the nesting birds specified in the Strategic Framework for Bird Restoration Activities (DWH LA TIG, 2017) were divided into three groups according to the habitats in which they nest: There are three types of birds that nest:

- In shrubs
- In marshes
- On the ground

Comprehensive guidelines on how to execute coastal restoration to maximize habitat value for breeding birds

were developed as a result of this effort and are available to restoration practitioners (DWH LA TIG, 2023b). The proposed restoration guidelines are intended to provide assistance for planning, engineering, designing, building, operating and maintaining ecosystem restoration projects in order to support the nesting of target coastal bird species. Before the creation of this restoration guidance, project teams had no particular manual or resource to use in order to improve the benefits to birds and build habitat for breeding birds.

Co-production outcomes

SMEs from several state and federal agencies, including the Department of the Interior (DOI), the Louisiana Department of Wildlife and Fisheries (LDWF) and CPRA, collaborated in the development and release of the restoration guidelines. Building relationships and trust-two essential components of the co-production process occurred through team participation and the guarantee that every team member had an equal say in the development of the restoration guidelines. This productive working environment fostered the team's ability to clearly identify, refine and begin to address avian restoration priorities.

CONCLUSION

The primary objective of the DWH PDARP (DWH NRDA Trustees, 2016) and the coastal master plan (CPRA, 2023a) for Louisiana is to produce restoration guidelines with the explicit goal of maximizing bird nesting habitat. But this objective can only be achieved when barriers to communication between avian and restoration experts are removed, given the intrinsic heterogeneity among coastal bird species and their breeding requirements. By utilizing a co-production approach that gathered specialists from several fields, nesting bird habitat can be enhanced at minimal or no extra expense to restoration initiatives. Access to shorelines, elevation variety and maximized edge habitat are among the coastal habitat factors that have been identified as being under the project engineers' control and serving as high value bird nesting habitat.