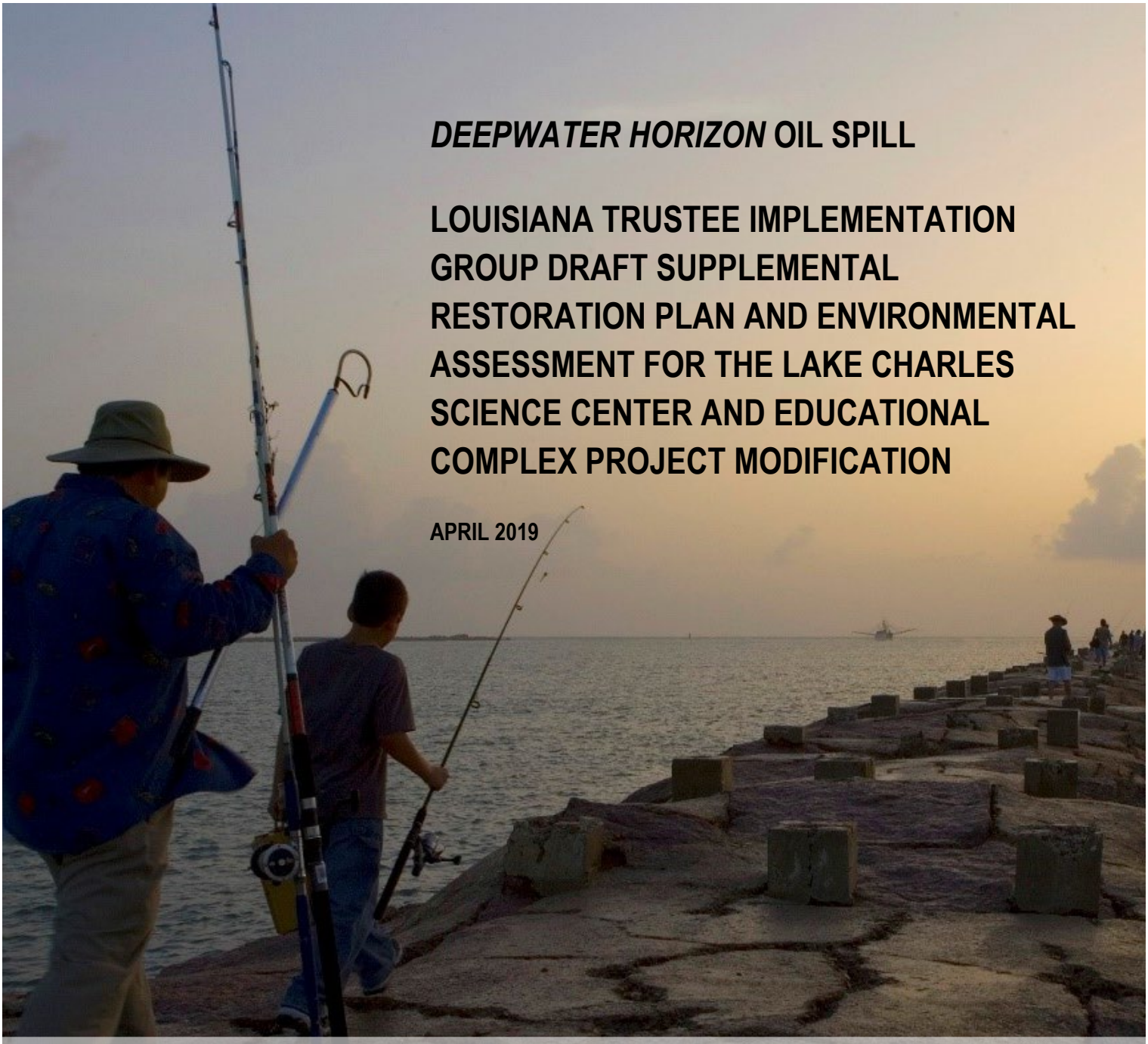
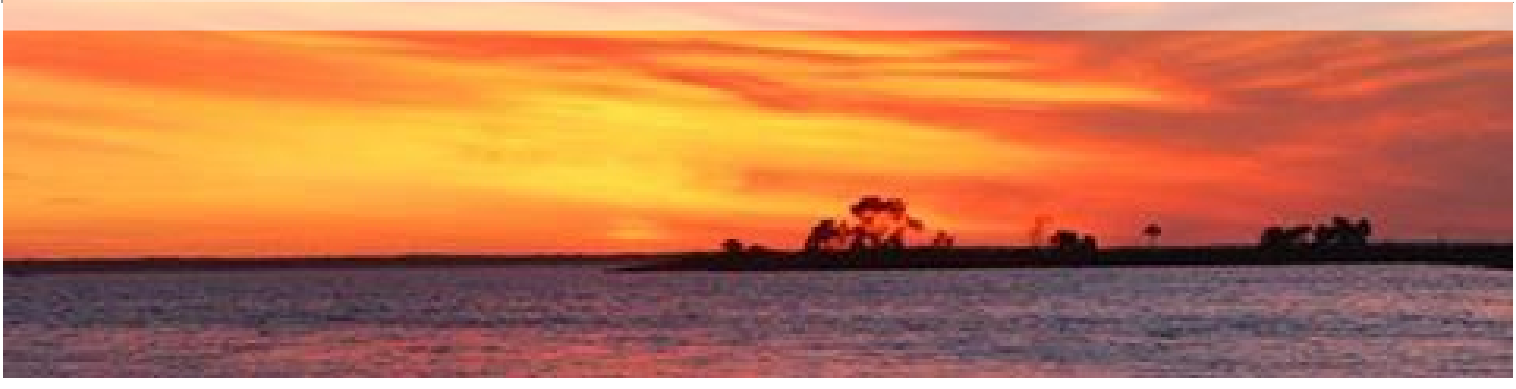


DEEPWATER HORIZON OIL SPILL

LOUISIANA TRUSTEE IMPLEMENTATION GROUP DRAFT SUPPLEMENTAL RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT FOR THE LAKE CHARLES SCIENCE CENTER AND EDUCATIONAL COMPLEX PROJECT MODIFICATION

APRIL 2019



Cover photographs courtesy of the Deepwater Horizon NRDA Trustee Council.

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Abbreviations

ADA	Americans with Disabilities Act
APE	area of potential effects
BP	BP Exploration and Production
CMAR	Construction Manager at Risk
CPRA	Louisiana Coastal Protection and Restoration Authority
CFR	Code of Federal Regulations
DOI	U.S. Department of the Interior
Draft RP/EA #2	Draft Restoration Plan/Environmental Assessment #2: Provide and Enhance Recreational Opportunities
Draft Supplemental RP/EA	Louisiana Trustee Implementation Group Draft Supplemental Restoration Plan and Environmental Assessment for the Lake Charles Science Center and Educational Complex Project Modification
DWH	Deepwater Horizon
DWH Trustees	Deepwater Horizon Oil Spill Trustees
EFH	essential fish habitat
EO	executive order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
Final RP/EA #2	Final Restoration Plan/Environmental Assessment #2: Provide and Enhance Recreational Opportunities
FONSI	Finding of No Significant Impact
FWP	Fish and Wildlife Propagation
HUC	Hydrologic Unit Code
I-10	Interstate 10
LA TIG	Louisiana Trustee Implementation Group
LAC	Louisiana Administrative Code
LCCM	Lake Charles Children's Museum
LDEQ	Louisiana Department of Environmental Quality
LDOA	Louisiana Division of Archaeology
LDWF	Louisiana Department of Wildlife and Fisheries
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966, as amended
NOAA	National Oceanic and Atmospheric Administration

NRCS	Natural Resources Conservation Service
NRDA	Natural Resource Damage Assessment
NRHP	National Register of Historic Places
O&M	Operations and maintenance
OPA	Oil Pollution Act of 1990
PCBs	polychlorinated biphenyls
PCR	Primary Contact Recreation
PDARP/PEIS	Deepwater Horizon Oil Spill Final Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement
ROD	Record of Decision
RS	Louisiana Revised Statute
SCEC	Science Center and Educational Complex
SCR	Secondary Contact Recreation
SHPOs	State Historic Preservation Offices
SOP	Standard Operating Procedure
SPCP	Spill Prevention and Control Plan
SPE	special purpose entity
SWPPP	Stormwater Pollution Prevention Plan
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1 INTRODUCTION/BACKGROUND

This document, *Louisiana Trustee Implementation Group Draft Supplemental Restoration Plan and Environmental Assessment for the Lake Charles Science Center and Educational Complex* (SCEC) *Project Modification* (Draft Supplemental RP/EA), was prepared by the Louisiana Trustee Implementation Group (LA TIG) to assess the environmental impacts from modifications to the originally proposed Lake Charles SCEC project scope and design that was evaluated and selected in the *Final Restoration Plan/Environmental Assessment #2: Provide and Enhance Recreational Opportunities* (Final RP/EA #2), which was finalized in July 2018 (LA TIG 2018).

The LA TIG is responsible for restoring the natural resources and services within the Louisiana Restoration Area that were injured by the April 20, 2010, Deepwater Horizon (DWH) oil spill and associated spill response efforts. The LA TIG includes five Louisiana state trustee agencies and four federal trustee agencies: Louisiana Coastal Protection and Restoration Authority (CPRA); Louisiana Department of Natural Resources; Louisiana Department of Environmental Quality (LDEQ); Louisiana Oil Spill Coordinator's Office; Louisiana Department of Wildlife and Fisheries (LDWF); U.S. Department of Commerce, represented by the National Oceanic and Atmospheric Administration (NOAA); U.S. Department of the Interior (DOI), represented by the U.S. Fish and Wildlife Service (USFWS) and National Park Service; U.S. Department of Agriculture (USDA); and U.S. Environmental Protection Agency (EPA).

The Final RP/EA #2 was prepared pursuant to the Oil Pollution Act of 1990 (OPA) and the National Environmental Policy Act of 1969 (NEPA) and is consistent with the Deepwater Horizon Oil Spill Trustees' (DWH Trustees') findings in the *Deepwater Horizon Oil Spill Final Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement* (PDARP/PEIS) and Record of Decision (ROD) and the 2016 Consent Decree resolving civil claims by the DWH Trustees against BP Exploration and Production (BP) arising from the DWH Oil Spill (DWH Trustees 2016). Details on the background and settlement can be found in the PDARP/PEIS (DWH Trustees 2016). The release of the *Draft Restoration Plan/Environmental Assessment #2: Provide and Enhance Recreational Opportunities* (Draft RP/EA #2; LA TIG 2017), which included a Preliminary Finding of No Significant Impact (FONSI), and opening of the public comment period for the Draft RP/EA #2 was publicized on December 20, 2017, in the *Federal Register* (Federal Register 82:60397); the Louisiana Register Volume 43, Number 12; and announced on the LA TIG website (https://www.gulfspillrestoration.noaa.gov/2016/04/welcome-louisiana-trustee-implementation-group) (LA TIG 2018). A public meeting was held on January 24, 2018, in New Orleans, Louisiana. The public comment period closed February 2, 2018, and the Final RP/EA #2 and FONSI was released on July 20, 2018.

1.1 Rationale for this Draft Supplemental RP/EA

The original scope and design of the Lake Charles SCEC project was evaluated in the Draft and Final RP/EA #2. Following release of the Final RP/EA #2, the City of Lake Charles requested that the LA TIG consider collocating the Lake Charles SCEC with the City's planned Lake Charles Children's Museum (LCCM). The LA TIG prepared this Draft Supplemental RP/EA to evaluate modifications to the Lake Charles SCEC project and consider alternatives consistent with the purpose and need of the original project. The original Lake Charles SCEC alternative is herein described as Alternative A, Original Project Scope. This Draft Supplemental RP/EA evaluates two new alternatives: Alternative B, Revised Location without Fishing Pier, and Alternative C, Revised Location with Fishing Pier (Preferred). A No Action alternative, Alternative D, is also considered.

The LA TIG also evaluated whether modifications to the Lake Charles SCEC project would affect the original analysis under OPA, as described in Section 3.3 of the Final RP/EA #2. The OPA analysis for the original scope and design of the Lake Charles SCEC project is summarized in Section 3 of this document as Alternative A: Original Project Scope and is incorporated herein by reference. Section 3 of this document also provides OPA analyses for the two new alternatives, reflecting the modified scope and design of the Lake Charles SCEC project.

The LA TIG has prepared this Draft Supplemental RP/EA in compliance with OPA and NEPA to evaluate modifications to the Lake Charles SCEC project scope and design, consider alternatives, and evaluate potential environmental impacts from these modifications that differ from the impact analysis of the original project scope described in the Final RP/EA #2. This Draft Supplemental RP/EA will inform the LA TIG's decision regarding proposed modification of the Lake Charles SCEC project.

1.2 Lead and Cooperating Agencies

In accordance with 40 Code of Federal Regulations (CFR) 1508.12, the LA TIG designated the EPA as the lead federal agency responsible for NEPA compliance for the Final RP/EA #2 and this Draft Supplemental RP/EA. The federal and state agencies participating on the LA TIG are acting as cooperating agencies for the purposes of compliance with NEPA in the development of this Draft Supplemental RP/EA. In accordance with 40 CFR 1506.3(a), each of the three federal cooperating agencies (DOI, NOAA, and USDA) participating on the LA TIG will review the documents for adequacy in meeting the standards set forth in its own NEPA implementing procedures and make a decision on adoption of the NEPA analysis.

1.3 Public Involvement

The LA TIG released the Draft RP/EA #2 for public comment on December 20, 2017, as publicized in the *Federal Register* (Federal Register 82:60397) and Louisiana Register Volume 43, Number 12. This release also included the announcement of a public meeting in Baton Rouge, Louisiana, scheduled for January 17, 2018. Weather conditions resulted in the cancellation of the meeting, which was rescheduled for January 24, 2018, in New Orleans, Louisiana. On January 26, 2018, a notice was published in the *Federal Register* (Federal Register 83:3706) to reopen the public comment period through February 2, 2018, to allow the consideration of comments received through and after the rescheduled public meeting. The Final RP/EA #2 was revised and completed in response to comments received on the Draft RP/EA #2. Section 7 of the Final RP/EA #2 provides a description of the comment analysis process, a summary of public comments received, and the LA TIG's responses to those comments.

On October 31, 2018, the LA TIG posted a Notice of Intent at https://www.gulfspillrestoration.noaa.gov informing the public that the LA TIG was considering location and design changes to the Lake Charles SCEC project. The web notice also indicated that modifications to the Lake Charles SCEC project would be evaluated in a Supplemental RP/EA to be made available for public review and comment. The LA TIG has prepared this Draft Supplemental RP/EA to inform the public about the Lake Charles SCEC project modification; the LA TIG seeks public comment on this Draft Supplemental RP/EA. Additional information regarding the public comment period and associated public meeting for this Draft Supplemental RP/EA can be found in Section 7 of this document.

1.4 Purpose and Need

The LA TIG has undertaken this recreational use restoration planning effort to meet the purpose of restoring those natural resources and services injured as a result of the DWH Oil Spill. This Draft Supplemental RP/EA falls within the scope of the purpose and need identified in the Final PDARP/PEIS (DWH Trustees 2016). As described in Section 5.3 of the Final PDARP/PEIS, the five DWH Trustee programmatic restoration goals for restoration work independently and together to benefit injured resources and services (DWH Trustees 2016). This Draft Supplemental RP/EA focuses on the restoration of injuries to Louisiana's natural resources and services—in particular to Restoration Type: "Provide and Enhance Recreational Opportunities," using funds made available in Early Restoration and through the DWH Consent Decree (see Final PDARP/PEIS, DWH Trustees 2016:Chapter 4).

For the purpose of restoring natural resources and services injured as a result of the DWH Oil Spill, the DWH Trustees need to address the associated recreational loss that occurred in Louisiana. The DWH Trustees propose to implement compensatory restoration projects that would provide the public with additional and enhanced recreational use services in Louisiana in a manner consistent with the Final PDARP/PEIS. Impacts to Louisiana from the DWH Oil Spill, including oiled shorelines, the closure of fishing and recreational areas, and the cancellation of recreational trips, resulted in losses to the public's use of natural resources for outdoor recreation, such as fishing, boating, vacationing, beach-going, and other recreational activities.

Louisiana Trustees have identified lost recreational opportunities, such as fishing, camping, hunting, boating, and hiking, as the most significantly impacted recreational use in the state. The lost recreational opportunities occurred statewide because people in non-coastal areas cancelled trips to the coast during closures related to the DWH Oil Spill. Given these widespread impacts of the spill, Louisiana's approach to restoring lost recreational use in the Draft Supplemental RP/EA uses a combination of many of the recreational use restoration approaches described in the Final PDARP/PEIS, including enhancing public access to natural resources for recreational use; enhancing recreational experiences; and promoting environmental stewardship, education, and outreach. The proposed alternatives described in this Draft Supplemental RP/EA are consistent with restoration techniques for the recreational use injuries caused by the DWH Oil Spill, while also providing educational and outreach components to promote responsible use of natural resources.

The purpose and need for the modified Lake Charles SCEC project is consistent with the purpose and need described in Section 1.5 of the Final RP/EA #2.

1.5 Preliminary Finding of No Significant Impact (FONSI)

In this Draft Supplemental RP/EA, the LA TIG addresses NEPA requirements by tiering from environmental analyses conducted in the Final PDARP/PEIS, evaluating existing analyses provided in the Final RP/EA #2, and preparing environmental consequences analyses for the alternatives as appropriate. Based on the programmatic analysis provided by the Final PDARP/PEIS, and with consideration of the environmental consequences in this Draft Supplemental RP/EA, the LA TIG's preliminary findings indicate that the alternatives evaluated in this Draft Supplemental RP/EA would not result in any significant impacts on the human environment in accordance with the guidelines for determining the significance of proposed federal actions (40 CFR 1508.27). After public comments are addressed and if

the preliminary findings are confirmed[1], the LA TIG will issue a FONSI appended to the Final Supplemental RP/EA.

[1] EPA's NEPA implementing procedures at 40 CFR 6.203(b)(1).

2 MODIFICATION OF LAKE CHARLES SCEC AND ALTERNATIVES CONSIDERED

Section 2 of the Final RP/EA #2 provides a detailed description of the restoration planning process, including the screening of alternatives for the restoration of recreational use. The alternative screening process included in the Final RP/EA #2 is incorporated herein by reference. The goal of the LA TIG's screening process was to identify a set of proposed alternatives that provided a reasonable range of options that would compensate the public for Louisiana's lost recreational use caused by the DWH Oil Spill. The federal trustees of the LA TIG have reviewed the Final RP/EA #2 screening process that was applied to the project universe (consisting of 263 projects). The screening process was used to identify four proposed alternatives that were carried forward for analysis in the Final RP/EA #2, of which one was the Lake Charles SCEC. That analysis is valid and applicable to the proposed Lake Charles SCEC project modification alternatives analyzed in this Draft Supplemental RP/EA.

Four alternatives for the Lake Charles SCEC have been identified for analysis in this Draft Supplemental RP/EA. Alternatives A through C are action alternatives associated with the Lake Charles SCEC (Figure 2-1). Alternative A is the original project scope and location of the Lake Charles SCEC, as defined in the Final RP/EA #2. Alternatives B and C are variations of the collocation of the Lake Charles SCEC with the LCCM at the newly proposed Port Wonder facility. Alternative D is the No Action Alternative, and it is incorporated by reference from the Final RP/EA #2. Under all action alternatives, the LA TIG would allocate $7 million of Natural Resource Damage Assessment (NRDA) funds for the Lake Charles SCEC.

Figure 2-1. Lake Charles SCEC alternative locations.

2.1 Alternative A: Original Project Scope

The full project description for Alternative A is described in Section 3.3 of the Final RP/EA #2, and is incorporated by reference into this Draft Supplemental RP/EA. A brief summary of the project description for Alternative A is provided below.

The Lake Charles SCEC would be developed on state-owned property adjacent to the site of a future planned LDWF Region 5 office facility southeast of Lake Charles, as shown in Figure 2-2. Under Alternative A, the Lake Charles SCEC would be a stand-alone project that is not dependent on the planned LDWF Region 5 office and no NRDA funds would be used for the office facility. Final design plans for the Lake Charles SCEC would be developed using NRDA funds and would need to be completed prior to construction activities. Although the Lake Charles SCEC and the office facilities would be distinct and separately funded projects, siting the Lake Charles SCEC in the proposed manner would offer potential synergies, including connecting the public to the biologists and managers in one centralized location.

