Draft Restoration Plan and Environmental Assessment for Recreational Uses

2002 M/V EVERREACH Oil Spill, Charleston South Carolina

Prepared By:

South Carolina Department of Natural Resources

South Carolina Department of Health and Environmental Control

National Oceanic and Atmospheric Administration

United States Fish and Wildlife Service, acting on behalf of the United States Department of the Interior

Table of Contents

List of Figures

List of Tables

1. Introduction

1.1. Background of Incident

On or about September 30, 2002, #6 fuel oil was accidentally discharged into the waters of the Cooper River and Charleston Harbor, in South Carolina, from the containership M/V EVERREACH. The amount of oil discharged is not precisely known, but was estimated at approximately 12,500 gallons. The spill oiled approximately 30 linear miles of shorelines, including tidal flats, fringing marshes, intertidal oyster reefs, sandy beaches, as well as docks, piers, and bulkheads. Most of the oil concentrated near North Charleston Terminal and the former Charleston Naval Base. The spill also resulted in the oiling of a number of shorebirds, a shellfish bed closure, and temporary disruption to recreational shrimp baiting in area waters.

1.2. Settlement, Ecological Restoration, and Recreational Use Damages

In May 2012, the Natural Resource Trustees released a Final Restoration Plan and Environmental Assessment (2012 RP/EA) that is incorporated by reference herein. The 2012 RP/EA described the M/V EVERREACH oil spill and the natural resource injury assessment, and identified, evaluated, and selected a restoration alternative to compensate the public for the ecological injury. The monetary value of the recreational services lost (shrimp baiting, shellfishing, etc.) was also assessed, but restoration planning for those losses was deferred until after settlement with the Responsible Party (RP) was reached.

Natural Resource Trustees reached settlement with the RP on October 24, 2012. The terms of the settlement included a salt marsh restoration at the site of the former Charleston Naval Base golf course in North Charleston to compensate the public for ecological injury, as well as monetary damages for the recreational injury. These funds remain to compensate the public for the lost shrimp baiting and shellfishing activities.

1.3. Relationship between M/V EVERREACH Restoration Plan and Environmental Assessment (2012) and M/V EVERREACH Recreational Restoration Plan and Environmental Assessment (2019)

The 2012 RP/EA describes the incident and the injury assessment, as well as the restoration planning process focused on the ecological injury, and is incorporated herein by reference. This 2019 Draft RP/EA summarizes the incident and injury, and describes the restoration planning process for the recreational injury only. As such, the 2012 RP/EA is heavily referenced in this plan, and is available at

https://pub-data.diver.orr.noaa.gov/admin-record/6514/EVERREACH_FINAL_RPEA_May15_2012.pdf

1.4. Purpose and Need

The purpose of the proposed action is to select a restoration project that compensates the public for the recreational losses sustained from the M/V EVERREACH oil spill in Charleston Harbor, in accordance with all applicable legal requirements. The restoration project must be effective in achieving goals for restoring, replacing, or acquiring the equivalent of natural resource services (i.e., recreational uses) lost as a result of the spill consistent with the requirement of OPA.

The action is needed because there were significant losses of the public's natural resources—including recreational uses—from the oil spill. The Natural Resource Trustees have a statutory duty to engage in restoration planning and assessment of natural resource damages to compensate the public for injury to, and loss of, services from natural resources.

1.5. Proposed Action

The proposed action is to compensate the public for lost recreational uses by providing additional and/or improved fishing access through either the installation of a fishing/crabbing pier at Sol Legare boat landing on James Island, South Carolina; or the installation of a courtesy dock at the R.M. Hendricks Park's boat landing in North Charleston, South Carolina. Both restoration actions are presented as preferred alternatives in this 2019 Draft RP/EA. However, only one alternative will be selected in the Final RP/EA.

1.6. Natural Resource Injuries Associated with the Site

Natural resources provide many services, including public recreation. Recreational uses that were lost due to the spill included shrimp baiting and recreational shellfishing. These recreational use losses are the focus of this 2019 Draft RP/EA.

1.7. Trustees

This Draft RP/EA has been developed by the following Federal and State natural resource trustees: the National Oceanic and Atmospheric Administration (NOAA) of the U. S. Department of Commerce, the U. S. Fish and Wildlife Service (USFWS) on behalf of the U.S. Department of the Interior (DOI), the South Carolina Department of Health and Environmental Control (SCDHEC), and the South Carolina Department of Natural Resources (SCDNR), on behalf of the South Carolina Governor's Office (collectively, "the Trustees"). NOAA is the lead federal agency.

1.8. Authorities and Regulations

1.8.1. OPA Compliance

This 2019 Draft RP/EA was prepared jointly by the Trustees pursuant to their respective authority and responsibilities as designated Trustees for natural resources injured as a result of the spill under the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq., the Oil Pollution Act (OPA), 33 U.S.C. § 2701 et seq., and other applicable federal laws, including Subpart G of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300.600 et seq. SCDNR and SCDHEC also have such authority under the South Carolina Pollution Control Act, S.C. Code Ann 48-1-10 et seq. (Supp. 2002), or other applicable state laws.

Section 1002(a) of OPA provides that each party responsible for a vessel or facility from which oil is discharged, or which poses a substantial threat of a discharge of oil, into or upon the navigable waters of the United States or adjoining shorelines, is liable for natural resource damages resulting from such actual or threatened discharges of oil (33 U.S.C. §2702(a)). OPA

Section 1006(d)(1) defines the measure of natural resource damages as the cost of restoring, rehabilitating, replacing or acquiring the equivalent of the injured natural resources, compensation for the diminution in value of those natural resources pending restoration, and the reasonable costs of assessing such damages (33 U.S.C.§2706(d)(1)). Sums recovered for the first two components of damages are required to be spent to restore, rehabilitate, replace or acquire the equivalent of the injured resources, in accordance with a restoration plan developed by the Trustees (33 U.S.C. §2706(f)).

