

PROPOSAL OF WORK: TO 61 *Deepwater Horizon* Oil Spill Coastwide Colonial Waterbird Monitoring

The Water Institute of the Gulf
1110 River Road S., Suite 200, Baton Rouge, LA 70802

1. **Project Title:** *Deepwater Horizon* oil spill Coastwide Colonial Waterbird Monitoring – State of Louisiana
2. **Principal Investigator(s):** Alyssa Dausman; Tim Carruthers
3. **Statement of Work (Appendix “A” for each subtask)**
4. **Period of Performance:** May 1, 2018 – August 31, 2018

TO 61 Subtask 1

Research Period: May 1, 2018 – August 31, 2018

5. Specified Deliverable Items:

- Subtask 61.1:**
- (1) Implement coastwide colonial waterbird aerial surveys, one in mid-May (May 15-25) and one in mid-June (June 19-29), utilizing accepted methodology approved by Trustees
 - (2) Supply all raw data files

Under Subtask 61.1, the specific deliverables above will be the Final Report.

6. **CPRA Material and Equipment:** None anticipated.
7. **Budget (Appendix “B” for each subtask)**
8. **CPRA Statement of Need (Appendix “C”)**

Subtask 61.1
Appendix A: Statement of Work

In response to the CPRA Statement of Need titled “*Deepwater Horizon* oil spill Coastwide Colonial Waterbird Monitoring – State of Louisiana” and attached as Subtask 61.1, Appendix C, The Water Institute of the Gulf proposes the following Statement of Work under Task Order 61: Subtask 1.

The TO 61.1 subtask will be developed and administered by The Water Institute under the guidance of the State. The activities included in this Statement of Work describe the specific tasks for Task Order 61 to be completed within the period of performance.

Anticipated Subs: RG Ford Consulting
Schedule: May 1, 2018 – August 31, 2018

Deliverables: (1) Implement coastwide colonial waterbird aerial surveys, one in mid-May (May 15-25) and one in mid-June (June 19-29), utilizing accepted methodology approved by Trustees
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Task Description:

INTRODUCTION

The *Deepwater Horizon* oil spill (DWH) Louisiana Trustee Implementation Group (LA TIG), consisting of federal and state natural resource Trustee representatives, was created for the development and implementation for targeted restoration activities to address injuries in Louisiana identified within the DWH Programmatic Damage Assessment and Restoration Plan (PDARP).

Within Louisiana, hundreds of species and millions of individual birds are supported by barrier islands, beaches, marshes and coastal forests at some point during their annual lifecycle. Collectively these species are unparalleled indicators of ecosystem health and the natural resources on which humans rely for their health, economy, and quality of life; given their respective positions within trophic food webs. Unfortunately, the DWH oil spill impacted birds and their habitats at an unprecedented scale; however, post-DWH restoration offers an equally unprecedented focus on the Gulf ecosystem and resources to support its restoration and recovery. Designing an avian monitoring program to assess and inform restoration activities is challenging (e.g., scope and scale of restoration efforts, as well as the diversity, abundance and seasonal dynamics of birds using the Gulf) given as outlined by the National Academy of Science’s (NAS) recent 2016 report – “*Effective Monitoring to Evaluate Ecological Restoration in the Gulf of Mexico*”.

The LA TIG is interested in implementing a suite of monitoring protocols (new and/or existing) to: (1) establish current population of avian species as a means to document inherent avian benefits generated by individual and region-wide DWH restoration projects; and (2) evaluate project performance criteria

and potentially implementing adaptive management measures, as needed. Information generated from this monitoring effort will be critical in documenting resource uplift (e.g., offspring generated) from DWH bird restoration projects. This information will provide a rigorous, data-driven means to assess project design and success in an adaptive manner and assist in future DWH project selection (for birds, other living coastal and marine resources, and habitats).

I. Colonial Waterbirds (RG Ford Consulting)

Overview: Colonial waterbirds represent a wide array of bird species including pelicans, gulls, skimmers, and terns. Despite their prevalence along the Gulf coast, limited information exists related to these species. While basic information such as historical colony location is available, detailed information related to annual variability in colony size and location, incidence of new colonies, productivity, and location of foraging areas remains unknown. With colonial waterbirds in the nearshore environment representing some of the most significantly impacted resources during DWH, it is imperative that decision-makers increase their understanding of these species in relation to restoration activities. In particular, spatially and temporally extensive baseline measures of distribution, abundance, and status of nesting nearshore colonial waterbirds is one of the highest needs.

High resolution aerial photography and photographic counting (aka. Dotting)¹ has been shown to be a highly accurate method for censusing waterbird colonies throughout coastal Louisiana. These techniques were used extensively throughout the Deepwater Horizon oil spill (2010-2013) to determine and to document the effects of the Spill on colonial waterbirds. Analysts can accurately resolve small details such as individual birds and the status of their nests from these images. Photographic counts of birds and nests within these images provide a detailed and permanent record of colony size and condition that can be used for assessing resource uplift (i.e., offspring generated) from DWH avian restoration projects. These data can also provide highly useful information to facilitate future damage assessments and/or population and demographic status of critical or indicator species.

Data Acquisition: Due to the bimodal nature of the colonial waterbird nesting season, two surveys, one in mid-May (15-25 May) and one in mid-June (19-29 June) are needed to be representative. All previously documented Louisiana coastal waterbird colonies can be photographed in 3 to 4 days / survey. Additional flights will be conducted to facilitate documentation of new and/or relocated colonies during each nesting season.

¹ The current work proposed for funding herein is solely for data acquisition. The LA TIG intends to proceed with dotting following the data collection effort.

Subtask 61.1
Appendix B: Budget & Justification

In order to complete this subtask, The Water Institute will use a collaborative team of personnel to complete the subtask order within the period of performance established for the Subtask.

The budget for Subtask 61.1, for a total cost of \$155,287 has two components and is a Fixed Price Budget for all listed deliverables. Component one is a budget for tasks as assigned and delivered by the subcontractor, RG Ford Consulting, to a maximum of \$139,909, and a component two is a budget of \$15,378 for management and coordination of the project by The Water Institute. The price includes all time and expenses needed to manage the work, accomplish the tasks and produce the deliverables as detailed in Subtask 1 Appendix A: Statement of Work.

RG Ford Consulting will implement colonial waterbird aerial surveys, one in mid-May (May 15-25) and one in mid-June (June 19-29), which requires use of a light plane at the cost of \$25,000 per survey, staff salary of \$29,700 per survey, and travel costs of \$5,295 per survey, for a total cost of \$65,994.50 per survey (including administrative costs). Archiving of survey data will require a further \$7,920 in salary.

Table 1. Annual cost

Activity	Costs
Colonial waterbird monitoring	\$139,909
Project Management	\$15,378
Total	\$155,287

Specific deliverables are detailed in Appendix A: Statement of Work. No interim reports or Final Reports (as defined in the Cooperative Endeavor Agreement) will be required under this Task Order.