The mission of the Lake Charles SCEC would be to enhance stakeholder involvement by providing fisheries extension, access, outreach, and education to the public. The public visitation and outreach components of the center would provide dedicated indoor and outdoor spaces for public education on fisheries management activities and restoration programs. Outdoor elements of Alternative A would provide additional possibilities for public education, along with opportunities to appreciate and enjoy nature.

The originally proposed Lake Charles SCEC project described in Section 3.3 of the Final RP/EA #2 included the following features:

- visitor science center building (approximately 3,000 square feet), which would feature display aquaria showcasing Louisiana's diverse aquatic habitats, an aquatic animal touch tank exhibit, interactive educational displays, welcome desk for visitor sign-in and outreach materials, and public restrooms;
- covered outdoor pavilion (approximately 2,000 square feet) positioned over the fishing pond to provide Americans with Disabilities Act (ADA)-compliant youth fishing opportunities, and other outreach activities; and
- outdoor educational complex featuring a youth/outreach fishing pond (1 acre), nature trail, educational signage, natural landscaping, outdoor plaza and sidewalks, other outdoor educational areas including hunter safety range, visitor parking, site utilities, and roadwork.

Project implementation would include final design and permitting, as well as construction activities. It is estimated that final design would take approximately 10 months and permitting efforts would run concurrently. It is estimated that construction of project elements would take approximately 14 months. A portion of project funds would be utilized for long-term operations of the Lake Charles SCEC, primarily for the visitor center functions (e.g., electricity and water filtration for the display aquaria, educational displays, outreach activities). More information about project costs is provided in Section 3.1.

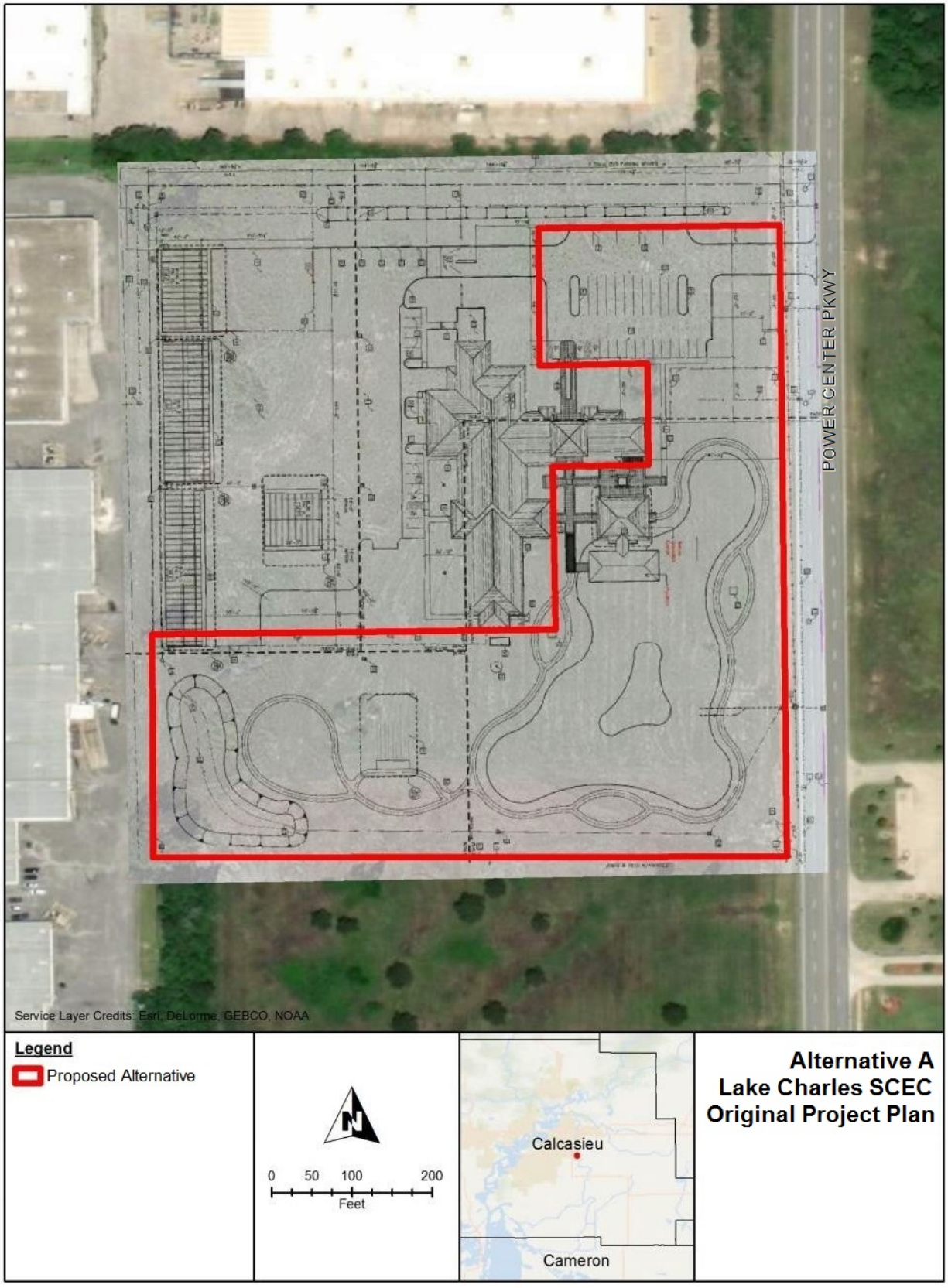

Figure 2-2. Alternative A: Original Project Scope.

2.2 Alternative B: Revised Location without Fishing Pier

The Lake Charles SCEC would be located within the planned Port Wonder facility, on the north shore of Lake Charles. The site location has a tentative address of 1011 N. Lakeshore Drive and is south of Interstate 10 (I-10) (Figure 2-3). Alternative B would be situated on approximately 8.5 acres between an existing parking garage and a cypress pond alligator viewing area. The Lake Charles SCEC would be operated by LDWF and collocated with the LCCM. A special purpose entity (SPE) is being created to design, construct, own, and operate the buildings and grounds for the Port Wonder facility.

Although the Lake Charles SCEC and the LCCM would be distinct and separately funded projects, siting the Lake Charles SCEC adjacent to the LCCM would offer potential synergies, including enhanced visibility, improved access, and a location in a natural environment in the Lake Charles area and southwest Louisiana. The collocation of the two attractions within the Port Wonder facility would provide enhanced opportunities for the public to play and learn in one centralized area that is located near other recreational amenities, such as the Lake Charles waterfront and city parks, rather than visiting separate venues in different parts of the City. Section 5 provides additional details for how the shared Port Wonder facility would be operated and maintained.

The Port Wonder facility is planned to encompass approximately 28,000 square feet of building area. The building would contain an approximately 6,900-square-foot science center operated by LDWF, an approximately 12,300-square-foot children's museum operated by an independent non-profit organization, the Children's Museum of Lake Charles, and an approximately 8,800 square feet of shared space that would include a lobby, bathrooms, classrooms, offices, a break room and other miscellaneous support space. Under this alternative, the following outdoor amenities would be constructed at Port Wonder: public outdoor exhibits, play area, parking, and landscaping. The cypress pond alligator viewing area may be incorporated into the outdoor amenities of Port Wonder, which would be decided during final engineering and design. Under this alternative, approximately 6,900 square feet of outdoor program area would be allocated to the Lake Charles SCEC, which is currently designed with an enclosed nature trail and play area. The specific outdoor elements constructed in the outdoor area are subject to change as the engineering and design phase continues. Table 2-1 summarizes the estimated indoor space and outdoor program areas that would comprise the Port Wonder facility, as well as those elements that would be NRDA funded.

Table 2-1. Space Allocation and Funding for the Port Wonder Facility (all numbers are approximate)

	Interior Space (Square Feet)	Outdoor Program Areas (Square Feet)	Funding Source
Dedicated Program Spaces			
Lake Charles SCEC	6,900	6,900	NRDA
LCCM	12,300	4,500	Other
Total Program Spaces	***19,200***	***11,400***	
Shared Spaces	8,800	–	Shared*
Total Area	**28,000**	**11,400**	

Source: ConsultEcon, Inc. 2019

* The costs of shared spaces in the building are based on percent to total dedicated program areas of the Lake Charles SCEC and LCCM. The LCCM accounts for approximately two-thirds and the Lake Charles SCEC accounts for approximately one-third of total dedicated program areas.

The Lake Charles SCEC would include immersive exhibits, walking trails, aquaria, and touch tanks to educate visitors on topics including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs. Walking trails would support programs and/or signage to educate the public on Louisiana's natural environment and wildlife. The aquaria and touch tanks would be installed on a closed-loop filtration system, which would draw municipal water when needed. No water would be pumped or drawn from the lake. Both freshwater and saltwater tanks would be occasionally discharged to the municipal sanitary sewer system, which would be coordinated with the City of Lake Charles. No permits are required for the proposed tanks.

The LCCM's exhibits and spaces would provide children and their families hands-on educational exhibits that promote creativity, imagination, and learning. The LCCM would complement the Lake Charles SCEC mission with exhibits centered around Louisiana's ecology, economy, and history.

Project implementation would include final design and permitting, as well as construction activities. It is estimated that final design would take approximately 12 months and permitting efforts would run concurrently. It is estimated that construction of project elements would take approximately 14 to 15 months.

Figure 2-3. Alternative B: Revised Location without Fishing Pier.

2.3 Alternative C: Revised Location with Fishing Pier (Preferred)

Alternative C would be the same as Alternative B, with the addition of a recreational fishing pier over Lake Charles to provide outdoor recreational activities to Port Wonder visitors (Figure 2-4). The new fishing pier would provide ADA-compliant recreational fishing access. The fishing pier may include a shaded pavilion to be used for educational programs and general public enjoyment, if funding is available. The fishing pier would provide a real-time educational connection between the information presented in the Lake Charles SCEC indoor displays and the immediately adjacent Lake Charles waterbody. The fishing pier would offer opportunities for Port Wonder visitors as well as other members of the public to fish, connect with nature, and enjoy the scenery overlooking Lake Charles. This improvement would increase recreational fishing opportunities for all visitors and enhance the overall outdoor experience at Port Wonder.

No fee would be charged to use the fishing pier and the public would be able to access the pier using the boardwalks and sidewalks connecting Port Wonder to other nearby facilities, thus, adding to the visitors' recreational opportunities and experiences provided by Alternative B.

The fishing pier would include the following:

- One approximately 150-foot-long and 15-foot-wide covered pier constructed from large, marine-grade, pressure-treated timber members and stainless-steel fasteners
- Approximately sixty 12- to 18-inch-diameter piles would be driven by a pile driver into the lake bottom with pile pairs spaced at a minimum of 5 feet apart

Project implementation would include final design and permitting, as well as construction activities. It is estimated that final design would take approximately 12 months and permitting efforts would run concurrently. It is estimated that construction of project elements would take approximately 14 to 15 months.

Figure 2-4. Alternative C: Revised Location with Fishing Pier.

2.4 Alternative D: No Action

In accordance with OPA regulations, the Final PDARP/PEIS considers a "natural recovery alternative in which no human intervention would be taken to directly restore injured natural resources and services to baseline" (15 CFR 990.53[b][2]). Under a natural recovery alternative, the DWH Trustees would not implement additional restoration to accelerate the recovery of injured natural resources or to compensate for lost services. The DWH Trustees would allow natural recovery processes to occur, which could result in one of four outcomes for injured resources: 1) gradual recovery, 2) partial recovery, 3) no recovery, or 4) further deterioration. Although injured resources could presumably recover to baseline or near baseline conditions under this scenario, recovery would take much longer compared to a scenario in which restoration actions were undertaken. The Final PDARP/PEIS (DWH Trustees 2016:5-92) notes that interim losses of natural resources, and the services natural resources provide, would not be compensated under a natural recovery/no action alternative. Given that technically feasible restoration approaches are available to compensate for interim natural resource and service losses, the DWH Trustees rejected this alternative from further OPA evaluation within the Final PDARP/PEIS.

Based on this determination, tiering this Draft Supplemental RP/EA from the Final PDARP/PEIS, and incorporating that analysis by reference, the LA TIG did not further evaluate natural recovery as a viable alternative under OPA. The LA TIG rejects the natural recovery/no action alternative as a viable means of compensating the public for the lost recreational use injuries caused by the DWH Oil Spill. Natural recovery is not considered further in this Draft Supplemental RP/EA.

NEPA requires consideration of a No Action alternative as a basis for comparison of potential environmental consequences of the action alternatives(s). The No Action analysis presents the conditions that would result if the LA TIG did not elect to undertake any additional restoration for injured natural resources or to compensate for lost services at this time. The No Action alternative is not re-evaluated herein because impacts are not substantially different from the No Action alternative described in the Final RP/EA #2, Section 4.6, which is incorporated by reference.

3 SUPPLEMENTAL OPA EVALUATION

The LA TIG continues to propose the selection of the Lake Charles SCEC project, as modified, under OPA in the Final RP/EA #2. Under 15 CFR 990.54, the Trustees are to evaluate each alternative on, at minimum:

1) the cost to carry out the alternative;
2) the extent to which each alternative is expected to meet the Trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses;
3) the likelihood of success of each alternative;
4) the extent to which each alternative would prevent future injury as a result of the incident and avoid collateral injury as a result of implementing the alternative;
5) the extent to which each alternative benefits more than one natural resource and/or service; and
6) the effect of each alternative on public health and safety.

The project modifications, as described under Alternatives B and C, still meet the evaluation criteria established for OPA and are described in the following sections.

3.1 Alternative A: Original Project Scope

The OPA evaluation for Alternative A is described in Section 3.3 of the Final RP/EA #2, and is incorporated by reference into this Draft Supplemental RP/EA. A brief summary of the OPA evaluation for Alternative A is provided below.

Under Alternative A, $7 million of NRDA funds would be allocated to LDWF to construct, operate, and maintain a venue to provide public education and outreach on a variety of recreational activities (Table 3-1.). The mission of the Lake Charles SCEC would be to enhance stakeholder involvement by providing fisheries extension, access, outreach, and education to the public. The public visitation and outreach components of the center would provide dedicated indoor and outdoor spaces for public education on fisheries management activities and restoration programs. Outdoor elements of Alternative A would provide additional possibilities for public education, along with opportunities to appreciate and enjoy nature.

No land acquisition costs are associated with Alternative A because the state already owns the property.

Table 3-1. Estimated Cost for the Lake Charles SCEC (Alternative A)

Description	Cost	Responsible Entity
Final Engineering and Design	$450,000	LDWF
Construction of Project Elements	$4,800,000	LDWF
Contingency (~15%)	$787,500	LDWF
Operations and Maintenance (15 years)	$750,000	LDWF
Monitoring and Adaptive Management	$212,500	LDWF
Total SCEC Project Cost (NRDA funds)	**$7,000,000**	LDWF

The OPA evaluation in the Final RP/EA #2 indicates that the infrastructure costs of Alternative A are well documented, reasonable, and appropriate. The alternative has a strong nexus to the recreational injury caused by the DWH Oil Spill and can reasonably be expected to provide benefits to the public over an extended timeframe. The alternative would provide new and improved public access to educational resources, provide the public opportunities to appreciate trust resources that were injured by the DWH Oil Spill, and has a high probability of success. Finally, public safety issues are not expected to be a concern because minor adverse impacts would be reduced through the application of best practices and mitigation measures (see Section 4.4.5).

3.2 Alternative B: Revised Location without Fishing Pier

Under Alternative B, $7 million of NRDA funds would be contributed to the construction, operation, and maintenance of the proposed Lake Charles SCEC, collocated at the Port Wonder facility. The mission of the Lake Charles SCEC would be the same as described under Alternative A, with the added benefit of being collocated with the LCCM, which has a compatible mission. The Lake Charles SCEC would enhance recreational opportunities for the public by providing fisheries management activities, outreach, and education opportunities to the public. The Lake Charles SCEC portion of Port Wonder would provide dedicated indoor and outdoor spaces for public education on natural resource topics including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs.

No land acquisition costs are associated with Alternative B because the City of Lake Charles owns the property.

The following sections review the OPA criteria as outlined at the beginning of the chapter.

1) The cost to carry out the alternative.

The costs to implement Alternative B are reasonable, appropriate, and comparable to other equivalent restoration alternatives. The cost estimates were derived from historical data through the project architect's extensive knowledge of exhibit design cost and the design team's historical knowledge of construction cost in the area. The proposed cost of the Lake Charles SCEC revised alternative is approximately $7 million (Table 3-2.). The estimated construction costs represent the best estimates of the designers and are comparable with the costs of similar projects.

The Port Wonder SPE would implement a Construction Manager at Risk (CMAR) construction delivery process, which is different from a typical building delivery method that would occur under Alternative A. Under CMAR, the construction contractor would be hired based on engineered drawings that are approximately 30% complete (known as the design phase). The construction contractor, and any subcontractors, would then manage the design and construction processes starting from the preliminary engineered drawings. The contractor is responsible for developing material cost estimates and finalizing the design to avoid construction-related issues. The benefits of CMAR is that the construction contractor is involved in design elements and cost estimates that could otherwise trigger contract change orders during construction. The construction contractor would have all necessary information to inform the final construction bid. Due to this process, the risk to the Port Wonder SPE is greatly reduced, and the contingency fund is reduced to reflect this process (see Table 3-2.). Under CMAR delivery methods, contingency is generally in the 1% to 5% range, instead of 15%, as is typical in a traditional design-bid-build process. For this alternative, contingency is estimated at approximately 4.5%.

Table 3-2. Estimated Cost for the Lake Charles SCEC (Alternative B)

Description	Cost	Responsible Entity
Final Engineering and Design	$450,000	Port Wonder SPE
Construction of Project Elements	$5,237,500	Port Wonder SPE
Contingency	$250,000	Port Wonder SPE
Operations and Maintenance (15 years)	$850,000	LDWF
Monitoring and Adaptive Management	$212,500	LDWF
Total SCEC Project Cost (NRDA funds)	**$7,000,000**	
Approximate additional funding from non-NRDA sources	$11,200,000	Port Wonder SPE
Total Estimated Port Wonder Project Cost	**$18,200,000**	

All work would be awarded in compliance with bid policies and rules established by the responsible entity listed in Table 3-2., as the NRDA funds would be distributed to either the Port Wonder SPE or LDWF for financial management and oversight. The Port Wonder SPE would be responsible for overseeing funds necessary for final design, engineering, and construction. NRDA funds to be used for operations and maintenance (O&M) as well as monitoring would be distributed to LDWF for maintenance of the Lake Charles SCEC portion of the Port Wonder building and implementation of the Monitoring and Adaptive Management Plan (Appendix A), respectively. Projection of O&M costs were based on other similar facilities managed by LDWF.

2) The extent to which each alternative is expected to meet the Trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses.

Nexus to Injury: The Lake Charles SCEC Alternative B has a strong nexus to the DWH recreational injury. As mentioned previously, the majority of the recreational use loss in Louisiana, as a result of the DWH Oil Spill, was to recreational fishing. During the spill, surrounding water bodies received extensive oil impacts. The alternative is designed to enhance public education and outreach on topics including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs, both by increasing visitation and enhancing the quality of future recreational visits to the area. The educational and outreach opportunities that would be created by this alternative are uses that were lost due to the DWH Oil Spill. Alternative B represents "in-place, in-kind" restoration and is fully consistent with OPA objectives for compensatory restoration.

Benefit to Injured Resources:

- **Component Benefits:** Alternative B's location and amenities are within the geographical footprint of the DWH injury. The Lake Charles SCEC is designed to be used by the public and to aid/enhance their knowledge of Louisiana's natural resources including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs.
- **Scope of Benefits:** The Lake Charles SCEC project at the revised location would meet the same purpose and need as Alternative A but would provide additional synergistic benefits from its partnership with the LCCM and role as part of the Port Wonder facility.
- **Public Access:** The recreational benefits of Alternative B would be broadly available to the public at an estimated entrance fee of $4.00 and would serve as a dedicated venue for a variety of

outreach activities. Although access to the original Lake Charles SCEC project (Alternative A) would be free, the approximate $4.00 charge associated with Alternative B would allow for enhanced recreational use benefits in terms of exhibit quality and variety, as well as improved access and increased visitation by co-locating the Lake Charles SCEC with the LCCM. Although operating hours and schedule are still being developed, it is anticipated that the Port Wonder facility would be open on a weekly schedule year-round, except for major holidays. The Lake Charles SCEC would also be available for other scheduled outreach and educational events.