1.8.2. NEPA Compliance

Actions undertaken by Trustees to restore natural resources or services under OPA and other federal laws are subject to the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq., and the regulations guiding its implementation at 40 C.F.R. Parts 1500-1508. NEPA and its implementing regulations outline the responsibilities of federal agencies under NEPA, including the preparation of environmental documentation. In general, federal agencies contemplating implementation of a major federal action must produce an environmental impact statement (EIS) if the action is expected to have significant impacts on the quality of the human environment. When it is uncertain whether a contemplated action is likely to have significant impacts, federal agencies prepare an environmental assessment (EA) to evaluate the need for an EIS. If the EA demonstrates that the proposed action will not significantly impact the quality of the human environment, the agency issues a Finding of No Significant Impact (FONSI), which satisfies the requirements of NEPA, and no EIS is required. For a proposed restoration plan, if a FONSI determination is made, the Trustees may then issue a final restoration plan describing the selected restoration action(s). For the proposed restoration actions described in this 2019 Draft RP/EA, NOAA is acting as a lead federal agency for NEPA compliance.

In accordance with NEPA and its implementing regulations, this 2019 Draft RP/EA summarizes the current environmental setting, describes the purpose and need for restoration, identifies alternative restoration actions considered for the recreational injuries, assesses their applicability and potential environmental consequences, and summarizes the opportunity afforded for public participation in the process of making the restoration plan decisions. This information will be used to make the threshold determination as to whether preparation of an EIS is required prior to selecting the final recreational services restoration action.

1.9. Public Involvement

Section 1006(c)(5) of OPA requires the Trustees to involve the public in the restoration planning process (33 U.S.C. 2706(c)(5)). The OPA Natural Resource Damage Assessment (NRDA) regulations interpret this provision as requiring, at a minimum, that Trustees provide the public with the opportunity to comment on a draft restoration plan, and that any public comments received be considered prior to adopting a final plan (15 C.F.R. Section 990.55(c)). The Trustees believe that public involvement and input is essential to an effective restoration planning process. Affording opportunity for public comment is also consistent with all applicable state and federal laws and regulations, including NEPA and its implementing regulations at 40 C.F.R. Parts 1500-1508.

The Trustees' decision to conduct a natural resource damage assessment for the oil spill was based on, and supported by, certain determinations made by the Trustees pursuant to the NRDA regulations, i.e., the Determination of Jurisdiction to Pursue Restoration pursuant to 15 C.F.R. 990.41 and the Determination to Conduct Restoration Planning pursuant to15 C.F.R. 990.42. These determinations and the bases of these determinations were set forth and described in a Notice of Intent to Conduct Restoration Planning published by the Trustees on November 25, 2003, in The Post and Courier, a newspaper of large general circulation in and around the spill area. A copy of that Notice is included in the 2012 RP/EA.

Restoration planning for the recreational uses injury resumed in 2017, and public review of this Draft 2019 RP/EA is the means by which the public can provide input on the preferred recreational uses restoration alternatives identified by the Trustees.

1.10. Administrative Record

Acting in accordance with 15 C.F.R. 990.45, the Trustees established an Administrative Record (AR) documenting records relied upon by the Trustees in proceeding with the NRDA for the spill. These records collectively comprise those supporting this Draft 2019 RP/EA. The AR is available for public review at:

https://www.diver.orr.noaa.gov/web/guest/diver-admin-record?diverWorkspaceSiteId=6514

2. Injury Assessment: Injury and Services Lost

The complete injury assessment for the spill can be viewed in the Final 2012 RP/EA which is incorporated by reference and is available from the Administrative Record (see above). A summary of the recreational services injury assessment is provided below.

2.1. Lost Recreational Services – Determination and Quantification of Losses

Among the many services provided by a natural resource are those for public recreation. When a resource is injured or access to that resource disrupted by a spill, the public's recreational use of the resource can be lost or diminished. Such losses are part of the natural resources damages that are recoverable under OPA and addressed in the NRDA process. This subsection summarizes the data and methods used to evaluate, identify and calculate lost-use damages for recreational losses due to the M/V EVERREACH oil spill.

The M/V EVERREACH spill affected recreational shrimp baiting and recreational shellfishing. The Trustees determined that the M/V EVERREACH oil spill caused a reduction in the number of shrimp baiting and shellfishing trips taken in the Charleston Harbor area in the fall of 2002 and also that the value of shrimp baiting trips taken under spill conditions was reduced. The assessment undertaken to identify and quantify these losses (i.e., to determine the number of affected trips and the total value of those losses) is described below. This assessment was undertaken cooperatively with the RP. The Trustees also examined potential effects of the spill on beach use and recreational boating but determined that impacts to these activities, if any, were

likely very small and did not warrant further assessment. Further details of the lost recreational use injury assessment are described in the 2012 RP/EA.

2.1.1. Recreational Shrimp Baiting

Recreational shrimp baiting takes place throughout Charleston Harbor and in several other areas of coastal South Carolina within an annually noticed season (typically about 60 days) that normally begins in mid-September and extends into November. The fishery usually involves marking several spots with poles, setting bait in the water, and casting a net over the shrimp that are drawn to the bait. The activity typically takes place at night to improve catch and is almost always undertaken using a boat. Well over 10,000 permits for this recreational season are sold annually by SCDNR. Over 3000 Charleston County residents purchased a permit for the 2002 season.

Losses of recreational shrimp baiting due to the spill were determined from information obtained as part of the post-season survey of shrimp baiting license holders administered annually by the SCDNR. Questions designed to reveal the effect of the spill on shrimp baiting activities for the 2002 season were added to the November 2002 survey and the responses to these questions were used to assess the 2002 recreational shrimp baiting losses attributable to the spill. The total estimated number of lost trips due to the spill was 4,232.

The total monetary value of all shrimp baiting losses was then estimated with a Random Utility Model (RUM) travel cost method. Total losses to recreational shrimp baiting resulting from the oil spill were estimated at a range of $74,476 to $114,452 in 2002 dollars. These losses were adjusted over time to account for discounting and inflation. At the time of the settlement, the value of the estimated losses was $105,905 to $162,708.

2.1.2. Recreational Shellfishing

The SCDHEC closed shellfish bed S200 on October 1, 2002, due to potential contamination from the spill, and lifted the closure on November 5, 2002. The designated area S200 is located near Folly Island, and is accessed primarily from the Folly River boat landing located on State Route 171.

To determine recreational shellfishing losses, the number of lost trips was estimated for the 35-day closure of bed S200 using data available at the time. With adjustments made at time of settlement, the value of these losses was $10,598 to $14,131.

2.1.3. Beach Use

Following the spill, some oiling was observed at Folly Beach, a county-operated recreation site located directly on the Atlantic Ocean south of the entrance to Charleston Harbor. Because Charleston County beaches continue to have considerable levels of use during late September and early October, particularly on weekends, the Trustees initiated a preliminary investigation into potential spill-related losses at Folly Beach. The Trustees' analysis did not indicate any significant change in attendance at Folly Beach associated with the oil spill.

2.1.4. Recreational Boating

The Trustees also conducted a preliminary investigation of potential public recreational boating losses in Charleston Harbor due to the spill. This investigation focused on potential losses associated with the disruption of access to, and use, of the waters of Charleston Harbor by recreational boaters using the Cooper River Marina. However, taking into account all circumstances, the Trustees found that assessing public recreational boating losses associated with boaters originating from this marina would be difficult, and likely involve costs in excess of the amount of any potential public claim. For these reasons, the Trustees determined that further action to assess public recreational boating losses based on this temporary interruption in access to area waters was not warranted.

3. Restoration Planning: Restoration Alternatives Development

3.1. Overview of the Restoration Planning Process

Restoration planning under OPA identifies restoration actions that are appropriate to restore, rehabilitate, replace or acquire natural resources or services equivalent to those injured or lost due to unlawful discharges of oil. The NRDA regulations identify a variety of methods that may be used to evaluate or scale such actions: a "Service-to-Service" approach where the natural resource services restored will be equivalent to services lost; a "Value-to-Value" approach where the value of those services restored must match the value of services lost, as viewed by the public; and a "Value-to-Cost" approach where the scale of restoration will be that which can be achieved at a cost that is equivalent to the value of the resources and/or services lost. This "Value-to-Cost" approach was used to determine the restoration scale for the recreational losses.

3.2. Restoration Goals and Objectives

The primary goal of this restoration planning process is to provide resources and services comparable to those lost. In this case, the Trustees intend to compensate the public for the recreational injury by providing additional and/or improved access to fishing and shellfishing.

3.3. Alternatives Screening and Criteria for Identification and Evaluation of Alternatives

Consistent with the NRDA and OPA regulations, the following criteria were used to evaluate restoration project alternatives and to identify the restoration actions that where preferred for implementation:

<u>The extent to which the project is expected to meet the Trustees' restoration goals and objectives.</u> The primary goal is to provide recreational services comparable to those that were lost. These lost services included recreational shrimp baiting, shellfishing, and other potential recreational fishing activities.

<u>The cost to carry out the project.</u> Projects should consider how best to apply settlement funds, as well as considering additional funding sources, should the project require them.

The likelihood of success. Projects should demonstrate sound capabilities to support project construction, function, long-term viability, and sustainability.

The extent to which the project will avoid collateral injury to natural resources or services. Projects should not result in significant additional losses of natural resources.

The extent to which the project will benefit more than one natural resource or service. Projects that benefit more than one recreational service are viewed more favorably.

The effect of the project on public health and safety. Projects that would negatively affect public health or safety are not appropriate.

The NRDA regulations give the Trustees discretion to prioritize these criteria and to use additional criteria, as appropriate. In developing this Draft 2019 RP/EA, the first criterion listed above has been a primary consideration, because it is critical to ensuring that restoration will compensate the public for recreational losses attributed to this spill through the Trustees' assessment.

The Trustees approached restoration planning with the view that projects that improve fishing and/or boating access are a priority because they would benefit both recreational fisheries affected by the spill. The Trustees also recognized restoration actions should be consistent with local community objectives, and alternatives were considered more favorably if complementary with other community development plans/goals.

NEPA and the NRDA regulations required the Trustees to evaluate the "No Action" alternative, which for compensatory restoration equates to "No Compensation." Under this alternative, the Trustees would take no action to compensate for interim losses associated with the lost recreational services.

3.3.1. Screening for Potential Alternatives

3.3.1.1. Initial Screening of Restoration Alternatives

For the recreational services injury, the Trustees investigated possible restoration options through direct discussions with state, county, and local governments and institutions. During the initial restoration planning process, and as outlined in the 2012 RP/EA, the Trustees used a matrix to compare potential restoration actions in the Cooper River/Charleston Harbor area to each of the ecological injuries and recreational impacts caused by the spill (Table 3.1). This exercise allowed the Trustees to identify restoration alternatives suited to meeting the stated restoration goal for each injury or loss. In this exercise, the Trustees rated each potential restoration alternative based on its ability to meet the primary restoration criterion for each type of injury or loss. Each injury/restoration alternative pairing was evaluated and assigned one of the following four ratings:

> First Order Nexus – Project type provides same resource services as were lost due to the injury.
>
> Second Order Nexus – Project type provides some of the same resource services as were lost due to the injury, and others that are similar.

Third Order Nexus – Project type only provides resource services that are comparable and/or similar to those lost due to the injury.

No Nexus -- Project type does not provide any of the same resource services as were lost due to the injury, and does not provide any that are comparable or similar.

Table 3.1. Screening Matrix for Identifying Potential Restoration Alternatives (from 2012 RP/EA).

Potential Injury Types and Appropriate Potential Compensatory Restoration Alternatives		Creation of Wetlands	Creation of Wetland/Oyster Area	Restoration of Degraded or Impounded Wetlands	Restoration of Degraded Wetland/Oyster Area	Protection of existing wetlands (erosion...)	Protection of Wetland/Oyster Area	Oyster Reef Creation	Acquisition of multi-habitat area (upland, wetland, beach, oyster) (under threat of development)	Boating Access (ramps etc.)	Enhancement of Bird Rehabilitation Capabilities	Enhancement of Bird Rookeries (Dredge Material Placement, etc.)	Multi-Habitat Creation/Enhancement Project (Marsh, Upland, Oyster)	Beach Protection Projects (dunes, etc.)
Shoreline														
Vegetated Shoreline														
Non-Vegetated Shoreline														
Hard Structure														
Oyster Reef														
Birds														
Shorebirds														
Marsh Birds														
Wading Birds														
Seabirds														
Recreational Lost Use														
Shrimp Baiting														
Oyster Harvesting														

Ranking: The potential restoration alternatives above should me ranked compared to the various injury categories along the left side based on the criteria below.