- **Location:** The proposed location for the Lake Charles SCEC is within the city limits of Lake Charles and is in close proximity to the nearby Visitors Bureau as well as I-10. The collocation of the Lake Charles SCEC with the LCCM, along a highly-traveled interstate corridor, provides a combined benefit to the public. The Port Wonder location would be available to a large potential visitor population. The Lakeshore Drive location, proposed under Alternative B, has greater visibility than the proposed location for Alternative A.
- **Additional Benefit Considerations:** Collocation of the Lake Charles SCEC with the LCCM offers additional benefits to the public compared to Alternative A, where the Lake Charles SCEC would be in a separate location. Under Alternative B, the public would be able to enjoy a larger, more-diverse facility on the Lake Charles shoreline, which includes access to walking trails, fishing opportunities, and other recreational resources. Alternative B incorporates many of the same types of educational features and associated outdoor amenities as contained in the original project scope (Alternative A), and thus is appropriate for implementation.

3) The likelihood of success of each alternative.

The alternative's goal of enhancing public education and outreach has a high likelihood of success. No land acquisition is required. The designs for the Lake Charles SCEC are technically feasible and are based on proven techniques and established methods used in other educational facilities. Furthermore, the City of Lake Charles has successfully implemented, maintained, and operated the existing children's museum. The creation of the Port Wonder SPE would ensure that appropriate agreements are in place for successful operation of the shared facility. Studies conducted by the City of Lake Charles demonstrate the Port Wonder facility has good potential to earn revenues necessary to support operations. The collocation of two attractions supports operational efficiencies through shared operations (ConsultEcon, Inc. 2019). The estimated Lake Charles SCEC project life is 15 years.

4) The extent to which each alternative would prevent future injury as a result of the incident and avoid collateral injury as a result of implementing the alternative.

The Lake Charles SCEC Alternative B is not expected to play a role in preventing future injury from the spill. The Final PDARP/PEIS indicates that recreational uses have recovered to pre-spill levels (DWH Trustees 2016). The purpose of Alternative B is to provide compensatory restoration for losses that occurred between April 2010 and November 2011, after which the Final PDARP/PEIS studies conclude that recreational use returned to baseline levels. Implementation of Alternative B is not expected to cause any net collateral damage to the environment.

5) The extent to which each alternative benefits more than one natural resource and/or service.

The primary NRDA benefit of this alternative would be to provide and enhance public education and appreciation of Louisiana's natural resources. Education related to Louisiana's natural resources has potential to broadly benefit appreciation and stewardship of all Gulf resources.

6) The effect of each alternative on public health and safety.

Adverse impacts to public health and safety are not expected from Alternative B because minor adverse impacts would be reduced through the application of best practices and mitigation measures (see Section 4.4.5). Elements of Alternative B would be designed for consideration and consistency with ADA standards. In addition, it is anticipated that the finished floor elevation of the building would be above the minimum floodplain elevation by 1 to 2 feet, which would account for future subsidence and potential wave action during a storm.

3.3 Alternative C: Revised Location with Fishing Pier (Preferred)

Under Alternative C, $7 million of NRDA funds would be contributed to the construction, operation, and maintenance of the proposed Lake Charles SCEC, collocated at the Port Wonder facility. The mission of the Lake Charles SCEC would be the same as described under Alternative A, with the added benefit of being collocated with the LCCM, which has a compatible mission. The Lake Charles SCEC would enhance recreational opportunities for the public by providing outreach and education opportunities to the public. The Lake Charles SCEC portion of Port Wonder would provide dedicated indoor and outdoor spaces for public education on natural resource topics including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs. In addition, under Alternative C, the Port Wonder facility would include a recreational fishing pier over Lake Charles, which would enhance the public's outdoor experience when visiting Port Wonder.

No land acquisition costs are associated with Alternative C because the City of Lake Charles owns the property.

The following sections review the OPA criteria as outlined at the beginning of the chapter.

1) The cost to carry out the alternative.

The costs to implement Alternative C are reasonable, appropriate, and comparable to other equivalent restoration alternatives. The cost estimates were derived from historical data through the project architect's extensive knowledge of exhibit design cost and the design team's historical knowledge of construction cost in the area. The proposed cost of the Lake Charles SCEC revised alternative is approximately $7 million (Table 3-3.). The estimated construction costs represent the best estimates of the designers and are comparable with the costs of similar projects. Under Alternative C, the Port Wonder SPE would implement a CMAR delivery method as described under Alternative B. Due to this process, the risk to the Port Wonder SPE is greatly reduced, and the contingency cost reflects this process (see Table 3-3.).

Table 3-3. Estimated Cost for the Lake Charles SCEC (Alternative C)

Description	Cost	Responsible Entity
Final Engineering and Design	$450,000	Port Wonder SPE
Construction of Project Elements*	$5,237,500	Port Wonder SPE
Contingency	$250,000	Port Wonder SPE

Description	Cost	Responsible Entity
Operations and Maintenance (15 years)	$850,000	LDWF
Monitoring and Adaptive Management	$212,500	LDWF
Total SCEC Project Cost (NRDA funds)	**$7,000,000**	
Approximate additional funding from non-NRDA sources	$11,200,000	Port Wonder SPE
Total Estimated Port Wonder Project Cost	**$18,200,000**	

*The construction of project element's line item includes the fishing pier.

All work would be awarded in compliance with bid policies and rules established by the responsible entity listed in Table 3-3., as the NRDA funds would be distributed to either the Port Wonder SPE or LDWF for financial management and oversight. The Port Wonder SPE would be responsible for overseeing funds necessary for final design, engineering, and construction. NRDA funds to be used for O&M as well as monitoring would be distributed to LDWF for maintenance of the Lake Charles SCEC portion of the Port Wonder building and implementation of the Monitoring and Adaptive Management Plan (Appendix A), respectively. Projection of O&M costs were based on other similar facilities managed by LDWF.

2) The extent to which each alternative is expected to meet the Trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses.

Nexus to Injury: The Lake Charles SCEC Alternative C has a strong nexus to the DWH recreational injury. As mentioned previously, the majority of the recreational use loss in Louisiana, as a result of the DWH Oil Spill, was to recreational fishing. During the spill, surrounding water bodies received extensive oil impacts. The alternative is designed to enhance public education and outreach on topics including, but not limited to, coastal habitats, Gulf of Mexico resources, fisheries/fisheries management, and restoration programs, both by increasing visitation and enhancing the quality of future recreational visits to the area. Furthermore, Alternative C is designed to provide recreational fishing opportunities. The educational and outreach opportunities that would be created by Alternative C are uses that were lost due to the DWH Oil Spill. Recreational anglers of all ages, the same user population that the DWH Oil Spill affected, would benefit from Alternative C. The alternative represents "in-place, in-kind" restoration and is fully consistent with OPA objectives for compensatory restoration.

Benefit to Injured Resources:

- **Component Benefits:** Alternative C's location and amenities are within the geographical footprint of the DWH injury. The Lake Charles SCEC is designed to be used by the public and to aid/enhance their knowledge of Louisiana's natural resources including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs.
- **Scope of Benefits:** The Lake Charles SCEC project at the revised location would meet the same purpose and need as Alternative A but would provide additional synergistic benefits from its partnership with the LCCM and role as part of the Port Wonder facility.
- **Public Access:** The recreational benefits of the Lake Charles SCEC under Alternative C would be broadly available to the public at an estimated entrance fee of $4.00 and would serve as a dedicated venue for a variety of outreach activities. Although access to the original Lake Charles SCEC project would be free, the approximate $4.00 fee associated with Alternative C would

allow for enhanced recreational use benefits in terms of exhibit quality and variety, as well as improved access and increased visitation by co-locating the SCEC with the LCCM. The fishing pier, which would be open to the public at no cost, would offer additional recreational benefits and would be easily accessible through connected walkways and boardwalk features. Although operating hours and schedule are still being developed, it is anticipated that the Port Wonder facility would be open on a weekly schedule year-round, except for major holidays. The SCEC would also be available for other scheduled outreach and educational events.

- **Location:** The proposed location for the Lake Charles SCEC is within the city limits of Lake Charles and is in close proximity to the nearby Visitors Bureau as well as I-10. The collocation of the Lake Charles SCEC with the LCCM, along a highly-traveled interstate corridor, provides a combined benefit to the public. The Port Wonder location would be available to a large potential visitor population. The Lakeshore Drive location, proposed under Alternative C, has greater visibility than the proposed location for Alternative A.
- **Additional Benefit Considerations:** Collocation of the Lake Charles SCEC with the LCCM offers additional benefits to the public compared to Alternative A, where the Lake Charles SCEC would be in a separate location. Under Alternative C, the public would be able to enjoy a larger, more-diverse facility on the Lake Charles shoreline, which includes access to walking trails, fishing opportunities at the proposed pier, and other recreational resources. Alternative C incorporates many of the same types of educational features and associated outdoor amenities as contained in the original project scope (Alternative A), and thus is appropriate for implementation. Furthermore, Alternative C enhances the recreational experience beyond what is considered under Alternative B, due to the incorporation of the fishing pier over Lake Charles. The fishing pier would provide a substantial improvement to the Lake Charles shoreline as this would be the only public fishing pier located on the north shore of the lake.

3) The likelihood of success of each alternative.

The alternative's goal of enhancing public education and outreach has a high likelihood of success. No land acquisition is required. The designs for the Lake Charles SCEC are technically feasible and based on proven techniques and established methods used in other educational facilities. Furthermore, the City of Lake Charles has successfully implemented, maintained, and operated the existing children's museum. The creation of the Port Wonder SPE would ensure that appropriate agreements are in place for successful operation of the shared facility. Studies conducted by the City of Lake Charles demonstrate the Port Wonder facility has good potential to earn revenues necessary to support operations. The collocation of two attractions supports operational efficiencies through shared operations (ConsultEcon, Inc. 2019). The estimated Lake Charles SCEC project life is 15 years.

4) The extent to which each alternative would prevent future injury as a result of the incident and avoid collateral injury as a result of implementing the alternative.

The Lake Charles SCEC Alternative C is not expected to play a role in preventing future injury from the spill. The Final PDARP/PEIS indicates that recreational uses have recovered to pre-spill levels (DWH Trustees 2016). The purpose of the alternative is to provide compensatory restoration for losses that occurred between April 2010 and November 2011, after which the Final PDARP/PEIS studies conclude that recreational use returned to baseline levels. Implementation of Alternative C is not expected to cause any net collateral damage to the environment.

5) The extent to which each alternative benefits more than one natural resource and/or service.

The primary NRDA benefit of Alternative C would be to provide and enhance public education and appreciation of Louisiana's natural resources. Education related to Louisiana's natural resources has potential to broadly benefit appreciation and stewardship of all Gulf resources. Furthermore, the fishing pier would provide outdoor recreation opportunities to the public where no such pier currently exists in this portion of Lake Charles.

6) The effect of each alternative on public health and safety.

Adverse impacts on public health and safety are not expected from Alternative C because minor adverse impacts would be reduced through the application of best practices and mitigation measures (see Section 4.4.5). Elements of Alternative C, including the fishing pier, would be designed for consideration and consistency with ADA standards. In addition, it is anticipated that the finished floor elevation of the building would be above the minimum floodplain elevation by 1 to 2 feet, which would account for future subsidence and potential wave action during a storm.

3.4 Oil Pollution Act Evaluation Conclusions

The LA TIG has completed its OPA evaluation of three recreational use alternatives for the Lake Charles SCEC. The OPA analysis indicates that each of these alternatives would provide recreational benefits with a strong nexus to the injuries caused by the DWH Oil Spill. The alternatives all occur in the Louisiana Restoration Area.

The proposed project modifications also would enhance and/or increase opportunities for the public's use and enjoyment of the natural resources, helping to offset the previous restrictions on public use caused by the DWH Oil Spill.

The proposed project modifications are technically feasible and use proven techniques with established methods and documented results. Recreational benefits accrue from improved public access and infrastructure associated with enhanced recreational opportunities. These benefits would be broadly available to the public over an extended timeframe. The proposed project modifications do not result in any material net change to the original project's estimated costs, as identified in the Final RP/EA #2, and so the project still would be implemented at a reasonable cost.

An environmental review indicates that adverse impacts resulting from the alternatives would be minor, localized, and short term. In addition, best practices and measures to avoid or minimize adverse impacts described in Section 4 of this Draft Supplemental RP/EA would be implemented. As a result, collateral injury would be avoided and minimized during project implementation.

4 SUPPLEMENTAL ENVIRONMENTAL IMPACT ANALYSIS

4.1 Introduction

The Lake Charles SCEC project was analyzed in the Final RP/EA #2 at an originally proposed location, which is an undeveloped site in Lake Charles near the intersection of Interstate 210 and Power Center Parkway. That analysis is incorporated by reference into this Draft Supplemental RP/EA as part of Alternative A, Original Project Scope (see Section 4 of the Final RP/EA #2). This analysis considers two additional alternatives to evaluate the Lake Charles SCEC project with modifications at a revised location on the north shore of Lake Charles in Calcasieu Parish as part of the Port Wonder facility, which would house both the Lake Charles SCEC and the LCCM. The two additional alternatives are: 1) Alternative B, Revised Location without Fishing Pier, and 2) Alternative C, Revised Location with Fishing Pier (Preferred). The No Action alternative is not further evaluated herein because impacts are not substantially different from the No Action alternative described in the Final RP/EA #2. The Affected Environment for the originally proposed location, Alternative A, generally remains the same, and is therefore incorporated by reference unless substantive changes have occurred since the release of the Final RP/EA #2 in July 2018, in which case any differences are described. The Affected Environment for Alternatives B and C would be similar, with the only difference being the addition of the lakeshore area where the pier would be constructed under Alternative C.

The following subsections describe the existing environment for the revised location of the Lake Charles SCEC project and potential environmental consequences from construction and operation of the proposed modifications to the Lake Charles SCEC project. This Draft Supplemental RP/EA incorporates by reference information contained within the Environmental Consequences analyses for the Lake Charles SCEC project in Section 4.6 of the Final RP/EA #2, including the criteria for impacts determinations, as appropriate. This Draft Supplemental RP/EA does not reevaluate seven resource topics (Table 4-1.) because there has been no change in the affected environment between the original and revised project scopes, the resource is not present in the proposed project area, or no impact to the resource would occur based on existing conditions.

Table 4-1. Resource Topics Dismissed from Detailed Analysis and Rationale

Resource Topic	Rationale for Dismissal from Detailed Analysis
Terrestrial Habitats	Project site is within existing development and other disturbances; therefore, there is no anticipated impact to terrestrial habitats.
Wildlife Species (including birds)	Project site is within existing development in an urban environment. Wildlife species present in the area are tolerant of human structures and activities; therefore, there is no anticipated impact to wildlife species.
Protected Species	No suitable habitat is present for the red-cockaded woodpecker (*Leuconotopicus borealis*) and the project site is outside known ranges for sea turtles and Gulf sturgeon (*Acipenser oxyrhynchus desotoi*). No impact to protected species is anticipated.
Land and Marine Management	Project site is within the Urban Center and Urban Core zoning areas and the project site is consistent with city zoning regulations; therefore, no impact to city land use would occur. The alternatives would have no impact on various Lake Charles or Calcasieu River management plans including: CPRA Louisiana's Comprehensive Master Plan for a Sustainable Coast, Calcasieu River & Pass, LA Dredged Material Management Plan, and LDWF Inland Waterbody Management Plans: Calcasieu River.
Fisheries and Aquaculture	There are no known aquaculture locations in Lake Charles, and commercial fishing is not known to occur in the area; therefore, the alternatives would have no impact on fisheries or aquaculture.

Resource Topic	Rationale for Dismissal from Detailed Analysis
Marine Transportation	The Calcasieu Ship Channel extends from Lake Charles to the Gulf of Mexico. This is a regulated navigable waterway, but the project facilities including the fishing pier would not impact the shipping channel.
Aesthetics and Visual Resources	Project site is within existing development in an urban landscape. New facilities with landscaping might provide a beneficial impact to aesthetics, but otherwise no impact to the aesthetic or visual quality of the area is anticipated.

4.1.1 Impact Threshold Definitions

NEPA requires federal agencies to consider the environmental effects of their actions that include impacts (also referred to as effects) on social, cultural, and economic resources, as well as on natural resources. To determine whether an action has the potential to result in significant impacts, the context and intensity of the action must be considered. Context refers to area of impacts (local, state-wide, etc.) and their duration (e.g., whether they are short- or long-term impacts). Intensity refers to the severity of impact and could include the timing of the action (more intense impacts would occur during critical periods like high visitation or wildlife breeding/rearing, etc.). Intensity is also described in terms of whether the impact would be beneficial or adverse.

For purposes of this document, impacts are characterized as minor, moderate, or major, and short term or long term. The analysis of beneficial impacts focuses on the duration (short or long term), without attempting to specify the intensity of the benefit. The definition of these characterizations is consistent with that used in the Final PDARP/PEIS (DWH Trustees 2016:Section 6, Table 6.3-2). The environmental consequences sections (Sections 4.2 through 4.4) analyze the beneficial and adverse impacts that would result from the implementation of any of the alternatives considered in this Draft Supplemental RP/EA.

4.1.2 Best Practices

The Final PDARP/PEIS (DWH Trustees 2016:Section 6, Appendix A) contains best practices to avoid or minimize impacts to natural resources, including protected and listed species and their habitats. Additional best practices are identified below, which generally include design criteria, best practices, lessons learned, expert advice, and tips from the field. The environmental consequences described in Sections 4.2 through 4.4 acknowledge that the best practices in the Final PDARP/PEIS and those listed below may be established during project planning and implementation to avoid or minimize the potential adverse impacts from an alternative.

4.1.2.1 GEOLOGY AND SUBSTRATES

Specific measures would be implemented during construction to minimize erosion and overall soil impacts. To the extent possible, the alternatives would use the existing development footprints and disturbed areas (e.g., parking areas). These would include following established best practices for construction activities such as the implementation of an erosion control and stormwater management plan, the installation of sediment traps prior to commencement of construction activities, and ongoing construction monitoring to ensure compliance. Any in-water work, such as construction of pilings or culverts, would be performed behind silt curtains to isolate construction impacts.

4.1.2.2 HYDROLOGY AND WATER QUALITY

Pollution prevention plans would be prepared as necessary, in conjunction with the National Pollutant Discharge Elimination System permitting process prior to construction. These plans would include all specifications and best practices necessary for control of erosion and sedimentation due to construction-related activities. The construction best practices, in addition to other avoidance and mitigation measures as required by state and federal regulatory agencies, would minimize water quality and hydrology impacts.

4.1.2.3 CULTURAL RESOURCES

Measures that serve to mitigate impacts to cultural resources include the following:

- Cultural and historic resources would be considered when preparing site-specific restoration measures and management actions.
- Where there is a likelihood of disturbance of cultural resources, cultural resources managers would conduct appropriate surveys to assess the methods and location of restoration and management actions.
- Restoration measures and management actions would be designed to avoid cultural resources to the extent practicable.
- If any cultural material is discovered during the construction of this project, work would cease in the vicinity of the discovery and the project proponent shall contact the U.S. Department of the Interior Gulf Restoration Office immediately.

4.1.2.4 INFRASTRUCTURE

Measures that serve to mitigate impacts to infrastructure include the following:

- Prior to construction, a traffic control plan would be developed and implemented to ensure minimal interruptions to the transportation network. Care would be taken during construction activities to prevent impeding traffic flow and obstructing access to the alternative area.
- The use of impervious materials would be avoided as much as feasible.

4.1.2.5 PUBLIC HEALTH AND SAFETY

Measures that serve to mitigate impacts to public health and safety include the following:

- Caution would be taken to prevent spills of oils and grease if handling fuels on site.
- Spill mitigation measures would be employed immediately following a spill of any hazardous material.
- The load compartments of trucks hauling dust-generating materials would be covered.
- Heavy water spray or chemical dust suppressant would be used in exposed areas to control airborne dust.
- Any produced waters or human waste would not be discharged unless the Department of Health and Hospitals requirements are met or exceeded.
- Flood access and evacuation plans would be filed on site.
- The resiliency of the proposed structures to sustain storm surges and hurricanes would be determined during final design.