Symbol & Rank	Definition of Ranking
First Order Nexus	A project that provide the same services compared to those that were lost as a result of the injury.
Second Order Nexus	A project that provides some services that are the same and others which are similar to those lost as result of the injury.
Third Order Nexus	A project that provides comparable and similar services to those that were lost as a result of the injury.
No Nexus	A project that does not provide the same or comparable service to those that were lost as result of the injury.

For the shrimp baiting and shellfishing recreational losses, this screening evaluation indicated actions that would improve boating access would be likely to meet the primary selection alternative. This information provided the foundation for project identification and further screening conducted in 2018, as described below.

3.3.1.2. Eligibility Screening of Restoration Alternatives

In 2018, the Trustees used the results of Table 3.1 to identify priority boating access projects for consideration. Trustees reached out to a range of potential partners including local governments, a state agency, and Charleston area recreational organizations to solicit project ideas that would satisfy Trustee criteria. Eighteen project ideas were proposed. These projects were assessed against eligibility criteria (described in Section 3.3). Of these, 12 met all criteria (“Yes” scores), and were deemed eligible for Trustee consideration and evaluation.

Table 3.2. Eligibility Screening of Restoration Alternatives. Projects that scored "Yes" for all eligibility criteria were further evaluated by the Trustees.

		Meets restoration goals and objectives effectively	Delivers benefits cost-effectively	High probability of success	Provides measurable results	Avoids collateral injury to natural resources	Ensures protection of human health and safety	Is not otherwise required	Compatible with the remediation process
R.M. Hendricks Park, Filbin Creek, North Charleston	courtesy dock	Y	Y	Y	Y	Y	Y	Y	n/a
Northbridge Park, Ashley River, Charleston	shade structure on pier	Y	Y	Y	Y	Y	Y	Y	n/a
Sol Legare Boat Landing, James Island	fishing/crabbing dock	Y	Y	Y	Y	Y	Y	Y	n/a
Cooper River Marina, Cooper River, Charleston	fishing/crabbing dock	Y	Y	Y	Y	Y	Y	Y	n/a
Riverland Terrace Boat Landing, James Island	fishing/crabbing dock	Y	Y	Y	Y	Y	Y	Y	n/a
Wappoo Cut Boat Landing, James Island	fishing/crabbing dock	Y	Y	Y	Y	Y	Y	Y	n/a
Daniel Island, Wando River	boat landing	Y	Y	Y	Y	Y	Y	Y	n/a
Sullivans Island Boat Landing Improvements	improvements	Y	Y	Y	Y	Y	Y	Y	n/a
Lighthouse Inlet, Folly Beach	terminal groin repairs	Y	Y	Y	Y	Y	Y	Y	n/a
Folly Beach Public Landing	kayak launch	Y	Y	Y	Y	Y	Y	Y	n/a
Folly Creek (site of new bridge), James Island	kayak launch	Y	Y	Y	Y	Y	Y	Y	n/a
Riverfront Park, Mt. Pleasant	kayak launch	Y	Y	Y	Y	Y	Y	Y	n/a
Upper Cooper Blue Trail	launches, amenities	Y	N	N	Y	Y	Y	Y	n/a
Romney Stree Landfill Project	boat landing	Y	N	N	Y	Y	Y	Y	n/a
Cooper River Marina	boat landing	Y	Y	N	Y	Y	Y	Y	n/a
Folly Beach Pier	pier rebuild	Y	N		Y	Y	Y	Y	n/a
WPAL park-- new city park	rec fish access	Y	N	N	Y	Y	Y	Y	n/a
Shem Creek Park, Mt Pleasant	improvements	N	Y	Y	Y	Y	Y	Y	n/a

3.3.1.3. Evaluation Screening of Restoration Alternatives

The Trustees considered each project meeting eligibility criteria. Through review and discussion, the Trustees scored restoration alternatives from Low to High on six evaluation criteria (Table 3.3). The Trustees removed projects that scored Low on any of the evaluation screening criteria from further analysis. Only the Hendricks Park and Sol Legare dock projects scored Medium to High on all screening criteria.

Table 3.3. Evaluation Screening for Restoration Alternatives. Projects scoring "Low" for one or more criteria were not considered for further analysis. Highlighted alternatives were considered for detailed analysis.

		Geographic Nexus to injury	Project benefits recreational fishing/boating opportunities	Benefits more than one natural resource/ service	High degree of service benefit (improved and/or additional access)	Demonstrates advanced level of planning / development	Leverages existing resources and/or capacities
R.M. Hendricks Park, Filbin Creek, North Charleston	**dock for boat tie-up**	**H**	**H**	**H**	**H**	**M**	**H**
Sol Legare Boat Landing, James Island	**fishing/crabbing dock**	**H**	**H**	**M**	**H**	**H**	**H**
Northbridge Park, Ashley River, Charleston	shade structure on pier	L	M	M	M	H	M
Cooper River Marina, Cooper River, Charleston	fishing/crabbing dock	H	H	M	M	L	H
Riverland Terrace Boat Landing, James Island	fishing/crabbing dock	L	H	M	H	H	H
Wappoo Cut Boat Landing, James Island	fishing/crabbing dock	L	H	M	H	H	H
Daniel Island, Wando River	boat landing	L	H	H	H	L	H
Sullivans Island Boat Landing Improvements	improvements	L	H	H	H	L	M
Lighthouse Inlet, Folly Beach	terminal groin repairs	H	L	L	L	L	M
Folly Beach Public Landing	kayak launch	H	M	M	M	L	M
Folly Creek (site of new bridge), James Island	kayak launch	H	M	M	M	L	M
Riverfront Park, Mt. Pleasant	kayak launch	M	M	M	M	L	M

3.4. Alternatives Considered for Detailed Analysis

Based on the process described above, the Trustees identified the following projects for detailed analysis:

Alternative A: Hendricks Park Courtesy Dock, Filbin Creek. This alternative proposes to construct a courtesy dock adjacent to the boat ramp to improve the safety and experience of boaters, as well as to increase usage of and access to the Cooper River.