4.2 Physical Environment

4.2.1 Geology and Substrates

4.2.1.1 AFFECTED ENVIRONMENT

The geology and substrates affected environment for Alternative A is described in Section 4.6.1.1 in the Final RP/EA #2. At the time of this analysis, there have been no changes to geology and substrate resources within the resource study area analyzed in the Final RP/EA #2.

The geology and substrates resource study area under Alternatives B and C includes the Port Wonder site, which is located in Calcasieu Parish on a previously disturbed parcel. The Port Wonder building would be located between the existing Harrah's Casino parking garage, which is currently not in use, and the existing cypress pond alligator viewing area managed by the City of Lake Charles, where a paved parking lot currently exists. The area immediately surrounding the project area includes a mix of commercial properties to the north and west, the Lake Charles/Southwest Louisiana Convention and Visitors Bureau, demolished land to the east that previously served Harrah's Casino riverboat complex and Lake Charles Hilton Heliport, and Lake Charles to the south. The geology in the project area is characterized by undifferentiated small coastal river deposits (Louisiana Geological Survey 2002). The project area includes poorly drained Udifluvent soils made of sandy to clayey dredge spoils and urban land dominated by impervious surfaces, each comprising approximately 50% of the project area (Natural Resources Conservation Service [NRCS] 2018). The site is not known to flood or pond (NRCS 2018) and is relatively flat, with slopes ranging from 0% to 2% and elevations up to approximately 10 feet above sea level, referenced to the North American Vertical Datum of 1988 (U.S. Geological Survey [USGS] 2015, 2018).

4.2.1.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.1.1 of the Final RP/EA #2 concluded there would be localized, temporary, and permanent disturbances to terrestrial soils and substrates from construction of the proposed project, which would result in minor, short- and long-term adverse impacts on geology and substrates.

Alternative B: Revised Location without Fishing Pier

Alternative B would require ground-disturbing activities, surficial digging, and sitework (foundations) for the construction of the Port Wonder building, parking lots, play area, boardwalks, and other ancillary structures. The depth of disturbance for parking lots, play area, the Port Wonder building, and boardwalks would be determined during final engineering and design.

Construction activities under Alternative B would lead to similar types of short-term disturbance of geologic materials and substrates, including soils, as described under Alternative A. These short-term adverse impacts would include contributions to localized erosion and soil compaction. However, the area for Alternative B has been previously developed and is therefore already disturbed. Staging for equipment and materials would be placed onsite at the proposed parking areas, or in a different location deemed appropriate during final engineering and design. Under Alternative B, locating staging in areas where disturbance has previously occurred or where disturbance would occur as part of other planned construction would reduce the overall area and intensity of disturbance that could contribute to erosion or compaction of soils. In addition, the project design would implement erosion and sediment control best practices described in Section 4.1.2 as part of a Stormwater Pollution Prevention Plan (SWPPP), which

would include the installation of sediment traps prior to commencement of construction activities and monitoring throughout the construction period.

Outdoor areas would be landscaped to prevent exposure of soils and provide an appropriate environment for visitors to explore and engage in recreational activities. As a result, Alternative B would not result in long-term disturbances of soils and substrates that would lead to erosion or soil degradation, and there would be no long-term adverse impact on geology and substrates during operations.

Temporary disturbance to geology and substrates would be detectable but would not result in changes to geologic features or soil characteristics, and erosion and soil compaction would be localized. Permanent disturbance of geologic materials and substrates, including soils, would not lead to changes in local geologic features or soil characteristics, and long-term effects are not expected. Therefore, Alternative B would result in short-term minor adverse impacts on geology and substrates.

Alternative C: Revised Location with Fishing Pier (Preferred)

The types of construction and operation activities under Alternative C would be similar to those described under Alternative B and would result in the same types of effects on geology and substrates; however, under Alternative C, the construction of the pier would contribute to additional disturbance of geologic materials and substrates from both on-land and in-water work that could result in short-term erosion and sedimentation from ground and marine substrate disturbance, pile driving, and vehicle and machinery operation and use. These disturbances would be temporary and detectable but would not lead to changes to geologic features or soil characteristics, and erosion and soil compaction would be localized. Therefore, Alternative C would result in short-term minor adverse impacts on geology and substrates.

4.2.2 Hydrology and Water Quality

4.2.2.1 AFFECTED ENVIRONMENT

The proposed project would not involve any activities that would require or disrupt groundwater resources. Therefore, this analysis is limited to the hydrology and water quality of surface water resources.

The hydrology and water quality affected environment for Alternative A is described in Section 4.6.1.2 in the Final RP/EA #2. At the time of this analysis, there have been no changes to surface water resources under Alternative A. However, there have been updates to water quality inventories of the English Bayou (subsegment LA030702_00) within the Alternative A project area, as described in the *2018 Louisiana Water Quality Inventory: Integrated Report* (LDEQ 2018a, 2018b, 2018c). This subsegment no longer fully supports Primary Contact Recreation (PCR) (swimming) and Secondary Contact Recreation (SCR) (boating) designated uses and continues to be listed as impaired for Fish and Wildlife Propagation (FWP) (fishing). These impairments are due to suspected discharges from municipal separate stormwater systems, atmospheric deposition, natural sources, and unknown sources. The English Bayou subsegment continues to fully support agricultural uses.

The hydrology and water quality resource study area under Alternatives B and C includes surface waterbodies within or crossing the project area boundary. The project area is located along the northeast shore of Lake Charles within the Calcasieu River-Bayou D'Inde watershed (Hydrologic Unit Code [HUC]-0808020603), which is part of the Lower Calcasieu subbasin (HUC-08080206) (EPA 2017). These hydrologic systems are located within the Calcasieu-Mermentau basin, in which the project area for Alternative A is also located (EPA 2017). Alternatives B and C are within the 100-year floodplain (Federal Emergency Management Agency [FEMA] 2018a).

Calcasieu River and Lake Charles are the only surface waterbodies within or crossing the project area boundary under Alternatives B and C, and both are described in the *2018 Louisiana Water Quality Inventory: Integrated Report* (LDEQ 2018a, 2018b, 2018c). The Calcasieu River flows south through Lake Charles to the Gulf of Mexico. North and south of Lake Charles, the Calcasieu River (subsegment LA030301_00), which runs approximately 21 miles, fully supports PCR and SCR designated uses. This subsegment is listed as impaired for FWP due to suspected industrial point source discharges. Lake Charles (subsegment LA030302_00) is classified as an estuary and covers an area of approximately 1.7 square miles. Lake Charles fully supports SCR but is impaired for PCR and FWP due to suspected industrial point source and municipal discharges, sanitary sewer overflows, on-site treatment systems (septic or other similar decentralized systems), and natural sources. The north beach of Lake Charles, which is evaluated for swimming advisory tracking purposes only, is impaired for PCR due to *enterococcus* from sewage discharge, on-site treatment systems, and natural sources. Total maximum daily loads have been completed for polychlorinated biphenyls (PCBs) for Lake Charles and the subsegment of Calcasieu River running north and south of Lake Charles.

The LDEQ regulates all surface waters, including wetlands, as "waters of the state" under Part IX, Water Quality, of the Louisiana Environmental Regulatory Code (LDEQ 2017), which is more inclusive than "waters of the U.S.", as defined by the Clean Water Act and implementing regulations. As such, all waterbodies within the resource study area for hydrology and water quality are regulated as waters of the state under LDEQ. Lake Charles is characterized as an estuarine and marine, subtidal deepwater habitat with an unconsolidated bottom (USFWS 2018). The closest wetlands, which are north of I-10 and outside the project area, are connected to the northwest corner of Lake Charles (USFWS 2018).

4.2.2.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.1.2 of the Final RP/EA #2 concluded there would be temporary and permanent disturbances to hydrology and water quality from construction of the proposed project, which would result in minor, short- and long-term adverse impacts on hydrology and water quality. Short-term impacts would be minimized through best practices, and long-term impacts would be minimized through avoidance and mitigation measures as required by state and federal regulatory agencies. Although existing water quality conditions have changed since the Final RP/EA #2, as described in the affected environment for Alternative A, the types and intensities of impacts to surface hydrology and water quality would remain the same.

Alternative B: Revised Location without Fishing Pier

Alternative B would require ground-disturbing activities, surficial digging, and sitework for the construction of building, parking lots, play area, boardwalks, and other ancillary structures. These construction activities would contribute to localized, short-term erosion and sedimentation of soils into surface waterbodies and changes to surface water flows, which would temporarily alter surface hydrology and degrade surface water quality. Incidental spills of fuels, oils, lubricants, or other hazardous materials used for construction equipment could reach surface waterbodies, including through stormwater runoff, also resulting in temporary degradations to water quality. These impacts would be similar to those described under Alternative A.

New impervious surfaces resulting from the Port Wonder building and parking lots, would result in long-term reduced infiltration and increased stormwater runoff that could permanently alter surface water hydrology. Increased stormwater runoff would also contribute to sediment load in and carry pollutants to Calcasieu River and Lake Charles, resulting in degradations to water quality. Because the Alternative B

project area has previously been disturbed and is dominated by impervious surfaces, long-term changes to surface water hydrology from reduced infiltration and increased stormwater runoff would be the same as those occurring under existing conditions. Furthermore, no impacts would result from the operation of the aquaria because occasional water discharges to the municipal sanitary sewer system would be coordinated with the City of Lake Charles to ensure compliance with water quality standards. As a result, the project would not contribute to any long-term changes to surface hydrology and water quality and would not result in changes to existing floodplains.

Erosion and sediment control best practices implemented as part of the SWPPP, in addition to preparation and implementation of a Spill Prevention and Control Plan (SPCP), would avoid changes to surface water hydrology and quality by minimizing sediment and pollution loads into Lake Charles and controlling stormwater runoff. The final design of the Port Wonder site would include details on stormwater management and drainage plans to be included in the SWPPP. For example, a stormwater retention pond may be constructed to capture and control stormwater runoff if determined necessary during final engineering and design.

Activities during the construction period of the proposed project would lead to changes to surface hydrology and water quality. However, these changes would be temporary and localized, quickly becoming undetectable, and would not exceed state water quality standards or result in detectable changes to natural or beneficial floodplain values. In the event of a spill of hazardous materials reaching surface waterbodies through stormwater runoff, detectable changes to water quality would be expected, but changes would be small and localized and would quickly become undetectable. Therefore, Alternative B would result in short-term minor adverse impacts on surface hydrology and water quality.

Alternative C: Revised Location with Fishing Pier (Preferred)

The types of construction and operation activities under Alternative C would be similar to those described under Alternative B and would result in the same types of effects on surface hydrology and water quality; however, under Alternative C, a fishing pier would be constructed on the north shore of Lake Charles. Construction of the fishing pier would require both on-land and in-water work that could result in short-term erosion and sedimentation from ground and marine substrate disturbance, pile driving, and vehicle and machinery operation and use. These construction activities would contribute to localized, short-term erosion and sedimentation of soils into surface waterbodies and changes to surface water flows, which would temporarily alter surface hydrology and degrade surface water quality. Incidental spills of fuels, oils, lubricants, or other hazardous materials used for pier construction equipment could reach surface waterbodies directly through spills during in-water work or indirectly through stormwater runoff from spills on land, also resulting in temporary degradations to water quality.

Long-term changes to surface water hydrology from reduced infiltration and increased stormwater runoff would be the same as those described under Alternative B, which would also be the same as those occurring under existing conditions. As a result, the project would not contribute to any long-term changes to surface hydrology and water quality.

As part of LDEQ's regulatory requirements for waters of the state, any work in waters of the state would require discharge permits to control water pollution and protect designated uses; the preparation and implementation of a SPCP to prevent and control any accidental spills of fuels or other pollutants; and best practices to maintain water quality and meet water quality standards (LDEQ 2017). The proposed project would perform all work in accordance with state and federal permitting requirements and any additional avoidance and mitigation measures as required by state and federal regulatory agencies to minimize impacts on hydrology and water quality. Construction of the proposed project would also implement a SWPPP (described under Alternative B) to avoid changes to surface water hydrology and

quality by minimizing sediment and pollution loads into surface waterbodies and controlling stormwater runoff.

Activities during the construction period of the proposed project would lead to changes to surface hydrology and water quality. However, these changes would be temporary and localized, quickly becoming undetectable, and would not exceed state water quality standards. If an incidental spill results in hazardous materials reaching surface waterbodies through stormwater runoff, detectable changes to water quality would be expected, but changes would be small and localized and would quickly become undetectable. Therefore, Alternative C would result in short-term minor adverse impacts on surface hydrology and water quality.

4.2.3 Air Quality

4.2.3.1 AFFECTED ENVIRONMENT

The air quality affected environment for Alternative A is described in Section 4.6.1.3 in the Final RP/EA #2. At the time of this analysis, there have been no changes to air quality within the resource study area analyzed in the Final RP/EA #2.

The air quality resource study area for Alternatives B and C is Calcasieu Parish, which is the same resource study area analyzed for the original project scope for Alternative A. Calcasieu Parish remains in attainment for all U.S. National Ambient Air Quality Standards (EPA 2018) and is therefore in compliance with all air quality standards. Air quality around Lake Charles remains, on average, good, which is the highest achievable level on the Air Quality Index (EPA 2019).

4.2.3.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.1.3 of the Final RP/EA #2 concluded there would be temporary increases in criteria pollutant and other emissions from construction of the proposed project and on-going emissions from visitor travel to the Lake Charles SCEC. These increases in emissions would result in minor, localized, short- and long-term adverse impacts on air quality.

Alternative B: Revised Location without Fishing Pier

The impacts from Alternative B would be the same as Alternative A, because the air quality resource study area for Alternative B (Calcasieu Parish) is the same as the resource study area analyzed for Alternative A; there have been no changes to existing conditions related to air quality; and activities required for Alternative B would be comparable to those required under Alternative A. Therefore, Alternative B would result in minor, localized, short- and long-term adverse impacts on air quality.

Alternative C: Revised Location with Fishing Pier (Preferred)

The impacts from Alternative C would be the same as Alternative A, because the air quality resource study area for Alternative C (Calcasieu Parish) is the same as the resource study area analyzed for Alternative A, and there have been no changes to existing conditions related to air quality. Activities required for Alternative C would be similar to those required for Alternative A, with the exception of construction of the pier. Pier construction would require the use of additional equipment for in-water and on-land work, which would contribute to criteria pollutant and other emissions. However, these additional emissions from pier construction would not cause emissions to meet or exceed Clean Air Act *de minimis*

criteria for general conformity (40 CFR 93.153). As a result, Alternative C would result in minor, localized, short- and long-term adverse impacts on air quality.

4.2.4 Noise

4.2.4.1 AFFECTED ENVIRONMENT

The noise affected environment for Alternative A is described in Section 4.6.1.4 in the Final RP/EA #2. At the time of this analysis, there have been no changes to noise resources or receptors within the resource study area analyzed in the Final RP/EA #2.

Noise is generally defined as unwanted sound. Sound becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources such as automobiles and trucks, and stationary sources such as construction sites, machinery, or industrial operations. Ambient noise at the Alternatives B and C site is from vehicular traffic, primarily I-10, occasional boat traffic on Lake Charles, and natural ambient noise such as wind and waves. The level of noise varies, depending on the season, time of day, number and types of noise sources, and distance from the noise source.

4.2.4.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.1.4.2 of the Final RP/EA #2 concluded there would be temporary generation of noise during construction of the proposed project and on-going generation of noise associated with visitor parking and recreation. These increases in noise disturbance would result in localized, moderate, short-term adverse impacts and localized, minor, long-term adverse impacts on noise receptors.

Alternative B: Revised Location without Fishing Pier

Alternative B would generate construction noise associated with equipment during construction of the proposed alternative. Construction activities would include mobilizing equipment, preparing the sites, foundation installation/construction, excavating, grading, and fill placement. Additionally, Alternative B would include transportation of construction materials to the project site, which may include trucks or other types of heavy equipment. Due to the close proximity of I-10 and lack of residences and sensitive noise receptors in the vicinity of the project site, impacts from construction activities from Alternative B would be minor short-term adverse impacts, and there would be no long-term impacts from traffic associated with visitors of the facility.

Alternative C: Revised Location with Fishing Pier (Preferred)

Alternative C would result in the same short-term impacts as described under Alternative B and would not result in long-term noise impacts from traffic associated with visitors of the facility. Alternative C would result in additional noise during construction of the fishing pier. The noise generated from construction of the fishing pier would be minor and short term, with noise contribution being localized and unlikely to affect current user activities.

4.3 Biological Environment

4.3.1 Aquatic Habitats

4.3.1.1 AFFECTED ENVIRONMENT

No aquatic habitats were present at the proposed location for Alternative A.

For Alternatives B and C, the proposed project site is located on the northern bank of Lake Charles in Lake Charles, Louisiana. The project site is located in the South-Central Plains (35) Level III ecoregion and the Floodplains and Low Terraces (35b) Level IV ecoregion (Daigle et al. 2006). The South-Central Plain is composed of rolling plains that are broken by nearly flat Pleistocene fluvial terraces, bottomlands, sandy low hills, and cuestas. The floodplains and low terraces in this region are nearly level, veneered by Holocene alluvium, and contain natural levees, swales, oxbow lakes, and meander scars. Many areas are frequently flooded, and forested wetlands are characteristic. Bottomlands provide important habitat for a variety of fish and wildlife. Soils are somewhat poorly drained to very poorly drained, clayey and loamy (Daigle et al. 2006). Lake Charles is an estuarine and marine deep-water lake (USFWS 2017) with brackish water habitat (GEC Environmental Consultants 2007). The lake shoreline is a narrow strip of sandy beach with no vegetation.

The project site is located in the Calcasieu Basin, which is located in the southwestern portion of Louisiana and covers approximately 4,105 square miles. The headwaters are in the hills west of Alexandria and the river flows approximately 215 miles to the Gulf of Mexico (LDWF 2015). Navigation improvements have modified the river from its mouth to approximately 52.6 miles upstream, which includes a man-made shipping channel that stretches from the Gulf of Mexico to Lake Charles. The river flows through four major lakes: Lake Charles, Prien Lake, Moss Lake, and Calcasieu Lake; however, the shipping channel mostly bypasses Prien Lake and Calcasieu Lake (GEC Environmental Resources 2007). The landscape in the basin varies from pine-forest hills in the upper end to brackish and salt marshes in the lower reaches around Calcasieu Lake. The Calcasieu River varies from a small, fast-flowing stream in the headwaters to a broad sluggish estuary from Lake Charles to the Gulf of Mexico. The lower portion of the river is subject to tidal variation extending 65 miles upstream with a mean tidal range of 0.7 foot at Lake Charles. A saltwater barrier across the Calcasieu River at Lake Charles divides the upper and lower basins and prevents saltwater intrusion from degrading irrigation water for rice production (LDWF 2015).

As described in Section 4.2.2, Hydrology and Water Quality, Lake Charles (Subsegment LA030302_00) is listed as not fully supporting the designated use for PCR (swimming), fully supporting the designated use for SCR (boating), and is listed as not supporting the designated use for FWP (LDEQ 2018a).

4.3.1.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.1.1 of the Final RP/EA #2 concluded there would be no impacts to aquatic habitats from Alternative A.

Alternative B: Revised Location without Fishing Pier

Primary impacts to aquatic habitats would result from temporary impacts of project facility construction along the shoreline of Lake Charles, including potential erosion and sedimentation, which would result in localized, short-term minor adverse impacts on aquatic habitats. However, because the project site is currently developed, long-term adverse impacts associated with stormwater runoff of impermeable

surfaces into Lake Charles is not expected to exceed baseline conditions. No in-water work is proposed under this alternative; therefore, no direct impacts to aquatic habitats would occur.