Alternative B: Sol Legare Fishing/Crabbing Dock, Stono River. This alternative proposes to construct a fishing/crabbing pier adjacent to the boat landing to improve the safety of boaters and fishers, as well as to increase fishing opportunities in the area.

No Action. The No Action alternative proposes no additional actions to compensate the public for the lost recreational uses, and therefore no improved quantity or quality of recreational fishing activities.

4. Evaluation of Restoration Alternatives

4.1. Alternative A: Hendricks Park Courtesy Dock, Filbin Creek

4.1.1. Description

Ralph M. Hendricks Park (Hendricks Park) is a North Charleston city park located on Filbin Creek, a tributary of the Cooper River (Figure 4.1). The public park currently includes a boat ramp and crabbing dock, along with other park amenities. The boat ramp at Hendricks Park is one of the only options for direct boating access to the Cooper River from the North Charleston side of the river. While popular, usage may be limited by the lack of a courtesy dock for tying off boats when entering and exiting the water, as well as a derelict train trestle that limits boat clearance on certain tides. Users indicate boating access would improve with the installment of a courtesy dock.

Figure 4.1. Ralph M. Hendricks Park, Filbin Creek, North Charleston (Google Earth).

This alternative proposes to construct a courtesy dock between the existing ramp and fishing dock, providing tie-off options for boaters. Size of the dock would be limited due to creek width and depth at the site (2-9 feet, and 60 feet, respectively). Estimated dock size is 4’ x 10’, but exact dimensions would be determined during final design if selected. Additional funding beyond the available funds from the NRDA settlement would be needed to complete this project. These funds have not been identified as of the publishing of this Draft RP/EA.

4.1.2. Evaluation

The Hendricks Park courtesy dock alternative meets Trustee restoration goals and objectives of providing additional or improved access to recreational fishing opportunities. The project may be cost effective with the City of North Charleston indicating the ability to leverage additional funding. The project would avoid significant collateral injury and negative impacts to public

health. The project has a direct geographic nexus to the spill site, with the spill occurring in the Cooper River. Additionally, the project is adjacent to the Noisette Creek Restoration Project that was implemented as compensation for the ecological injury associated with the spill. The project would provide benefit to boaters for recreational fishing, and has the potential to significantly improve public access to the Cooper River which is currently limited. The degree of success for this project is dependent on the City's plan for the derelict trestle, as that feature is a limiting factor for boating access from Filbin Creek to the Cooper River. The City has indicated initial interest in pursuing this project; however, the project has not advanced in its level of planning since the project was initially identified in 2018. Additional project details such as a detailed cost estimate were not available during the drafting of this 2019 RP/EA, but as stated above, the costs for the project are expected to exceed available funds.

4.2. Alternative B: Sol Legare Fishing/Crabbing Pier, Stono River

4.2.1. Description

The Sol Legare boat landing is a public boat landing owned by Charleston County Parks and Recreation Commission (CCPRC), and is located on the Stono River between Folly and James Islands (Figure 4.2). The boat landing is one of the most heavily used landings in the area, providing access to multiple waterbodies for recreational fishing. Currently there is no fishing/crabbing dock at the landing, though the public regularly uses boat docks for fishing and crabbing. This "shared use" creates conflicts, and potential safety hazards.

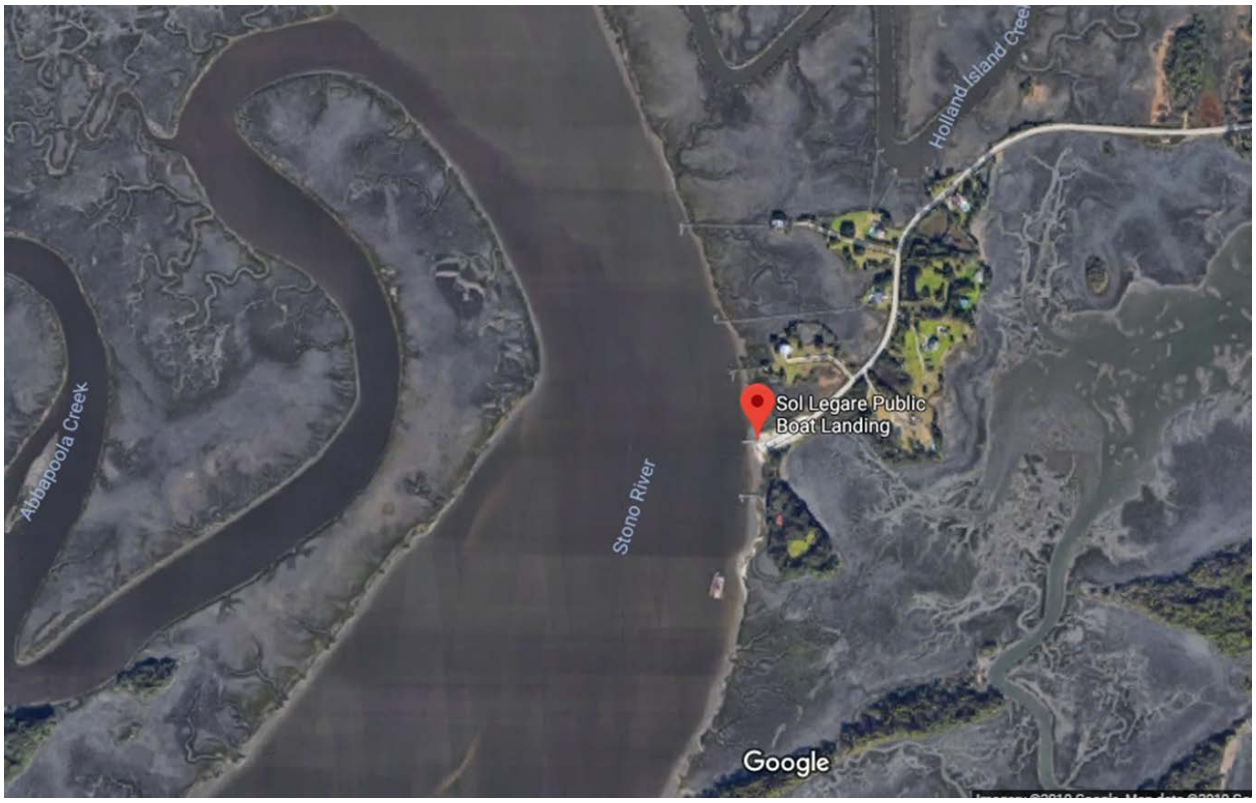

Figure 4.2. Sol Legare Boat Landing, Stono River, James Island (Google Earth).