Alternative C: Revised Location with Fishing Pier (Preferred)

In addition to the construction activities discussed under Alternative B, Alternative C would involve in-water work to construct the fishing pier. In-water work associated with the fishing pier would consist of driving approximately 60 wooden piles into the nearshore marine sediments and constructing approximately 2,250 square feet of over-water decking (approximately 150 feet long by 15 feet wide). In-water work would occur in relatively shallow estuarine habitat. Placement of new piles would use the least-invasive technique, given substrate and construction cost considerations (e.g., jetting, pushing, or driving the piles). In-water dredging or digging associated with installation of the pilings for the fishing pier would not be anticipated. Temporary disturbances from construction of these features could impact aquatic vegetation resulting in minor short-term adverse impacts. Permanent impacts to aquatic habitats would occur from pile installation, which would lead to substrate disturbance and compaction and result in minor long-term adverse impacts.

The pier would permanently impact the shoreline area where the proposed pier is placed and would potentially impact nearby shoreline and open water areas because of increased human activities (e.g., shore-based fishing, litter). These impacts would only affect small areas of habitat in the footprint of the pier; therefore, adverse impacts would be minor but long term in nature.

Potential impacts to habitats would be avoided or minimized to the extent practicable during design and construction, as determined necessary by the Implementing Trustee. Additionally, the facility would implement trash management that includes a centralized dumpster repository as well as routine trash collection efforts.

4.3.2 Marine and Estuarine Fauna, Essential Fish Habitat, and Managed Fish Species

4.3.2.1 AFFECTED ENVIRONMENT

The project location for Alternative A is located on an inland parcel and does not contain marine or estuarine habitats.

The project location for Alternatives B and C is located on the shoreline of Lake Charles, which is an estuarine and marine deep water lake (USFWS 2017) located along the Calcasieu River in the Calcasieu Basin. Approximately 90 species of freshwater fishes, 30 species of mussels, and 16 species of crawfish are found within the Calcasieu Basin. No threatened or endangered fish species are found in the Calcasieu River basin (LDWF 2014), but three fish species, three mussel species, and three crustacean species are listed as species of conservation concern in LDWF's State Wildlife Action Plan (LDWF 2015). Relatively few stockings of fish have been conducted on the Calcasieu River. Species that historically have been stocked include bluegill (*Lepomis macrochirus*), channel catfish (*Ictalurus punctatus*), northern largemouth bass (*Micropterus salmoides*), striped bass (*Morone saxatilis*), and hybrid striped bass.

The Calcasieu River is popular for both freshwater and saltwater recreational fishing (LDWF 2014) with limited commercial fishing occurring on the middle and lower sections of the river (LDWF 2015); however, commercial fishing is not known to occur in Lake Charles (City of Lake Charles 2019a). Spotted bass (*Micropterus punctulatus*) and bream (*Lepomis* spp.) are often targeted in the upper reaches of the river. Largemouth bass, catfish, crappies (*Pomoxis* spp.), and freshwater drum (*Aplodinotus grunniens*) are targeted species in the middle portion. Spotted seatrout (*Cynoscion nebulosus*), southern

flounder (*Paralichthys lethostigma*), and red drum (*Sciaenops ocellatus*) are targeted species on the lower portion (LDWF 2014). Calcasieu Lake supports a small but viable commercial fishing industry, which includes the harvest of crabs, shrimp, and oysters (LDWF 2015).

Lake Charles is designated essential fish habitat (EFH) for coastal migratory pelagic resources, red drum, reef fish, and shrimp (NOAA 2018).

4.3.2.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.1.1 of the Final RP/EA #2 concluded there would be no impacts on marine or estuarine species, EFH, or managed fish species under Alternative A.

Alternative B: Revised Location without Fishing Pier

No impacts to marine or estuarine species, EFH, or managed fish species are anticipated, because no in-water work is proposed to occur under Alternative B.

Alternative C: Revised Location with Fishing Pier (Preferred)

Impacts to marine and estuarine species, EFH, and managed fish species would occur as a result of the fishing pier proposed under Alternative C. In-water work consists of driving approximately 60 wooden piles into the nearshore marine sediments and constructing approximately 2,250 square feet of over-water decking (approximately 150 feet long by 15 feet wide). Temporary disturbances from construction activities are expected to be limited in scope and duration. Aquatic fauna within the area would likely find refuge in plentiful suitable habitats nearby; therefore, short-term adverse impacts from construction activities are not anticipated. The fishing pier would permanently alter the shoreline area and open water areas where the structure is placed. Although these impacts may affect aquatic species and EFH in localized areas, the footprint of the fishing pier is relatively small; therefore, the fishing pier would result minor, long-term adverse impacts on aquatic species and EFH.

Recreational use may lead to long-term effects on aquatic species as a result of increased human activities. An increase in fishing pressure would result in an increase in the use and potential loss of hook and line gear. Parking capacity would limit the total number of visitors, thereby putting an upper limit on the magnitude of fishing pressure resulting from Alternative C. Although recreational fishing would increase from current levels over the long term, it would not be expected to have detectable adverse impacts on species.

Potential impacts to EFH, estuarine and aquatic fauna, and managed fisheries would be avoided or minimized to the extent practicable during design and construction. The timing of in-water noise-producing activities would be planned to minimize disturbances to aquatic life. Additionally, the Port Wonder facility would implement trash management that includes a centralized dumpster repository as well as routine trash collection efforts. Best practices and conservation measures would be implemented to minimize the magnitude and duration of impacts to EFH, aquatic fauna, and managed species, as determined necessary by the Implementing Trustee, after consultation with other interested Trustees.

4.4 Socioeconomic Environment

4.4.1 Socioeconomics and Environmental Justice

4.4.1.1 AFFECTED ENVIRONMENT

The project areas for Alternative A and Alternatives B and C are located within Lake Charles, Calcasieu Parish, Louisiana. The population in Lake Charles and Calcasieu Parish comprise 1.6% and 4.3%, respectively, of Louisiana's population. Calcasieu Parish has a minority population of approximately 30%, which is less than the minority populations of Louisiana (approximately 38%) and slightly greater than the United States (approximately 28%). However, more than half of Lake Charles' population is considered minority (approximately 55%), which is more than the parish, state, and country overall.

The socioeconomics and environmental justice affected environment for Alternative A (Census Tract 17) is described in Section 4.6.3.1 in the Final RP/EA #2. Although the census tract for Alternative A remains the same (Census Tract 17, Calcasieu Parish, Louisiana), new socioeconomic data have been released since the time of the Final RP/EA #2 analysis. These updated data for Alternative A, in addition to socioeconomic data for Alternatives B and C, are described in Table 4-2.

Table 4-2. Demographic, Economic, and Social Data for the Lake Charles SCEC Project

Description	Alternative A: Census Tract 17	Alternatives B and C: Census Tract 5	Lake Charles	Calcasieu Parish	Louisiana	United States
Total Population	9,583	3,283	75,194	198,753	4,663,461	321,004,407
Total Minority Population*	37.0%	18.1%	55.1%	30.1%	38.1%	27.8%
Population Under the Age of 5	6.9%	4.7%	6.9%	7%	6.7%	6.2%
Population 65 and Older	12.8%	16.4%	15.2%	14%	14.1%	14.9%
Median Age	35.4	41.4	35.0	36.1	36.4	37.8
Median Household Income	$36,310	$47,377	$40,910	$48,219	$46,710	$57,652
Population below Poverty Level	20.7%	15.9%	22.9%	16.8%	19.6%	14.6%
Less than High School Graduate (Population 25 Years and Over)	13.7%	2.6%	15.4%	13.9%	15.7%	12.7%

* Minority populations comprise non-white populations, including Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and other races, as described by U.S. Census Bureau (2017a).

Sources: U.S. Census Bureau (2017a, 2017b, 2017c)

Alternative A is located in Census Tract 17, where the proportion of minority residents (approximately 37%) is greater than the parish and the country but less than the city and state. The population under the age of 5 (6.9%) and the median age (35.4 years) within the census tract for Alternative A is comparable to the city, parish, state, and country. The median household income for Alternative A ($36,310) is approximately 12% lower than the city, 28% lower than the parish, 25% lower than the state, and 45% lower than the country. The population living below the poverty level is lower for Alternative A than Lake Charles but higher than the parish, state, and country. In addition, the population with a less than

high school degree within the census tract for Alternative A (13.7%) is less than the city and state (15.4% and 15.7%, respectively), comparable to the parish (13.9%), and slightly higher than the country (12.7%).

Alternatives B and C are located in Census Tract 5, where minority residents comprise approximately 18%, which is lower than minority populations in the city, parish, state, and country. In this census tract, the population under the age of 5 (4.7%) is also lower than the populations in the city, parish, state, and country, but the median age of 41.4 is higher than the larger areas. The median household income for Alternatives B and C ($47,377) is 1.8% lower than the parish, 20% lower than the country, 15% higher than the city, and 1.4% higher than the state. The population living below the poverty level is higher than the country but lower than the city, parish, and state. The population with a less than high school degree within the census tract for Alternatives B and C (2.6%) is significantly less than the city (15.4%), parish (13.9%), state (15.7%), and country (12.7%).

4.4.1.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.3.1 of the Final RP/EA #2 concluded there would be short- and long-term socioeconomic benefits from implementation of the proposed project due to short-term increases in employment and long-term educational and recreational opportunities. Because there are no significant areas of minority or low-income populations (defined as minority or low-income populations that exceed 50% of the population or are more than 10% of the general population) within the original project area compared to the larger population, there would not be disproportionate impacts on environmental justice populations.

Alternative B: Revised Location without Fishing Pier

Similar to Alternative A, Alternative B would not require displacements or demographic shifts from implementation of the project. Implementation of the proposed project under Alternative B would employ temporary workers and provide educational and recreational opportunities, leading to the same short- and long-term beneficial impacts described under Alternative A.

The population within the project area for Alternative B is not significantly minority or low-income when compared to the city, parish, state, or country. As a result, there would not be a disproportionate impact on environmental justice populations.

Alternative C: Revised Location with Fishing Pier (Preferred)

The short- and long-term benefits under Alternative C would be the same as those described under Alternative B. The pier would be available to the public at no cost, resulting in additional long-term beneficial impacts. Because Alternative C is located within the same census tract as Alternative B, which does not contain significant minority or low-income populations when compared to the city, parish, state, or country, there would not be a disproportionate impact on environmental justice populations.

4.4.2 Cultural Resources

4.4.2.1 AFFECTED ENVIRONMENT

The cultural resources affected environment for Alternative A is described in Section 4.6.3.2 in the Final RP/EA #2. There have been no changes to the original cultural resources analysis within the resource study area analyzed in the Final RP/EA #2.

Under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), agencies are required to make an attempt to identify, in coordination with other interested parties including State Historic Preservation Offices (SHPOs) and Native American tribal groups, whether historic properties are present within the area of effect of an undertaking and whether they would be significantly impacted by that undertaking. Historic properties may include archaeological sites, historic structures, historic districts, landscapes, battlefields, or shipwrecks. Also included are Traditional Cultural Properties, which may be defined as locations that are eligible for inclusion in the National Register of Historic Places (NRHP) due to their association with practices or beliefs of a modern community that are tied to a community's sense of history, place, or identity (Parker and King 1998). Projects that are directed, overseen, funded, partially funded, or permitted by a federal agency are considered undertakings.

When humans arrived in North America, the coastline reached farther offshore than its current location, due to water being locked in the glaciers that capped the continent. At the end of the last glaciation, sea levels rose, but silt carried down the Mississippi River accumulated in the Gulf of Mexico, weighing down earlier deltas, creating new lands in former swamps, raising levees, and eroding new channels. Humans have occupied this shifting area along the Gulf of Mexico and in Louisiana for the last 11,500 years. Nine distinct cultural periods have been identified within the region potentially affected by the project area. These periods are summarized in Table 4-3.

Table 4-3. Cultural Periods within the Region Potentially Affected by the Project Area

Period	Date	Major Characteristics
Paleoindian	10,000–8000 B.C.	Lithic tool assemblages including lanceolate projectile points found with Pleistocene-era megafauna kill sites. May be present on subsided landforms in the Gulf of Mexico that are subject to shoreline erosion, subsidence, or channel meander, and rising sea levels.
Archaic	8000–500 B.C.	Development of a broad subsistence base and increased use of regionally specific plant and animal resources. Adaptation in tool production to conform to new hunting techniques, food preparation, and related activities. Production of stone vessels, exotic trade materials, and ceramics.
Woodland	500 B.C.–A.D. 1200	Development of agriculture, increased use and variability of ceramics, proliferation of earthworks, and the appearance of the bow and arrow increased inter-societal trade of exotic items. Settlements aggregated around river valleys.
Mississippian	A.D. 1200–1542	Establishment of the Plaquemine culture in Louisiana. Maize becomes a central part of cultural diet over other food sources. Construction of large mound sites, and establishment of long-distance trade networks.
European Exploration	A.D. 1542–1699	Spain conducts first exploration of Louisiana ca. 1542 and encounters large settlements of Native Americans. Only minor European colonization occurred over the next 150 years.
European Colonization	A.D. 1699–1803	France begins to colonize the Louisiana Territory in the 1700s, while Spain establishes early missions in the area. European settlements focus on the Mississippi River in southern Louisiana, thus the French and Indian War (1754–1763). France relinquishes ownership of Louisiana to Spain until 1800. In 1803, the United States signs the Louisiana Purchase treaty with France.
Antebellum	A.D. 1803–1861	Orleans Territory becomes State of Louisiana in 1812. Louisiana flourishes as a result of slave labor at plantations along the Mississippi River, and the introduction of sugar cane crops. State population reaches 700,000 people, with most living in or near New Orleans.
Civil War and Reconstruction	A.D. 1861–1890	Louisiana experiences economic hardships during the Civil War, plantations decrease from 1,200 to fewer than 200, reorganization of statewide economics and federal reconstruction begins.
Modern	A.D. 1890–present	Railroads as major form of transportation are replaced by modern roadways, increasing development into rural areas. The petroleum industry is developed with most oil and gas production in Louisiana occurring in the southern half of the state. Oil production expands after World War II and peaks in 1970. Agriculture, petroleum, fishing, and tourism, constitute the major economic drivers.

4.4.2.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.3.2 of the Final RP/EA #2 concluded there would be no known short- or long-impacts on cultural resources because Alternative A would be implemented in accordance with all applicable laws and regulations concerning the protection of cultural and historic resources. Cultural and historic resources would be considered when preparing site-specific restoration measures and management actions. Where there is a likelihood of disturbance of cultural resources, cultural resources managers would conduct appropriate surveys to assess the methods and location of restoration and management actions. Restoration measures and management actions would be designed to avoid cultural resources to the extent practicable.

Alternative B: Revised Location without Fishing Pier

An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards used the Louisiana Division of Archaeology (LDOA) Louisiana Cultural Resources Map, a limited-access online database, to conduct an archaeological records review for potential cultural resources located within or in the vicinity of Alternative B. No cultural resources or surveys have been recorded within the footprint of the proposed project area.

The landform on which the terrestrial area of potential effects (APE) for this project's proposed construction is an artificial formation built as part of the construction of the present-day I-10/U.S. Highway 90. Constructed after 1948 and prior to 1955, the land formation is old enough to contain archaeological deposits, but as the land use of the area is well documented and understood, it is unlikely that archaeological deposits would be found at this location. The submerged portion of the APE was formally the site of the Capri Island River Boat Casino Complex. This large complex was constructed on the site and provided docks for two permanent river boat casinos. The complex was demolished in 2006 as a result of hurricane damage. The combination of construction and demolition of the casino complex greatly altered the land formation and adjacent floor of the lake. In addition, the detritus from such construction and demolition process would compromise the results of most remote sensing techniques used to search for archaeological deposits. (USFWS 2019)

Given the circumstances of the proposed project site, no further archaeological review is warranted at this time (USFWS 2019). If any cultural material is discovered during the construction of this project, work would cease in the vicinity of the discovery and the project proponent shall contact the U.S. Department of the Interior Gulf Restoration Office immediately. No impacts to cultural resources have been identified for this alternative.

Alternative C: Revised Location with Fishing Pier (Preferred)

Impacts to cultural resources from Alternative C would be the same as presented under Alternative B.

4.4.3 Infrastructure

4.4.3.1 AFFECTED ENVIRONMENT

The infrastructure affected environment for Alternative A is described in Section 4.6.3.3 in the Final RP/EA #2. At the time of this analysis, there have been no changes to infrastructure resources within the resource study area analyzed in the Final RP/EA #2.

For Alternatives B and C, the proposed project site is located on the northern bank of Lake Charles in the City of Lake Charles, Louisiana. Infrastructure that exists within or around the project site includes traffic and transportation infrastructure and few public structures. The project site is located off of the I-10 Service Road with exit and entrance ramps to I-10 nearby. Utilities necessary for serving the Port Wonder facility include, but are not limited to, electricity, municipal water and sewer, telephone/fiber optic lines. These utilities and appropriate access to the utilities are either available at the project site or are located in close proximity to the site. The existing utilities and access points may require reconfiguration based on final engineering and design.

4.4.3.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.3.3.2 of the Final RP/EA #2 concluded there would be localized, minor, short-term adverse impacts from construction activities.

Alternative B: Revised Location without Fishing Pier

Alternative B would not affect any highways, other major transportation networks, or other infrastructure. Increases in traffic as a result of construction activities are anticipated to be short-term, adverse, and minor. It is anticipated that some road improvements could occur to accommodate the proposed Port Wonder facility. Minor modification of existing roads would be needed, such as inserting curb cuts for new driveways. Visitation at the Port Wonder facility would increase traffic along North Lakeshore Drive. This area has existing access to I-10 and a developed road network around the Lake Charles shoreline. Therefore, the increase in traffic would result in minor, long-term adverse impacts to the transportation network. A traffic study would be conducted and traffic patterns would be accommodated as part of the project design to reduce traffic impacts in the local area.

Alternative C: Revised Location with Fishing Pier (Preferred)

Impacts to infrastructure would be the same as presented for Alternative B.

4.4.4 Tourism and Recreational Use

4.4.4.1 AFFECTED ENVIRONMENT

The tourism and recreational use affected environment for Alternative A is described in Section 4.6.3.5 in the Final RP/EA #2. At the time of this analysis, there have been no changes to tourism and recreational use resources within the resource study area analyzed in the Final RP/EA #2.

Louisiana's unique history, culture, and environment provide for a rich diversity of tourism and recreational opportunities for both residents and tourists. According to the University of New Orleans (2016) *Louisiana Tourism Forecast 2016–2019*, a record total of 28.9 million people visited the state in 2016. In 2015, an estimated $844 million of state tax revenue was generated from $11.5 billion of visitor spending. According to the U.S. Census Bureau 2017 data, 14.2% of the employed population in Calcasieu Parish are employed by the arts, entertainment, recreation, accommodation, and food service industries. This industry category is one of the top four employers in Calcasieu Parish (U.S. Census Bureau 2017b).

Lake Charles is a thriving destination that caters to many different tastes. The area hosts casinos, award-winning golf courses, the Creole Nature Trail All-American Road, theater, musical groups including the Lake Charles Symphony, five museums, and various art galleries. Activities in the area include hunting

and fishing and wildlife watching at three wildlife refuges. Visitors can also stroll through the Charpentier Historic District and enjoy entertainment and excellent amenities at the area's casino resorts (Louisiana Office of Tourism 2018). Average attendance anticipated for the Lake Charles SCEC facility is 140 visitors per day with a peak daily attendance of 379 visitors expected (ConsultEcon, Inc. 2019).

The project site is located next to the Lake Charles/Southwest Louisiana Convention and Visitor Bureau and near the Lake Charles Civic Center and Millennium Park. The Visitor Bureau amenities include bus parking and is ADA compliant. Information provided is family friendly and includes topics such as area information, maps, printed guides, and restaurant guides. Meeting and tour groups are also welcome (Louisiana Office of Tourism 2019). The Civic Center is Lake Charles' focal point for entertainment, cultural, social, educational events, and more. The Civic Center allows guests to attend regular performances from the many theatrical groups, dance troupes, and musical groups in the region. Outdoor amenities include boardwalks along Lake Charles, facilities to host outdoor concerts, Bord du Lac Marina, and Millennium Park (City of Lake Charles 2019b).

4.4.4.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.3.5.2 of the Final RP/EA #2 concluded that Alternative A would provide a long-term beneficial impact by drawing visitors to the area, enhancing recreational opportunities, and boosting Lake Charles' tourism industry.