This alternative proposes to construct a fishing/crabbing pier at the landing site. CCPRC is currently pursuing property maintenance and improvement efforts at the site, including parking improvements, dock repairs, and additional visitor amenities (Figure 4.3). The fishing pier would be an additional feature for the landing's improvement plan (Figure 4.4, 4.5). CCPRC has pursued engineering and design services, and has submitted initial permitting applications that include the proposed fishing pier as an additional amenity if funded.

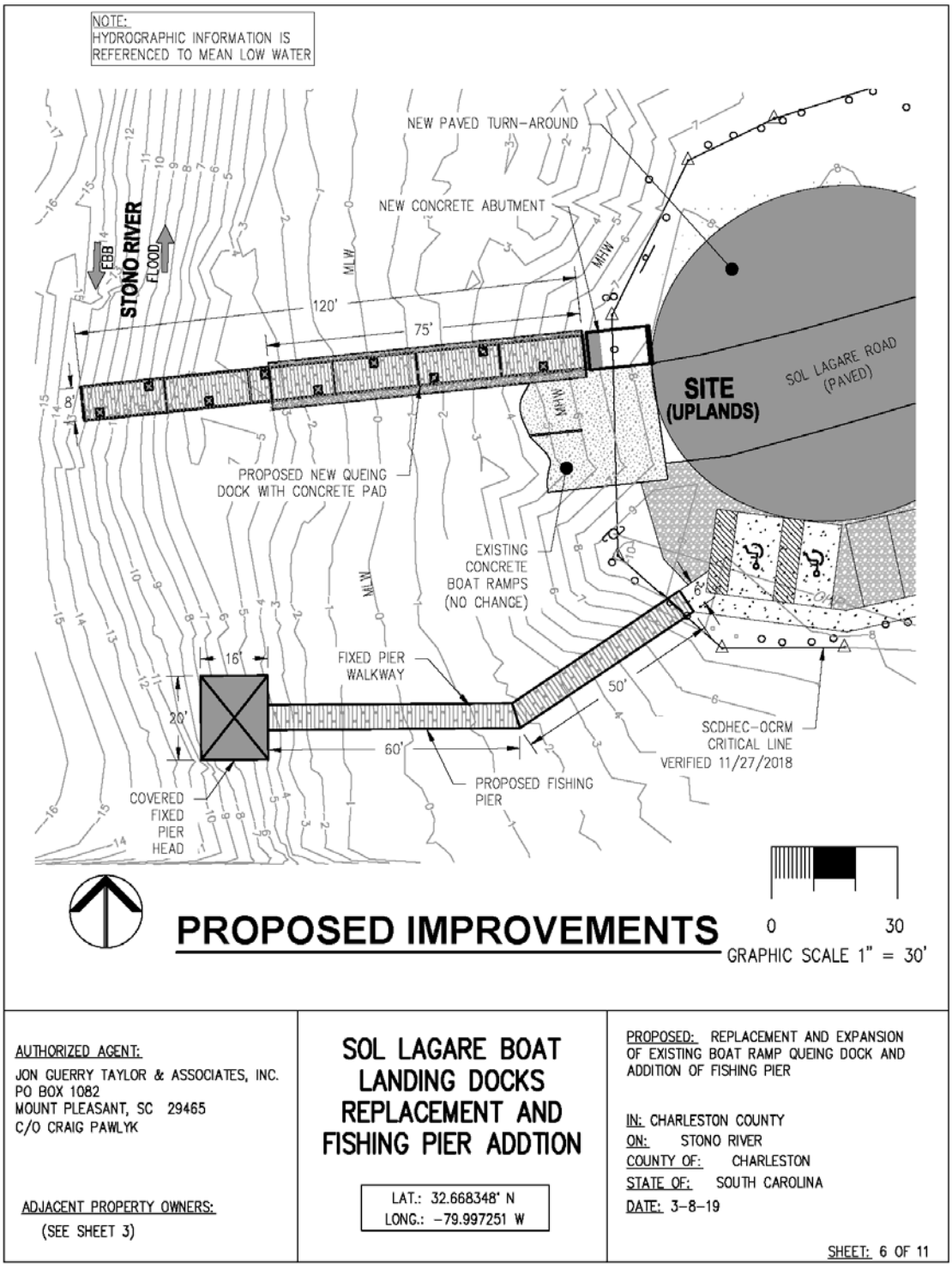

Figure 4.3. Proposed Improvements to Sol Legare Boat Landing (preliminary). Provided by Charleston County Parks and Recreation Commission.