Alternative B: Revised Location without Fishing Pier

Alternative B would provide educational and recreational opportunities to both locals and tourists. The outdoor walkways would allow recreational users access to shoreline areas along Lake Charles. The project site location is of high benefit because it is located near the Visitors Bureau, Civic Center, and Lake Charles, which draw and provide services to tourists and locals. Additionally, placing the Lake Charles SCEC in the same facility as the LCCM would serve to further attract and benefit locals, groups, and tourists by providing additional educational and recreational opportunities to the area. Overall, Alternative B would provide long-term beneficial impacts to users and serve to enhance the visitor experience and boost tourism to Lake Charles.

Alternative C: Revised Location with Fishing Pier (Preferred)

In addition to the impacts discussed under Alternative B, added benefits to recreational users would result from the added fishing pier. The fishing pier would allow anglers better access to Lake Charles, enhancing the recreational experience. Overall, the Alternative C would provide long-term beneficial impacts to users and serve to enhance the visitor experience and boost tourism to Lake Charles.

4.4.5 Public Health and Safety, Including Flood and Shoreline Protection

4.4.5.1 AFFECTED ENVIRONMENT

The public health and safety, including flood and shoreline protection, affected environment for Alternative A is described in Section 4.6.3.7 in the Final RP/EA #2. At the time of this analysis, there have been no changes to public health and safety resources within the resource study area analyzed in the Final RP/EA #2.

The public health and safety resource study area under Alternatives B and C is the project area, which lies on developed land within the 100-year floodplain, similar to Alternative A (FEMA 2018a, 2018b). The proposed project site under Alternatives B and C is along the north shore of Lake Charles and currently includes a fenced cypress pond alligator viewing area. The cypress pond alligator viewing area is open to the public with appropriate fencing to maintain public safety.

4.4.5.2 ENVIRONMENTAL CONSEQUENCES

Alternative A: Original Project Scope

Section 4.6.3.7 of the Final RP/EA #2 concluded there would be short- and long-term adverse impacts to public health and safety from construction activities within the 100-year floodplain, which may be susceptible to storm surges. These impacts would be reduced by applying mitigation measures, such as those listed in Section 4.1.2.5 of this Draft Supplemental RP/EA. As a result, there would be minor, short- and long-term adverse impacts on public health and safety under Alternative A.

Alternative B: Revised Location without Fishing Pier

Similar to Alternative A, Alternative B is located within the 100-year floodplain, which could lead to short- and long-term adverse impacts to public health and safety from storm surge. However, the finished floor of the building would be placed above the minimum floodplain elevation by at least 1 to 2 feet, which would account for future subsidence and potential wave action during a storm. Flood access and evacuation plans would be filed on site, and other best practices would also be incorporated during construction to minimize impacts on public health and safety. There would be no change to public health and safety conditions as they relate to the cypress pond alligator viewing area. As a result, there could be minor, short- and long-term adverse impacts on public health and safety under Alternative B.

Alternative C: Revised Location with Fishing Pier (Preferred)

Similar to Alternative A, Alternative C is located within the 100-year floodplain, which could lead to short- and long-term adverse impacts to public health and safety from storm surge. In addition, the construction of the pier would pose additional short- and long-term safety risks than Alternatives A and B due to additional activities and uses in and near the water. The finished floor of the building would be placed above the minimum floodplain elevation by at least 1 to 2 feet, which would account for future subsidence and potential wave action during a storm. Best practices would also be incorporated during construction to minimize impacts on public health and safety. Flood access and evacuation plans would be filed on site, and other best practices would also be incorporated during construction to minimize impacts on public health and safety. There would be no change to public health and safety conditions as they relate to the cypress pond alligator viewing area. As a result, there would be minor, short- and long-term adverse impacts on public health and safety under Alternative C.

4.5 Cumulative Impacts

4.5.1.1 ALTERNATIVE A: ORIGINAL PROJECT SCOPE

The Final RP/EA #2, Section 4.6.4 analyzes potential cumulative impacts of the Lake Charles SCEC under the original project scope (i.e., Alternative A). Because there were no changes to resources that would result in different effects determinations than described in the Final RP/EA #2, the cumulative impact analysis for the original project scope would remain the same for Alternative A. Resource areas identified as those potentially impacted from implementation of Alternative A and therefore warranted analysis for cumulative impacts included the following:

- Geology and substrates
- Hydrology and water quality
- Air quality
- Noise
- Habitats
- Wildlife species
- Marine and estuarine fauna, EFH, and managed fish species
- Infrastructure
- Tourism and recreational use
- Public health and safety, including flood and shoreline protection

The cumulative impact assessment described in the Final RP/EA #2 included Alternative A, along with projects that have been completed or are planned within or in the vicinity of the project area. The Final RP/EA #2 concluded that Alternative A would not result in adverse cumulative impacts on marine and estuarine fauna, EFH and managed fish species, protected species, land and marine management, socioeconomics and environmental justice, cultural resources, or aesthetics and visual resources.

Alternative A would result in cumulative beneficial impacts on terrestrial and aquatic habitats and wildlife species, due to higher quality habitats created from implementation of the project, tourism, and recreational uses. However, the project, in combination with other projects, would lead to short- and long-term adverse cumulative impacts on geology and substrates, hydrology and water quality, air quality, noise, infrastructure, and public health and safety, including flood and shoreline protection. These adverse impacts would be mitigated through best practices implemented during construction or as part of project design. Due to the size of the Lake Charles SCEC building and expected number of visitors, Alternative A is not expected to contribute substantially to short- or long-term adverse cumulative impacts on infrastructure when analyzed in combination with other past, present, and reasonably foreseeable future actions.

4.5.1.2 ALTERNATIVE B: REVISED LOCATION WITHOUT FISHING AND ALTERNATIVE C: REVISED LOCATION WITH FISHING PIER (PREFERRED)

The analysis of potential cumulative impacts from Alternatives B and C is based on the same methodologies as those described in Section 4.6.4 of the Final RP/EA #2. This cumulative analysis utilizes the same spatial boundaries described in this document for each resource (Sections 4.2 through 4.4) to evaluate potential cumulative impacts from actions occurring at or adjacent to the project area, including the proposed project, as described under Alternatives B and C. Past, present, and reasonably foreseeable activities at or near the project area include road construction and maintenance, commercial construction and road improvements, and additional recreational improvements (Table 4-4.).

Table 4-4. Cumulative Action Scenario

Project Name	Project Description	Key Resources with Potential Cumulative Impacts
Road construction and maintenance	Over the life of the Port Wonder project, the road system may be expanded or improvements may be made to I-10 and the frontage roads.	Short-term adverse impacts to: • Geology and substrates • Hydrology and water quality • Air quality • Infrastructure • Public Health and Safety Long-term adverse impacts to: • Geology and substrates • Hydrology and water quality • Air quality • Noise
Commercial construction and road improvements	Vacant land to the east of the Port Wonder site may be developed in the future. The road system may be expanded and associated road improvements may occur in the vicinity of the Port Wonder site.	Short-term adverse impacts to: • Geology and substrates • Hydrology and water quality • Air quality • Infrastructure • Public Health and Safety Long-term adverse impacts to: • Geology and substrates • Hydrology and water quality • Air quality • Noise
Recreation improvements	Boardwalk extensions may be constructed to connect Port Wonder with the visitor attractions to the east and west along the shoreline of Lake Charles.	Short-term adverse impacts to: • Geology and substrates • Hydrology and water quality • Public Health and Safety Long-term adverse impacts to: • None

Alternatives B and C would contribute minor, short-term, adverse, incremental impacts on geology and substrates, hydrology and water quality, and air quality; and short-term and minor, long-term, adverse, incremental impacts on infrastructure and public health and safety, including flood and shoreline protection. Alternatives B and C would contribute minor, long-term, beneficial, incremental impacts to tourism and recreational use. Alternative C would contribute minor, long-term, incremental impacts on marine and estuarine fauna, EFH and managed fish species, and aquatic habitats.

Potential short- and long-term, incremental environmental impacts identified for the Alternatives B and C would be minimized with the implementation of best practices as discussed throughout Section 4 of this analysis. Due to the short-term nature and low intensity of impacts from Alternatives B and C, these alternatives would not substantially contribute to adverse cumulative impacts on any resource.

4.6 Comparison of Alternatives

Based on the evaluation of environmental impacts (Table 4-5) and collateral benefits among Alternative A (original project scope), Alternative B (revised location without fishing pier), and Alternative C (revised location with fishing pier), Alternative C is the preferred alternative.

Table 4-5. Alternatives Comparison for the Lake Charles SCEC

Resource	No Action	Alternative A	Alternative B	Alternative C
Geology and Substrates				
Short-term	No impact	Minor adverse	Minor adverse	Minor adverse
Long-term	No impact	Minor adverse	No impact	No impact
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts
Hydrology and Water Quality				
Short-term	No impact	Minor adverse	Minor adverse	Minor adverse
Long-term	No impact	Minor adverse	No impact	No impact
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts
Air Quality				
Short-term	No impact	Minor adverse	Minor adverse	Minor adverse
Long-term	No impact	Minor adverse	Minor adverse	Minor adverse
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts
Noise				
Short-term	No impact	Moderate adverse	Minor adverse	Minor adverse
Long-term	No impact	Minor adverse	No impact	No impact
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No impact	No impact
Aquatic Habitats				
Short-term	No impact	Minor adverse	No impact	Minor adverse
Long-term	No impact	Beneficial	No impact	Minor adverse
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No impact	No substantial contribution to short- or long-term cumulative impacts
Marine and Estuarine Fauna, Essential Fish Habitat, and Managed Fish Species				
Short-term	No impact	Minor adverse	No impact	No impact
Long-term	No impact	Beneficial	No impact	Minor adverse

Resource	No Action	Alternative A	Alternative B	Alternative C
Cumulative	--	No impact	No impact	No substantial contribution to short- or long-term cumulative impacts
Socioeconomics and Environmental Justice				
Short-term	No impact	Beneficial; no disproportionate impacts on environmental justice populations	Greater beneficial impacts than Alternative A; no disproportionate impacts on environmental justice populations	Greater beneficial impacts than Alternatives A and B; no disproportionate impacts on environmental justice populations
Long-term	No impact	Beneficial; no disproportionate impacts on environmental justice populations	Beneficial; no disproportionate impacts on environmental justice populations	Beneficial; no disproportionate impacts on environmental justice populations
Cumulative	--	No impact	No impact	No impact
Cultural Resources				
Short-term	No impact	Consultation with the Louisiana SHPO to determine any additional requirements may be necessary.	Same as Alternative A	Same as Alternative A
Long-term	No impact	Consultation with the Louisiana SHPO to determine any additional requirements may be necessary.	Same as Alternative A	Same as Alternative A
Cumulative	--	None identified	None identified	None identified
Infrastructure				
Short-term	No impact	Minor adverse	Minor adverse	Minor adverse
Long-term	No impact	No impact	No impact	No impact
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts
Tourism and Recreational Use				
Short-term	No impact	No impact	No impact	No impact
Long-term	No impact	Beneficial	Greater beneficial impacts than Alternative A	Greater beneficial impacts than Alternatives A and B
Cumulative	--	Minor, long-term beneficial cumulative impacts	Minor, long-term beneficial cumulative impacts	Minor, long-term beneficial cumulative impacts
Public Health and Safety, including Flood and Shoreline Protection				
Short-term	No impact	Minor adverse	Minor adverse	Minor adverse
Long-term	No impact	Minor adverse	Minor adverse	Minor adverse
Cumulative	--	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts	No substantial contribution to short- and long-term adverse cumulative impacts

Note: Cumulative impacts are not specified for the No Action Alternative, because the No Action Alternative would not result in any direct or indirect impacts, as presented in Table 4-18 of the Final RP/EA #2.

All three alternatives would meet the purpose and need of the Final RP/EA #2, which allows the LA TIG to implement restoration projects that would provide the public with additional and enhanced recreational use services in Louisiana in a manner consistent with the Final PDARP/PEIS. However, Alternative C

provides the best opportunity to provide the public with additional and enhanced recreational use services due to the incorporation of the fishing pier.

Environmental impacts of Alternative C would be short- and long-term, minor to moderate adverse impacts to the physical, biological, and social environment. Impacts to the physical environment include localized short-term disturbances to geology and substrates from ground disturbance, surficial digging, sitework, and in-water work; localized short-term changes to hydrology and water quality from ground disturbance, surficial digging, sitework, in-water work, and incidental spills; localized short- and long-term increases in emissions from construction activities and equipment, and visitor travel to the Lake Charles SCEC; and localized short-term increases in noise from construction activities and transportation and use of construction equipment and materials. Impacts to the biological environment include localized short- and long-term impacts to aquatic habitats from erosion and sedimentation during construction ground-disturbing activities and localized long-term impacts on aquatic habitats from installation of the pier; and localized long-term impacts on marine and estuarine species, EFH, or managed fish species from permanent alterations of the shoreline area and open water areas where the pier structure is placed. Impacts to the social environment include localized short-term increases in traffic from visitors to the Lake Charles SCEC; and short- and long-term impacts on public health and safety from construction activities. Alternative C would provide short- and long-term socioeconomic benefits to the community by providing jobs and educational and recreational opportunities; and long-term benefits to tourism and recreation, which would be available to the general public. The addition of the pier under Alternative C would increase socioeconomic, tourism, and recreation benefits; and the combination of the Lake Charles SCEC with the LCCM as part of the Port Wonder facility would create synergistic socioeconomic, tourism, and recreational benefits.

Based on the above analysis, the LA TIG finds that the project modifications are consistent with OPA and support selection of the modified project. This analysis remains subject to the results of additional consultations and reviews as required for compliance with all other laws (e.g., Endangered Species Act [ESA], EFH, etc.), including consideration of any significant new circumstances or information presented as part of those processes.

5 OPERATIONS

The following information is summarized from the draft operations plan, *Port Wonder: Lake Charles Science Center and Educational Complex and Lake Charles Children's Museum Operations Plan* (ConsultEcon, Inc. 2019). The ConsultEcon, Inc. (2019) report was prepared to evaluate the market and operating potential of the Port Wonder facility, evaluate the feasibility of the project, and to identify potential shortfalls and risks associated with the operations of the project. These details are subject to change as the Port Wonder facility goes through final engineering and design, project planning, and implementation. Operations may need to be adjusted to reflect physical project refinements and operating plans.

5.1 Facility Ownership and Operations

The proposed Port Wonder facility would be located on approximately 8.5 acres on the north shore of Lake Charles. The site location has a tentative address of 1011 N. Lakeshore Drive and is south of I-10 (see Figure 2-3). The City of Lake Charles already owns the land where Port Wonder would be constructed. The Port Wonder SPE would be created to design, construct, own, and operate the buildings and grounds for the Port Wonder facility. An independent non-profit organization, the Children's Museum of Lake Charles, would operate the LCCM; and LDWF would operate the Lake Charles SCEC. The Lake Charles SCEC and LCCM would be collocated at the site and share certain facilities. The SPE would be subject to the same rules and fiscal safeguards as other NRDA fund recipients, and these measures would be incorporated into the SPE implementation workplan as well as other agreements made with LDWF and the Children's Museum of Lake Charles.

The collocation of the two attractions within the Port Wonder facility would provide enhanced opportunities for the public to play and learn in one centralized area that is located near other recreational amenities, such as the Lake Charles waterfront and city parks, rather than visiting separate venues in different parts of the City.

The Port Wonder SPE's operating expenses would be funded proportionally by LDWF and the Children's Museum of Lake Charles. These expense categories are, therefore, included in the Lake Charles SCEC and LCCM expense budgets. It should be noted that the Lake Charles SCEC and LCCM would have operating budgets that include pass-through budgets to the Port Wonder SPE as well as their separate operating expenses. Some expenses, notably personnel costs, would be provided by LDWF. Also, the City of Lake Charles would directly provide services for grounds maintenance, not including the fishing pier and dedicated outdoor program area for the Lake Charles SCEC and LCCM, which would be maintained by LDWF and the Children's Museum of Lake Charles, respectively (see Figure 2-3 and Figure 2-4).

5.2 Port Wonder Visitation Potential

Depending on the program of the facility, available resident and tourist markets, and experience of comparable museums, the facilities are estimated to have the following annual visitation potential:

- The annual visitation potential of Lake Charles SCEC is estimated at 44,000 to 60,000, with a mid-range estimate rounded to 52,000 in a stable year of operation.
- The annual visitation potential of Port Wonder LCCM is estimated at 58,000 to 77,000, with a mid-range estimate rounded to 67,000 in a stable year of operation.

At a mid-range visitation potential, total combined visitation potential is estimated at 104,000 visitors.

5.3 Port Wonder Operations

The Lake Charles SCEC and LCCM would have separate operating budgets that include shared operations in certain areas, such as admissions and facility O&M for common areas. The operating potential of the Lake Charles SCEC and LCCM is based on a mid-range visitation potential in a stable year of operations after project opening and in current value of the dollar. As project planning and development proceeds, the operating potential would need to be adjusted to reflect project physical refinements and operating plans.

5.3.1 Lake Charles SCEC Operations

- **Revenue Potential –** Earned revenue is estimated at $107,000 or 82% of the total operating expenses, not including personnel. The estimated total revenue for breakeven operations is $130,000. NRDA funds would provide approximately $56,000 in O&M annually, which would cover the difference in planned operating expenses. Any remaining NRDA O&M funds and surplus revenue in a given year would be retained for use in covering operating expenses in future years. These estimates are based on a stable year of operations and in current value of the dollar.
- **Staffing –** Two full-time staff would be provided by LDWF. Existing LDWF staff from other sites and/or volunteers may also be used to provide additional staffing support for educational programming, as necessary.
- **Operating Expenses –** Total operating expenses are estimated at $130,000, not including personnel costs. LDWF program funds would pay for personnel costs.

5.3.2 LCCM Operations

- **Revenue Potential –** Earned and contributed revenues would be used to cover operating costs, as is done at the current children's museum and at virtually all children's museums.
- **Staffing –** Six full-time and 12 part-time staff are anticipated.

5.4 Building Operations and Maintenance

- The Lake Charles SCEC and LCCM would lease space within a condominium format of ownership. The building owner would be the Port Wonder SPE. The lease arrangements have yet to be determined.
- See Table 5-1 for the allocation of interior spaces for the Port Wonder facility.
- The Port Wonder SPE would maintain common/exterior areas of the building.
- LDWF would maintain their interior portion of the building.
- The LCCM would maintain their interior portion of the building.
- The costs of shared spaces in the building are based on percent to total dedicated program areas of the Lake Charles SCEC and LCCM. The LCCM accounts for approximately two-thirds and the Lake Charles SCEC accounts for approximately one-third of total dedicated program areas (see Table 5-1).
- Cost efficiencies of scale may be achieved for operating services and purchases if the Lake Charles SCEC and LCCM share certain operations.
- Common area charges would include:

  - Supplies
  - Property maintenance and repair services
  - Utilities such as electric, gas, and water
  - Insurance
  - Backup generator
  - Security system/patrols
  - Surface parking areas
- The LCCM would provide staffing services for the common areas and would be reimbursed based on a pro rata share of the dedicated program areas in the building.

Table 5-1. Indoor Space Allocation for the Port Wonder Facility (all numbers are approximate)

Building – Interior Spaces	Square Feet	Percent of Total Building Area	Percent of Total Program Space
Dedicated Program Spaces			
Lake Charles SCEC	6,900	25	36
LCCM	12,300	44	64
Total Program Spaces	***19,200***	***69***	***100***
Shared Spaces	8,800	31	
Total Building Area	**28,000**	**100**	

Allocation of Shared Interior Spaces	Program Spaces	Shared Spaces	Total Space	Percent of Total Building Area
Lake Charles SCEC	6,900	3,160	10,060	36
LCCM	12,300	5,640	17,940	64
Total Building Area	**19,200**	**8,800**	**28,000**	**100**

Source: ConsultEcon, Inc. (2019)

5.5 Site Operations and Maintenance

The City of Lake Charles would maintain the outdoor civic areas exterior to the Lake Charles SCEC and LCCM outdoor program area. The Lake Charles SCEC and LCCM budgets do not reflect any costs with maintaining the outdoor civic areas. The Lake Charles SCEC and LCCM would maintain their respective dedicated outdoor program area, of which 6,900 square feet of outdoor program area would be allocated to the Lake Charles SCEC plus the fishing pier, if Alternative C is selected. Current design for the outdoor program area includes an enclosed nature trail and play area. The specific outdoor elements constructed in the outdoor area are subject to change as the engineering and design phase continues.

5.5.1 Capital Repairs and Maintenance

- The Lake Charles SCEC and LCCM would reimburse the Port Wonder SPE for any capital repairs and maintenance needed for the facility.
- The LCCM would establish a capital reserves budget for capital repairs and maintenance.

- LDWF has identified NRDA funds to allocate to the Lake Charles SCEC O&M at approximately $56,000 per year for 15 years. Any remaining NRDA O&M funds and surplus revenue in a given year, would be retained for use in covering operating expenses in future years. If needed, LDWF would fund capital repairs through other LDWF budgets.

5.5.2 Staffing

- LDWF has identified two staff that would be paid for through LDWF program funds and would be dedicated to the Lake Charles SCEC. Additionally, LDWF staff from other sites and/or volunteers may also be used to provide additional staffing support for educational programming, as necessary.
- The LCCM would manage front-line guest services, admissions, and retail cashiers, as well as facility manager and custodial services.
- Lake Charles SCEC would reimburse the LCCM for centralized admissions (based on pro rata share of total attendance to the LCCM and Lake Charles SCEC) and facility management, repairs, maintenance, custodial, and security services (based on pro rata share of facility square footage, not including shared areas).
- The Lake Charles SCEC and LCCM would pay their common areas' charges based on pro rata share of facility square footage, not including shared areas.

5.5.3 Facility Opening and Closing

- It is anticipated that the operating hours for the Lake Charles SCEC and LCCM would be the same, 10:00 a.m. to 5:00 p.m. daily, and closed on major holidays. However, this is subject to change as the Port Wonder facility proceeds through the engineering and design phases and project planning phase.

5.5.4 Marketing

- The total Port Wonder facility offerings would be highlighted in both LDWF's and LCCM's communications.
- The Lake Charles SCEC and LCCM would be marketed through LDWF information channels, including internet and printed materials. Cross-promotional activities are possible through coordinated programming, such as education groups and events.
- The LCCM would market the facility through marketing channels typical for museums and visitor attractions, such as direct advertising, mail, social media, internet, and print advertising, depending on the available marketing budget and according to its marketing plan.

5.5.5 Admissions

- Both the Lake Charles SCEC and LCCM would charge for admission. The LCCM staff would sell tickets for the Lake Charles SCEC, which would be the most-efficient approach. A reimbursement assumption from Lake Charles SCEC to LCCM is included in this operations analysis.
- The full ticket price for the Lake Charles SCEC is estimated at $4.00, which would all be dedicated to the Lake Charles SCEC for O&M. The outdoor amenities, including fishing pier and walking trails would be free.

5.5.6 Education, Public Programs, and Public Events

- LCCM and LDWF staff would collaborate on delivering education and public programs in shared program rooms and in galleries. This would include both coordinating calendars for independent LCCM and Lake Charles SCEC programs, and developing new programs in partnership with one another.
- The LCCM and LDWF would coordinate on the schedule of independent public events, and they may develop public events in partnership as appropriate.

5.5.7 Facility Rentals

- The LCCM would offer birthday parties in galleries and shared program rooms. The LCCM would bear the cost and retain the revenue for these birthday parties, as well as other events it produces. Insurance for such events is included in the operational budget.
- Both LDWF and the LCCM may participate in facility rentals in the future.

5.5.8 Retail, Gift Shop, and Vending

- The LCCM would operate the gift shop.
- It is assumed that vending machine revenue would be allocated 75% to the LCCM and 25% to the Lake Charles SCEC.

5.6 Summary

The Port Wonder has good potential to earn necessary revenues to support operations. The collocation of two attractions supports operational efficiencies through shared operations. As with all children's museums and nature-based educational attractions, earned revenues must be bolstered by substantial non-earned revenues from a variety of sources. Building on the current base of non-earned revenues would be essential to long-term sustainability and the economic, education, conservation, and quality of life benefits Port Wonder would create.

6 COMPLIANCE WITH OTHER LAWS AND REGULATIONS

In addition to the requirements of OPA and NEPA, other laws may apply to the alternatives in this Draft Supplemental RP/EA. The LA TIG would ensure compliance with these relevant authorities, which are listed in Sections 6.1 and 6.2.

Examples of applicable federal and state laws or federal executive orders (EOs) include, but are not necessarily limited to, those listed in this section. Additional federal laws may apply to the alternatives considered in this Draft Supplemental RP/EA. Legal authorities applicable to restoration alternative development are fully described in the context of the DWH restoration planning in the Final PDARP/PEIS, Section 6.9, Compliance with Other Applicable Authorities, and Final PDARP/PEIS Appendix 6.D, Other Laws and Executive Orders, which are incorporated by reference in this section.

Federal environmental compliance responsibilities and procedures follow the Trustee Council standard operating procedures (SOP), which are laid out in Section 9.4.6 of that document. Following this SOP, the Implementing Trustees for each alternative will ensure that the status of environmental compliance (e.g., *completed* versus *in progress*) is tracked through the DWH project portal. The Implementing Trustees will keep a record of compliance documents (e.g., ESA letters, permits) and ensure that they are submitted for inclusion in the Administrative Record. The current status of environmental compliance by project can be viewed at any time on the Trustee Council's website (http://www.gulfspillrestoration.noaa.gov/environmental-compliance/).

The Louisiana Office of Coastal Management completed the Louisiana Coastal Resources Program consistency review on February 14, 2019, to comply with the Coastal Zone Management Act (Appendix B).

6.1 Additional Federal Laws

Additional federal laws may apply to the preferred alternative considered in this Draft Supplemental RP/EA. Federal laws, regulations, and EOs that may be applicable include the following:

- Endangered Species Act (16 United States Code [USC] 1531 et seq.)
- Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq.)
- Marine Mammal Protection Act (16 USC 1361 et seq.)
- Coastal Zone Management Act (16 USC 1451 et seq.)
- National Historic Preservation Act (16 USC 470 et seq.)
- Coastal Zone Management Act (16 USC 1451 et seq.)
- Migratory Bird Treaty Act (16 USC 703 et seq.)
- Bald and Golden Eagle Protection Act (16 USC 668 et seq.)
- Clean Air Act (42 USC 7401 et seq.)
- Clean Water Act (33 USC 1251 et seq.)
- Marine Protection, Research and Sanctuaries Act (16 USC 1431 et seq. and 33 USC 1401 et seq.)
- Estuary Protection Act (16 USC 1221 – 1226)
- Archaeological Resource Protection Act (16 USC 470aa – 470mm)

- Abandoned Shipwreck Act of 1987 (43 USC 2101 – 2106)
- American Indiana Religious Freedom Act (42 USC 1996)
- Antiquities Act of 1906 (54 USC 320301 – 320303 and 18 USC 1866[b])
- Archaeological and Historic Preservation Act of 1974 (16 USC 469 – 469c)
- Historic Sites Act of 1935 (54 USC 320101)
- Native American Graves and Repatriation Act (25 USC 3001 – 3013)
- Sunken Military Craft Act (10 USC 113 note)
- National Marine Sanctuaries Act (16 USC 1431 et seq.)
- Farmland Protection Policy Act (7 USC 4201 – 4209)
- Rivers and Harbors Act (33 USC 401 et seq.)
- EO 11988: Floodplain Management (augmented by EO 13690, January 30, 2015)
- EO 11990: Protection of Wetlands
- EO 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- EO 12962: Recreational Fisheries
- EO 13007: Indian Sacred Sites
- EO 13112: Safeguarding the Nation from the Impacts of Invasive Species
- EO 13175: Consultation and Coordination with Indian Tribal Governments
- EO 13186: Responsibilities of Federal Agencies to Protect Migratory Birds
- EO 13693: Planning for Federal Sustainability in the Next Decade

6.2 State and Local Laws

The LA TIG would ensure compliance with all applicable state and local laws and other applicable federal laws and regulations relevant to the State of Louisiana. Additional laws and regulations are as follows:

- Archeological Finds on State Lands (Louisiana Revised Statute [RS] 41:1605)
- Coastal Wetlands Conservation and Restoration Authority (RS 49:213.1)
- Coastal Wetlands Conservation and Restoration Plan (RS 49:213.6)
- Louisiana State and Local Coastal Resources Management Act (RS 49:214.21 – 214.42)
- Louisiana Oil Spill Prevention and Response Act (RS 30:2451 et seq.)
- Management of State Lands (RS 41:1701.1 et seq.)
- Louisiana Coastal Resources Program (Louisiana Administrative Code [LAC] 43:700 et seq.)
- Louisiana Surface Water Quality Standards (LAC 33.IX, Chapter 11)
- Louisiana Archaeological Resources Law (RS 41:1601 – 1615)

- Louisiana Administrative Code (LAC Part I)
- Louisiana Unmarked Human Burial Sites Preservation Act (RS 8:671–681)
- Louisiana Historic Cemetery Preservation Act (RS 25:931–943)
- Louisiana Desecration of Graves (RS 14:101)
- Oyster Lease Relocation Program (LAC 43:I, 850-859, Subchapter B)
- Louisiana Scenic Rivers Program (RS 56:1856)

7 NEXT STEPS

Following public notice, this Draft Supplemental RP/EA will be available to the public for a 30-day comment period. The public is encouraged to review and comment on this Draft Supplemental RP/EA. The deadline for submitting written comments is specified in the public notices published in the Federal Register and Louisiana Register as well as on the NOAA Gulf Spill web portal. Comments provided on this Draft Supplemental RP/EA will be considered by the LA TIG. A summary of comments received on this Draft Supplemental RP/EA and the LA TIG's responses, where applicable, will be included in the Final Supplemental RP/EA.

Comments on the Draft Supplemental RP/EA can be submitted during the comment period by one of the following methods:

- Online: http://www.gulfspillrestoration.noaa.gov/restoration-areas/louisiana

- By mail (hard copy), addressed to:

  U.S. Fish and Wildlife Service
  P.O. Box 29649
  Atlanta, Georgia 30345

  Please note that personally identifiable information included in submitted comments (e.g., address, telephone number, email address, etc.) may be made publicly available.

- In Person:

  The LA TIG will hold a public meeting to facilitate the public review and comment process. Meeting location, date, and time are noted below.

  May 8, 2019; open house 5:30 p.m., meeting 6:00 p.m.; Lake Charles Civic Center – Contraband Room; 900 Lakeshore Drive, Lake Charles, Louisiana 70601.

8 LIST OF PREPARERS

Agency / Firm	Name	Title / Document Role
State of Louisiana		
Louisiana Department of Wildlife and Fisheries	Annie Howard	Coastal resources scientist, project manager
Louisiana Coastal Protection and Restoration Authority	Matt Mumfrey	Attorney, project manager
Environmental Protection Agency (EPA)		
EPA Office of Water	Tim Landers	Environmental Protection Specialist
EPA Region 6	Doug Jacobson	Environmental Protection Specialist, Louisiana Team Leader
EPA Office of General Counsel	James Bove	Attorney Advisor
EPA Office of Water	Gale Bonanno	Senior Policy Advisor for Deepwater Horizon NRDA
National Oceanic and Atmospheric Administration (NOAA)		
NOAA Restoration Center	Christina Fellas	DWH Environmental Compliance Coordinator/Biologist
NOAA Restoration Center	Ramona Schreiber	DWH NEPA Coordinator
NOAA	Jared Piaggione	Attorney Advisor
Department of the Interior (DOI)		
DOI	Robin Renn	DWH NEPA Coordinator
DOI	John Tirpak	Louisiana Restoration Area Coordinator
Contractor Team		
SWCA Environmental Consultants	Will Norman	Contract manager
SWCA Environmental Consultants	Coleman Burnett	Project manager, environmental planner/senior project manager, lead author
SWCA Environmental Consultants	Whitney Fiore	Senior NEPA specialist, project manager/lead author
SWCA Environmental Consultants	Laura Klewicki	Project coordinator / physical environment, socioeconomic and environmental justice, and public health and safety lead author
SWCA Environmental Consultants	Amanda Nicodemus	Biological environment, infrastructure, and tourism and recreational use lead author
SWCA Environmental Consultants	Wes Mattox	Archaeologist / principal investigator, cultural resources lead author
SWCA Environmental Consultants	Kelly Shields	GIS Lead
SWCA Environmental Consultants	Lauri Logan	Senior editor / document lead

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APPENDIX A

Draft Monitoring and Adaptive Management Plan
Lake Charles Science Center and Educational Complex

1 INTRODUCTION

The Lake Charles Science Center and Educational Complex (Lake Charles SCEC) would be collocated with the Lake Charles Children's Museum (LCCM) in the proposed Port Wonder facility located in Calcasieu Parish, Lake Charles, Louisiana, in Section 31, Township 9 South, Range 8 West (Figure 1). Natural Resource Damage Assessment (NRDA) funds ($7 million) would be allocated to support the construction, operation, and maintenance of the proposed Lake Charles SCEC portion of the Port Wonder facility. The project site location is on the north shore of Lake Charles, south of Interstate 10, and accessed from North Lakeshore Drive. The project site would be situated on approximately 8.5 acres between an existing parking garage to the east and pond area to the west. Port Wonder would house two entities within one shared building: the Lake Charles SCEC and the LCCM. The approximately 28,000 square foot building would contain an approximately 6,900-square-foot science center operated by Louisiana Department of Wildlife and Fisheries (LDWF), an approximately 12,300-square-foot children's museum operated by the LCCM, and approximately 8,800 square feet of shared space that would include a lobby, bathrooms, classrooms, offices, a break room and other miscellaneous support space. Outdoor amenities that would be constructed include: public outdoor exhibits, play area, parking, and landscaping. Approximately 6,900 square feet of outdoor program area would be allocated to the Lake Charles SCEC, which is currently designed with an enclosed nature trail and play area. The specific outdoor elements constructed in the outdoor area is subject to change as the engineering and design phase continues. An approximately 2,250 square foot fishing pier would provide recreational fishing access to be used for educational programs and general public enjoyment. The fishing pier would also provide needed amenities including Americans with Disabilities Act (ADA)-compliant fishing rail sections.

While the Lake Charles SCEC and the LCCM would be distinct and separately funded projects, siting the Lake Charles SCEC adjacent to the LCCM would offer potential synergies including enhanced visibility, improved access, and a location at a natural environment in the Lake Charles area and southwest Louisiana. The LCCM would complement the LDWF's Lake Charles SCEC's mission with exhibits centered around Louisiana's ecology, economy, and history. The Lake Charles SCEC portion of the Port Wonder facility would provide dedicated indoor and outdoor spaces for public education on natural resource topics and programs. The Lake Charles SCEC would include immersive exhibits, aquaria, and touch tanks to educate visitors on topics including, but not limited to, coastal habitats, Gulf of Mexico aquatic resources, fisheries/fisheries management, and restoration programs. Walking trails would support programs to educate the public on endeavors to protect and maintain Louisiana's natural environment and wildlife. The fishing pier would provide a real-time educational connection between the information presented in the Lake Charles SCEC indoor displays and the immediately adjacent Lake Charles waterbody. The fishing pier would offer opportunities for Port Wonder visitors as well as other members of the public to fish, connect with nature, and enjoy the scenery overlooking Lake Charles. The LCCM exhibits and spaces would educate toddlers, children, and young adults about the importance of technology, health, and role playing.

An admission fee would be charged to visitors entering the combined Lake Charles SCEC and LCCM, but no fee would be charged to use the fishing pier, and the public would be able to access the pier using the boardwalks and sidewalks connecting the Port Wonder facility to other nearby facilities.

Port Wonder and the Lake Charles SCEC has been evaluated for compliance with the Oil Pollution Act of 1990 (OPA) and the National Environmental Policy Act (NEPA) in the *Louisiana Trustee Implementation Group Draft Supplemental Restoration Plan and Environmental Assessment #2: Lake Charles Science Center and Educational Complex Project Modification* (Louisiana Trustee Implementation Group [LA TIG] 2019), hereafter referred to as the Draft Supplemental RP/EA.

Figure 1. Location of the proposed project.

1.1 Restoration Type Goals and Project Restoration Objectives

One of the five programmatic goals for restoration, as outlined by the Deepwater Horizon (DWH) Oil Spill Trustees (DWH Trustees) in the *Deepwater Horizon Oil Spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement* (Final PDARP/PEIS) is to "provide and enhance recreational opportunities" across the Gulf Coast (DWH Trustees 2016:Section 1.5.3). Through the restoration planning process, the DWH Trustees then identified 13 distinct restoration types that pertain to the five programmatic goals and further identified specific goals for each restoration type. This project fits within the restoration type "provide and enhance recreational opportunities." The goals of this restoration type are as follows (DWH Trustees 2016:Section 5.5.14.1):

- Increase recreational opportunities such as fishing, beach-going, camping, and boating with a combination of ecological restoration and creation of infrastructure, access, and use opportunities.
- Use education and outreach to promote engagement in restoration and stewardship of natural resources, which could include education programs, social media, and print materials.

The Lake Charles SCEC project falls within the second restoration type goal: to provide education and outreach to promote engagement in the restoration and stewardship of natural resources, by partially contributing funds for the design and construction of the Port Wonder facility. The project would meet the restoration goals outlined in the PDARP/PEIS (DWH Trustees 2016) by creating natural resources-related education facilities and programs as a restoration technique.

As described in Chapter 3 of the Supplemental RP/EA (LA TIG 2019), the project would meet the OPA criteria for the trustee restoration goals and objectives because the project has a strong nexus to the public's lost recreational fishing and access to shoreline uses during the DWH Oil Spill. As discussed in the Final PDARP/PEIS, residents and visitors depend on Gulf Coast resources for varied recreation activities, including boating, fishing, and beach-going. An estimated 17 million boating, fishing, and other shoreline activity user days were lost throughout the five affected states as a result of the spill, with the losses occurring across multiple years (DWH Trustees 2016). Educational activities provide additional recreational opportunities that improve the connectedness of the public to the environment. These opportunities enhance the community's stewardship of coastal Gulf of Mexico resources that were injured and, therefore, inaccessible during the DWH Oil Spill and response activities (DWH Trustees 2016). The proposed Lake Charles SCEC project would address losses through education and engagement of Louisiana residents in the restoration and stewardship of coastal resources.

The overall objectives of this project are to provide educational opportunities that promote engagement in restoration and stewardship of the natural environment by constructing an educational facility that includes classrooms, interactive and static exhibits, and observation opportunities. Specific objectives include the following:

- Increase access to environmental education, resources, and outreach opportunities in Lake Charles and southeast Louisiana.
- Improve the availability of educational resources and opportunities provided in the Lake Charles area.
- Educate visitors about natural resources and restoration by contributing to the design and construction of the Port Wonder facility.
- Increase educational opportunities for the public to gain an understanding Louisiana's natural resources by designing and building relevant exhibits, hosting classes/programs, and conducting interactive activities at the Port Wonder facility.

1.2 Conceptual Setting

The conceptual setting for any restoration project is the interaction and linkages between the project and the environment in which it is implemented. It is important to understand how the ecological system may affect the project and how the project may affect the ecological system. This understanding allows the project proponent to identify potential issues that may arise during the implementation and monitoring phases, as well as any long-term maintenance issues that could occur. Information on the existing environmental conditions and potential environmental impacts of the project can be found in Section 4 of the Supplemental RP/EA (LA TIG 2019).

As noted and approved of in the *Monitoring and Adaptive Management* [MAM] *Procedures and Guidelines Manual Version 1.0* (MAM Manual) (DWH Trustees 2017), the LA TIG has chosen not to include some conceptual setting elements for this type of restoration project. Because this is a Provide and Enhance Recreational Opportunities restoration type, the information necessary to describe the conceptual setting of the project is not as in-depth as some other restoration types. For example, if the project were a Wetlands, Coastal, and Nearshore Habitats restoration type, chemical and biological attributes of the project would need to be considered as part of the conceptual setting. In addition, the critical thresholds of ecological processes and how those thresholds would be affected by the proposed project would also need to be considered.