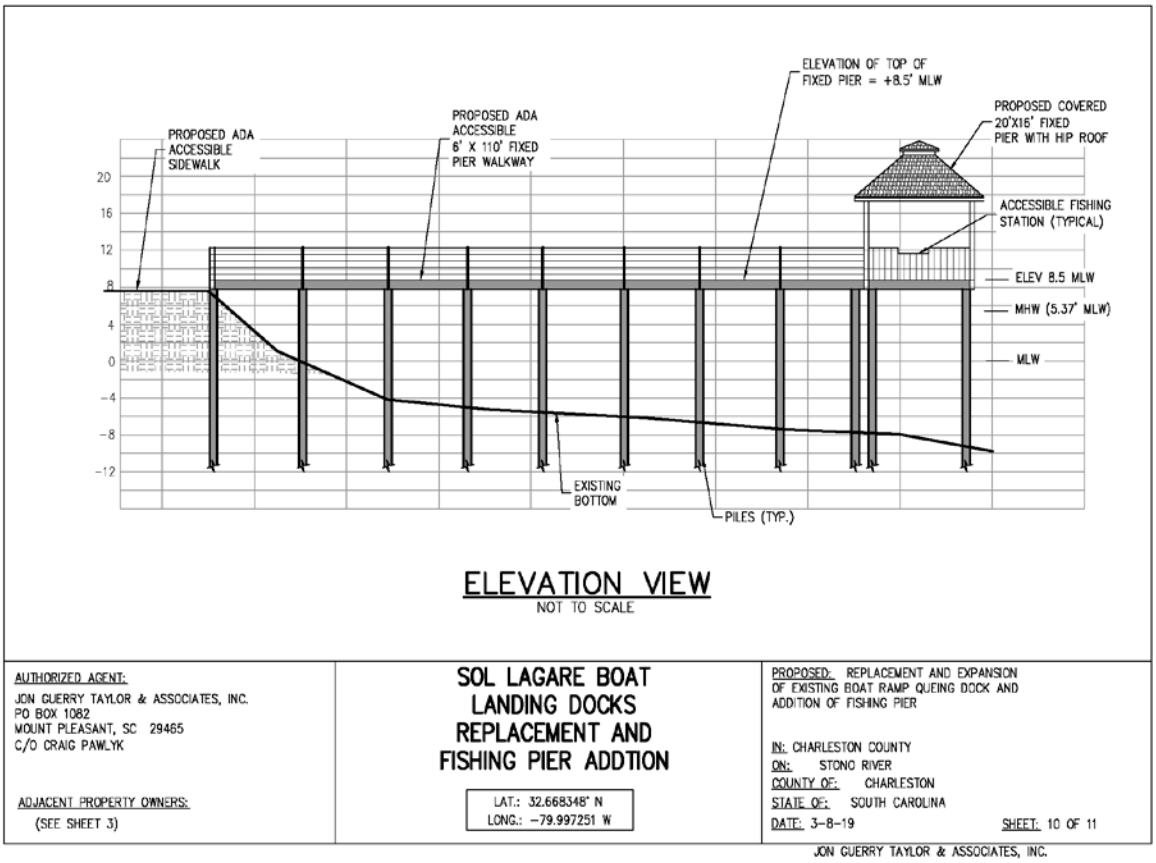

Figure 4.4. Preliminary Fishing Pier Design (elevation view). Provided by Charleston County Parks and Recreation Commission.

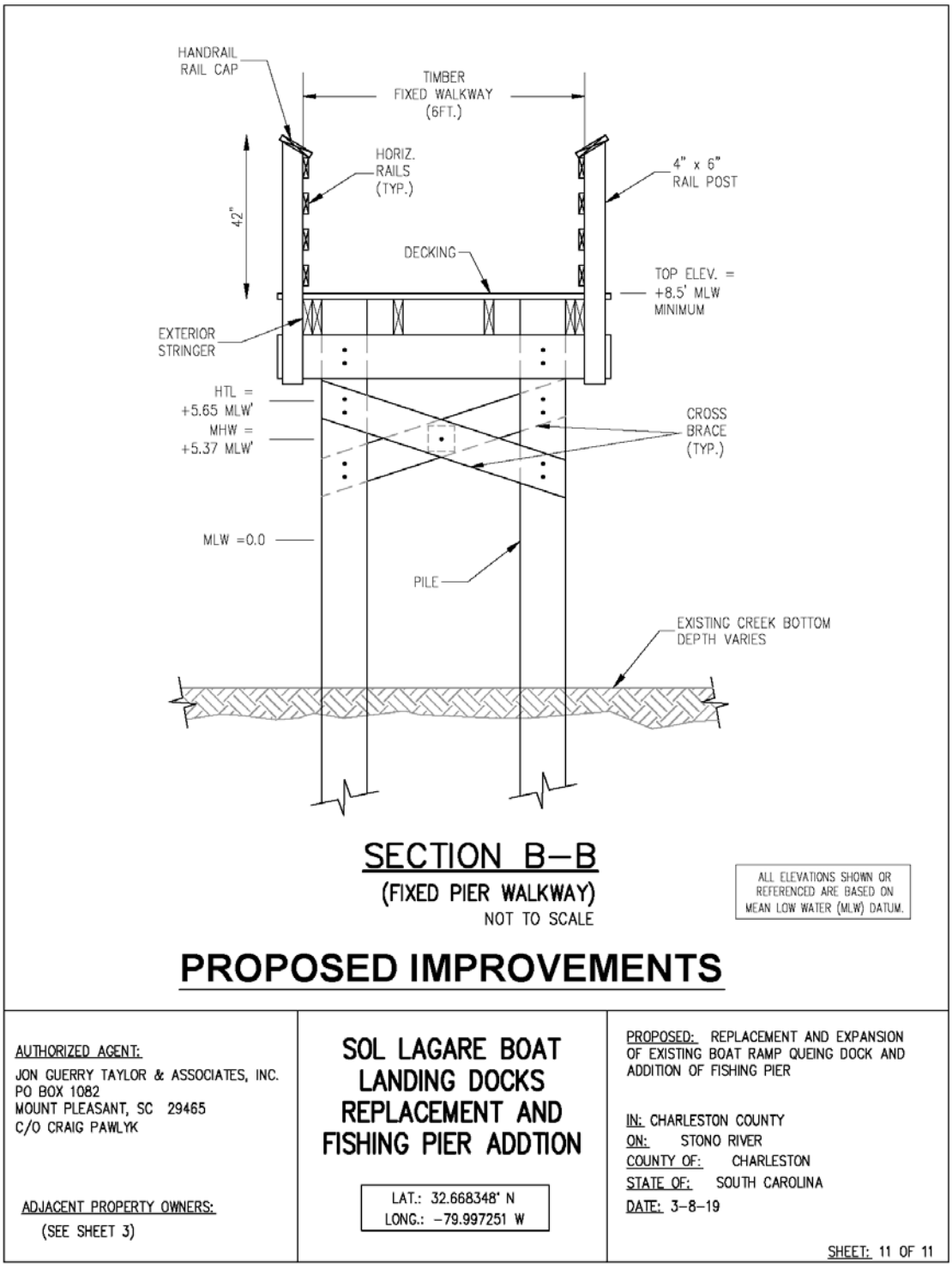

Figure 4.5. Preliminary Fishing Pier Design (cross-section). Provided by Charleston County Parks and Recreation Commission.