The project site is located on the northern bank of Lake Charles on a disturbed parcel in an urban setting. The location is relatively flat and not known to flood or pond (Natural Resources Conservation Service [NRCS] 2018; U.S. Geological Survey [USGS] 2015, 2018). Lake Charles is an estuarine and marine deep-water lake (U.S. Fish and Wildlife Service 2017) and the lake's water quality is impaired due to dioxins; dissolved oxygen; furan compounds; polychlorinated biphenyls (PCBs); and *enterococcus* from suspected industrial point source and municipal discharges, sanitary sewer overflow, on-site treatment systems, and natural sources (Louisiana Department of Environmental Quality 2018). Details of the effects to the ecological system are included in the Supplemental RP/EA (LA TIG 2019). Some aspects of the ecological system that may be affected include geology and substrates, hydrology and water quality, aquatic habitats, and marine and estuarine fauna. Water quality would be impacted during construction of the Port Wonder facility and fishing pier unless erosion control measures and in-water construction best management practices (BMPs) are implemented. Post-construction hydrology at and around constructed facilities could be altered. Disturbance of aquatic habitat and marine and estuarine fauna could increase after construction due to increased recreational opportunities that attract a greater number of recreational users. The following sections discuss how the project-specific attributes would interact with the environment, and vice versa, as well as what the major drivers are that may influence the outcomes of the project.

1.2.1 Drivers

Drivers are outside forces, natural or anthropogenic, that have the potential to influence the outcomes of a restoration project (DWH Trustees 2017:Section E.6.3). Drivers tend to be large-scale, long-term forces that are not easily controlled at the scale of a single restoration project (Harwell et al. 2016). When evaluating the proposed project, the following outside drivers and stressors were considered:

- Lack of understanding of the natural science, resources, and environment of the Gulf Coast region
- Human attachment to or interest in the environment
- Public opinion of environmental issues
- Time and resources (e.g., income, transportation) available to take advantage of educational or recreational opportunities

- Public acceptance and use
- State of the economy
- Interest or need in the educational facilities and programs

This list should not be considered exhaustive; additional drivers may be identified as the project is implemented and/or monitored. These drivers may affect the achievement of the restoration goals and objectives of this project. For example, if the state of the economy changes, and the region was to experience a recession or depression, the public many not be able to afford traveling to and visiting the site. It is likely that the Port Wonder facility would attract visitors from nearby towns as well as tourists from various parts of the country. If the state of the economy is affecting tourist travel to Louisiana, it is possible that the project would be unable to achieve the restoration goal of education and outreach to promote engagement in the stewardship of natural resources.

1.2.2 Potential Sources of Uncertainty

Project uncertainties, or information gaps, have the potential to affect adaptive management decisions for restoration projects, such as how to improve the likelihood of achieving the goals and objectives of the project, or identifying corrective actions if the project is not performing as intended. When evaluating this recreational use project, the following uncertainties were considered:

- Ability to attract public interest and use of the area
- Potential impacts to the ecosystem as a result of increased use of the area (e.g., impacts to geology and substrates and aquatic habitats)
- Potential need for ecological restoration (e.g., as a result of increased use of the area)
- Potential impact on local community (e.g., socioeconomics, trash)
- Optimum location of outreach materials or opportunities to maximize public access or participation
- Optimum medium to communicate information (e.g., visual, written, or oral materials)

This list should not be considered exhaustive; additional uncertainties may be identified as the project is implemented and/or monitored. It is assumed that the new Port Wonder facility would attract public interest and use of the area and provide the ability to educate the public on natural resource stewardship. Additionally, the potential impacts to the ecosystems as a result of increased use of the area, with construction of the project, is not fully known at this time. Impacts to the environment are considered in the Supplemental RP/EA (LA TIG 2019). BMPs to mitigate the potential environmental impacts of the project are also outlined in the Final PDARP/PEIS (DWH Trustees 2016) and the Supplemental RP/EA (LA TIG 2019).

2 PROJECT MONITORING

Monitoring is necessary to determine if the project achieves the restoration goals and objectives outlined by the LA TIG. To conduct successful project monitoring, parameters need to be established to evaluate progress toward the restoration goals. The monitoring parameters that may be considered should be geared toward resolving project uncertainties, explaining outside drivers, optimizing project implementation, supporting adaptive management and decisions about corrective actions, and informing the planning of future DWH NRDA restoration projects. The sections below outline the Lake Charles SCEC project's monitoring parameters and the methods for measuring these parameters.

Before implementation of this MAM plan, the project team must revisit the monitoring parameters and methods outlined below with the LA TIG to ensure they have been sufficiently updated to incorporate new project information.

2.1 Monitoring Parameters

As identified in the MAM Manual, the DWH Trustees identified two types of monitoring parameters under the "Enhance Public Access to Natural Resources for Recreational Use Restoration Approach" (DWH Trustees 2017):

1. Core performance monitoring parameters applicable to recreational use projects. Core performance monitoring parameters are those used consistently across projects in order to facilitate the aggregation of project monitoring results and the evaluation of restoration progress for each restoration type (DWH Trustees 2016:Appendix 5.E.4).
2. Objective-specific performance monitoring parameters that are only applicable to a project based on a particular restoration objective.

Two core performance monitoring parameters have been identified for the project:

- Visitor use and access
- Enhancement through infrastructure

In addition, project-specific objectives have been identified for the proposed project (Table 1). The monitoring parameters associated with the project-specific objectives outlined in Table 1 would be collected in addition to the core performance monitoring parameters listed above.

Table 1. Project-Specific Objectives and Performance Monitoring Parameters for the Lake Charles SCEC

Project-Specific Objective	Objective-Specific Performance Monitoring Parameters
Promote visitor attendance of the recreational and educational facilities at the Lake Charles SCEC	The nature and extent of recreational activities used by the public (i.e., visitor use)
Promote access to the educational and recreational facilities (e.g., immersive exhibits, fishing pier, etc.) by planning and constructing the Lake Charles SCEC	The nature and extent of recreational and educational activities used by the public (i.e., visitor use)
Enhance natural resources education through the planning and construction of the Lake Charles SCEC	Infrastructure constructed and completed as designed

Section 2.2, below, outlines the measurement unit(s) and monitoring methods for each parameter. All methods have been cross-referenced to the recreational use restoration approach for this project to ensure the methods are appropriate.

2.2 Monitoring Methods

The monitoring methods for each parameter are outlined below, along with guidance on how, when, and where to conduct monitoring.

2.2.1 Parameter 1: Visitor Use and Access

The preferred methodology for monitoring this parameter is ticket sales. Visitor use and access could be directly counted by logging the various types of ticket sales (e.g., adults, children, etc.). Software would be used to maintain adequate accounting records of tickets purchased on-site and online. For guidance and methodologies of how to measure visitor use/access, see Bezies et al. (2011), Cessford and Muhar (2003), and English et al. (2003).

Data collection should be conducted post-construction at the Lake Charles SCEC and compiled monthly and continue annually for at least 1 year after project implementation. Visitation user counts should be representative of a full range of site conditions, taking into account varying times of the day, week, or year; seasonal variations; weather variation; and special-use occasions, such as holidays or community events (DWH Trustees 2017:Section E.9). To determine the number of users at the facility accurately, data should be collected during different seasons and on weekdays and weekends. If this methodology is not used, skewed results may occur (e.g., more people recreating on holidays versus a normal weekday). Data would be collected on-site.

If after 1 year of monitoring, visitor usage and access to the Port Wonder facility does not occur, corrective actions may be taken. Potential corrective actions (i.e., adaptive management) could include public outreach and marketing for the project (e.g., news articles or signage promoting the new educational facilities) or updating or enhancing exhibits. Promoting, updating, or enhancing the exhibits at the Port Wonder facility may increase the user attendance at the project site. Table 2 provides a sample methodology outlining the preferred monitoring location, duration, frequency, and sample size for the proposed project.

Table 2. Monitoring Parameter 1 Sample Methodology

Monitoring Parameter	Location	Frequency	Monitoring Session Length	Sample Size	Duration
Visitor use and access	Lake Charles SCEC	Daily via software	1 year	Visitors per day	1 year

2.2.2 Parameter 2: Infrastructure Completed as Designed

The recommended methodology for monitoring this parameter is direct review of project documents and on-site comparison. Reviewing design plans, contractor reports, and permitting and planning documents (such as the Supplemental RP/EA [LA TIG 2019]) would equip the project monitor with all of the relevant information needed to make a decision on whether the project has been implemented properly. On-site inspections during and after project implementation would be conducted in order to accurately compare the as-built project to the specifications outlined in the engineering drawings, project planning documents, and permits. The project is anticipated to take approximately 12 months for design and engineering and an additional 14 to 15 months for construction. If construction of the Lake Charles SCEC is included in NRDA funds, timeframes could be longer, subject to approval of permits and environmental review. If the project is not being constructed as designed, planned, and permitted, then

LDWF would work with the construction contractor to ensure that all contract terms and permit requirements are met.

3 ADAPTIVE MANAGEMENT

As outlined in the MAM Manual, it is not appropriate for all projects to have an adaptive management plan. Adaptive management is appropriate for large-scale, complicated projects that propose novel restoration techniques or that have high levels of uncertainty (DWH Trustees 2017:Section 2.4.5). Adaptive management should not be used for projects where learning is unlikely, where decisions are irreversible, or where no opportunity exists to revise or reevaluate decisions based on new information (Doremus et al. 2011).

The Port Wonder facility proposes to use standard engineering specifications and tried-and-tested construction methodology for installation of the proposed facilities. No novel restoration approaches would be used for this small-scale, localized project. In addition, this project is proposed to occur over a 26- to 27-month period, including the planning and design stage and project construction, which is a standard and realistic timeframe. Because this project proposes to establish physical infrastructure, the decision to implement the project is mostly irreversible, as is the opportunity to revise or reevaluate the decision to construct educational facilities at this location. For these reasons, an adaptive management plan is not included in this MAM plan. However, if monitoring determines that the project is not meeting its goals and objectives, then corrective actions should be used. Suggested corrective actions are described in Sections 2 and 5 of this document.

4 EVALUATION

The project would be considered successful if it meets the restoration goals and project-specific objectives as outlined in this document. Project performance would be assessed against the following performance criteria, all of which are based on the project's goals and objectives:

- Provide public access to recreational use of the facilities and services at the Lake Charles SCEC.
- The Lake Charles SCEC restoration project is designed, constructed, and implemented according to plans and permitting requirements.
- Increase in the public's interest and understanding of the natural resources of coastal Louisiana is taking place through the implementation of the new educational facilities at the Lake Charles SCEC.

Methods for analyzing, evaluating, and interpreting the monitoring data collected for the project to determine if the performance criteria are being met, could include the following:

- Data summarization and characterization: This analysis would include calculation of the basic statistics of the monitoring data (e.g., how many users recreate at the site on a daily or monthly basis). This information would form the basis for more-compressive analysis (if needed). Data from this analysis could be presented in both graphical and tabular formats.

- Trends evaluation: This evaluation methodology could be used to address whether there is a change in recreational users over time. This analysis could inform how trends form, and if those trends are randomly occurring.

5 PROJECT-LEVEL DECISIONS: PERFORMANCE CRITERIA AND POTENTIAL CORRECTIVE ACTIONS

Performance criteria and potential corrective actions have been developed for each monitoring parameter for the proposed project (Table 3). Additional corrective actions may be identified during project implementation, as well as during post-implementation, as appropriate. If additional corrective actions are identified, then this section of the MAM would be updated to reflect changes throughout project implementation.

Table 3. Performance Criteria and Potential Corrective Actions by Monitoring Parameter

Monitoring Parameter	Final Performance Criteria	Potential Corrective Actions
Visitor use and access	Recreational opportunities provided to the public following implementation of the restoration elements and services.	Improve project infrastructure (e.g., making all facilities ADA accessible) Conduct routine maintenance activities (e.g., ensuring educational exhibits are clean and readable).
Infrastructure completed as designed	Project is designed, constructed, and implemented according to plans and permitting requirements.	Work with the construction contractor to ensure that all contract terms and permit requirements are met

6 MONITORING SCHEDULE

The schedule for the project monitoring is shown in Table 4, separated by monitoring parameter. The duration of monitoring would be determined prior to implementation of this MAM plan. This information would be added and revised as needed whenever monitoring methods are refined or revised.

Table 4. Project Monitoring Schedule

Monitoring Parameter	Monitoring Timeframe		
	Pre-construction	Construction	Post-construction
Visitor use and access			X
Infrastructure completed as designed	X	X	X

7 DATA MANAGEMENT

Qualitative and quantitative data would be collected as part of this MAM plan. The type of data to be collected, as well as how those data would be collected, processed, reviewed, stored, and shared, is outlined below. Section 3 of the MAM Manual (DWH Trustees 2017) provides detailed guidance on data collection, review, storage, and accessibility, and should be followed, along with this MAM plan.

7.1 Data Description

A description of the data to be collected as part of this MAM plan is described in Table 5, below.

Table 5. Project Data

Monitoring Parameter	Data Description			
	Type of Data	**Collection Method**	**Timing and Frequency**	**Location and Quantity**
Visitor use and access	Ticket sales	Accounting software	Daily for at least 1 year	Port Wonder facility. Daily visitation numbers would be collected during the 1-year period.
Infrastructure completed as designed	Monitoring datasheets and photographs confirming construction is completed to the engineering specifications and permit requirements	Direct observation conducted in-person and on-site	During project implementation Once after project is constructed	On-site. The quantity would depend on the construction schedule.

All data would be collected either by hand on monitoring or survey forms or by tablet on electronic forms. If data are recorded on hardcopy field datasheets, these entries would be scanned to a Portable Document Format (PDF) file and archived, along with the hardcopy. All photographs, datasheets, notebooks, and revised data files would be retained. Metadata would be developed for consistency for all data collected electronically. All electronic files would be stored in a secure location in such a way that the LA TIG would have guaranteed access to all versions of the data.

All data would be collected following the standard guidelines that were developed during early restoration, as discussed in the MAM Manual (DWH Trustees 2017:Section 3.2).

7.2 Data Review

A quality assurance project plan (QAPP) would be required by the LA TIG prior to project implementation. This QAPP would outline the appropriate quality assurance/quality control (QA/QC) process in accordance with the data management section of the MAM Manual (DWH Trustees 2017). The plan should include, at minimum, information and guidance on the following QA/QC procedures:

1. Data verification: Ensure the data were collected correctly, errors are identified and addressed appropriately, and that any metadata are in standard format. In addition, if transcription of data is required, then the QAPP should include a process to verify that the transcription process is completely accurately.
2. Data procurement: Ensure that the submittal of data to the DWH Trustees via the online portal, Data Integration Visualization Exploration and Reporting (DIVER), is done correctly.

3. Data validation and final QA/QC: Ensure that the LDWF can adequately conduct a final QA/QC check for non-data entry errors (date/time, latitude/longitude, units, expected value range, etc.).
4. Information package creation: Guidance for the LDWF to create a public information package.

7.3 Data Storage and Accessibility

MAM data would be stored in the DIVER Restoration Portal. Data would be submitted as soon as possible, but no more than 1 year from when the data were collected. Data storage and accessibility would be consistent with the guidelines in Section 3.1.3 of the MAM Manual (DWH Trustees 2017).

7.4 Data Sharing

The LA TIG would ensure that data sharing follows standards and protocols set forth in the Open Data Policy (Trustee Council 2016:Section 10.6.6). No data release can occur if it is contrary to federal or state laws (Trustee Council 2016:Section 10.6.4). The DWH Trustees would provide notification to the Cross-TIG MAM work group when new data and information packages have been uploaded to DIVER (DWH Trustees 2017). In the event of a public records request related to project data and information that are not already publicly available, the trustee to whom the request is addressed would provide notice to the other LA TIG trustees prior to releasing any project data that are the subject of the request.

As noted in Section 7.3, the project's data would be stored in the DIVER Restoration Portal. These data would be shared with the public by publishing the data to the Trustee Council website (Trustee Council 2016:Section 10.6.6). For further instructions on this process, see the DIVER Restoration Portal Manual (National Oceanic and Atmospheric Administration DWH Data Management Team, Undated).

8 REPORTING

Reporting should follow the guidelines set forth in Section 2.6.3 and Attachment D of the MAM Manual (DWH Trustees 2017). Information to be reported includes the following:

1. An introduction that provides an overview of the project, location, and restoration activities, as well as restoration objectives and performance criteria applicable to the project
   a. This information can be taken from this MAM plan and repeated in all reports.
2. A detailed description of the methods used for implementation of the MAM
   a. This information can be taken from this MAM plan and repeated in all reports.
3. Results from the reporting period or, in the case of the final report, a comprehensive summary of results from the entire MAM plan implementation period
   a. Results should be presented clearly and show progress that has been made toward performance criteria and/or restoration objectives. Information that can be used to present results includes tables or graphs, site visit summaries, and other datasets that support analysis of the project's progress toward meeting performance standard.
4. A discussion of the results (optional for interim reports, required for final report)
5. Conclusions that summarize the findings, progress toward meeting performance criteria and restoration objectives, and recommendations for corrective actions (optional for interim reports, required for final report)
6. Project highlights showcasing lessons learned to inform future project planning and implementation

7. Transmission of data and meta-data used in the report, as well as a description of all data collected during the reporting period, even if they were not used in the report
8. A complete list of references

Three reports should be submitted, excluding any additional reports deemed necessary as a result of corrective actions that require an extension of the monitoring period. The first report should be submitted after the completion of pre-construction monitoring, the second report should be submitted after the completion of construction monitoring, and the third (final) report should be submitted after completion of the 1-year post-construction monitoring.

The DWH Trustees, as stewards of public resources under OPA, should inform the public on the restoration project's progress and performance. Therefore, the LA TIG should report the process of the proposed project via the DIVER Restoration Portal, as outlined in Chapter 7 of the PDARP/PEIS (DWH Trustees 2016).

9 ROLES AND RESPONSIBILITIES

The LA TIG is responsible for "addressing MAM objectives that pertain to their restoration activities and for communicating information to the Trustee Council or Cross-TIG MAM work group" (DWH Trustees 2016). This includes reviewing and approving MAM plans, identifying MAM priorities for the Louisiana Restoration Area, ensuring that MAM implementation is compatible with the MAM Manual guidelines and that data are submitted to the DIVER Restoration Portal, aggregating and evaluating MAM data, ensuring quality control of MAM data, and communicating regarding implementation status and results of MAMs with the Trustee Council and Cross-TIG MAM work group.

As the implementing trustee, the LDWF is responsible for developing the MAM plan, conducting all monitoring activities, evaluating project progress toward restoration objectives using the identified performance criteria, identifying and proposing corrective actions to the LA TIG, and submitting MAM data and project information into the DIVER Restoration Portal in accordance with the data management procedures outlined within this MAM (Trustee Council 2016).

The project proponent, the LDWF, is responsible for all maintenance activities and costs related to the Lake Charles SCEC project, including any repairs needed over the life of the facility.

10 REFERENCES

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11 MAM PLAN REVISION HISTORY

Version No.	Date Updated	Reason for Update	Summary of Changes
1	January 9, 2019	Draft MAM Plan	Draft plan was created.

APPENDIX B

Coastal Zone Management Act Compliance

JOHN BEL EDWARDS
GOVERNOR

THOMAS F. HARRIS
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF COASTAL MANAGEMENT

February 14, 2019

Timothy Landers
US Environmental Protection Agency
Office of Wetlands, Oceans and Watersheds
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Via email: Landers.Timothy@epa.gov

RE: **C20170242 Mod 01,** Coastal Zone Consistency
Louisiana Trustee Implementation Group (LA TIG)
Direct Federal Action
Draft Restoration Plan and Environmental Assessment #2, Provide and Enhance Recrecreational Opportunities: Relocate the Lake Charles Science Center & Educational Complex
Coastwide, Louisiana

Dear Mr. Landers:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. It has been determined that the captioned project falls outside the Coastal Zone and has no significant effects on the Coastal Zone. The project, therefore, requires no formal consistency review and this Department has no objection.

It should be noted that another project in the same area may be deemed to impact the Coastal Zone and require consistency review. For this reason we request that your agency continue to submit applications to this Department for any other projects in the area. If you have any questions concerning this determination please contact Jeff Harris of the Consistency Section at (225) 342-7949 or jeff.harris@la.gov.

Sincerely,

/S/ Charles Reulet
Administrator
Interagency Affairs/Field Services Division

CR/SK/jdh

cc: Dave Butler, LDWF
Doug Jacobson, USEPA
Gale Bonanno, USEPA
James Bove, USEPA
Treda Grayson, USEPA