4.2.2. Evaluation

The Sol Legare fishing/crabbing dock alternative meets Trustee restoration goals and objectives. The project is cost effective with the CCPRC having already secured the additional funding needed to implement the project. The project would avoid significant collateral injury and negative impacts to public health. The project site is located in an area that was found to be oiled following the spill, and has a direct geographic nexus with the injury site. The project would benefit both boaters and fishers, though a higher level of benefit for fishers from shore. The dock would provide a significant level of improvement to existing access, and may create new recreational fishing opportunities as well with the addition of dedicated fishing space. Finally, this alternative demonstrates a high level of planning, and is aligned with existing plans for improving recreational access in the County.

4.3. No Action

4.3.1. Description

The No Action alternative proposes no additional actions to compensate the public for the lost recreational uses, and therefore no improved quantity or quality of recreational fishing activities.

4.3.2. Evaluation

The No Action alternative would not compensate the public for the sustained losses to recreational fishing activities, and is not preferred.

4.4. Evaluation Conclusions and Alternative Proposed for Selection (Preferred Alternative)

Both the Hendricks Park and Sol Legare projects are presented herein as preferred alternatives. Both projects meet Trustee selection criteria, meeting restoration goals and objectives. Due to the limited settlement value for the recreational services injury, the Trustees determined that only one alternative will be selected. Final selection will be determined following the public comment period, and the alternative's capacity to move forward with implementation at the time of selection to prevent further delays.

5. NEPA Affected Environment

5.1. Introduction

The following sections describe the physical, biological and cultural/human use environments in the area that may be affected by the recreational use restoration actions considered in this Draft 2019 RP/EA. Information on the overall environmental setting in which the spill occurred and the environments affected, or potentially affected, by the spill and targeted for ecological restoration activities is provided in the 2012 RP/EA.

5.2. Physical Environment

5.2.1. Geology, Soils and Aquatic Substrates

Filbin Creek (Hendricks Park)

Filbin Creek is a small urban tributary to the Cooper River located 17 miles from the Atlantic Ocean. It is at River Mile 6 of the Cooper River and the boat landing is 0.3 miles up the creek from the creek's mouth. Sedimentary deposits dominate the geology of the area as part of the floodplain of the river. Dominant soils are the Urban Land Yauhannah-Yemassee-Ogeechee association (NRCS, 2019). This soil type originates in loamy fluviomarine deposits from marine terraces. The aquatic substrates are unconsolidated bottom of fine-grained silt and sand, with occasional concrete debris rubble. A derelict rail line runs through the park and the causeway supporting it has severely eroded along the bank.

Filbin Creek drains an area of 7.3 square miles (Sanders 1987). The creek has been dredged and channelized as it flows east through a series of bridges and culverts to the project site. The length of the creek from original headwaters to the Cooper River is 3.6 miles. The creek is 60 feet wide at the boat landing location, and 140' wide at the mouth where it enters the Cooper River. It is 10' deep at the mouth and in the vicinity of the landing, ranges from 2-9' deep depending upon the tidal stage. At the mouth of the creek, the Cooper River is approximately 2,800 feet wide.

Stono River (Sol Legare)

Sol Legare boat landing is located at River Mile 3.3 of the Stono River, west of Sol Legare Island. The landing is on a marsh hammock connected to the Sol Legare Island via two causeways through the tidal marsh. Sol Legare Island is approximately 2 miles north of Folly Island, separated by marsh; and 2,000 feet south of James Island, separated by Holland Creek. The Stono River drains to the Atlantic Ocean between Folly and Kiawah Islands, and connects to Charleston Harbor via the Wappoo Creek and Elliott Cut, which was excavated in the late 1880s to connect to Charleston Harbor. At the landing site, the Stono River is approximately 1,400 feet wide.

The soil types at the landing consist of Wando loamy fine sand, which is found in marine terraces and derived from sandy marine deposits (NRCS 2019). The aquatic substrates at the landing consist of shell hash, oyster shell reef, and unconsolidated fine and medium grained sediments.

5.2.2. Water Resources (Ground, Surface, Coastal/Marine)

Filbin Creek

The U.S. Geological Survey (USGS) monitors surface water at Filbin Creek as part of the Cooper River watershed (HUC 0305021-07) at station MD-249. While the waters of Filbin Creek fully support aquatic communities, a 2014 water quality monitoring report stated that dissolved oxygen (DO) excursions have occurred. The report states these are natural conditions, and not considered violations of permitted discharges in the area (SCDHEC 2014).

Stono River

Sol Legare boat landing is in the lower reach of the Stono River, which is HUC 03050202-02, and drains to the Edisto River Basin and Atlantic Ocean. USGS monitors water quality just

upstream and across the river from the landing at site MD-206 at the mouth of Abbapoola Creek. Abbapoola Creek (RT-052112) data indicate that this reach of the Stono River typically fully supports aquatic life and recreational uses. The Sol Legare landing area is designated by SCDHEC as Shellfish Harvesting Waters (SFH) and it is also monitored by SCDHEC to assure that shellfish harvested from that area are suitable for human consumption.

5.2.3. Air Quality

Filbin Creek

Air quality along the Filbin Creek reach of the Cooper River is negatively impacted by the industries that generate airborne pollutants, including a paper mill located 970 feet northeast of the boat landing at Hendricks Park, and Hess Oil Terminal to the south.

Stono River

Air quality in the Sol Legare area is good due to lower particulate concentrations and a lack of industrial activities nearby (EPA EJ Screen 2019). The landing is approximately 1.6 miles south of the Charleston Executive Airport on Johns Island and 2.5 miles from Folly Road (State Road 171) which emit particulates.

5.2.4. Climate Change

Climate change impacts to both the Stono River and Filbin Creek are expected to include rising sea level, heavier precipitation events, increased variability in air temperature, decreased pH from ocean acidification, and increased erosion from more powerful hurricanes and tropical storms. Both the Hendricks Park landing and Sol Legare are at low elevations of 6-8 feet above sea level and are vulnerable to storm surge, hurricanes, and sea level rise.

5.2.5. Noise

Filbin Creek

The existing noise conditions at Filbin Creek include road sounds from Interstate 526, which crosses the Mark Clark Expressway Bridge that runs along and over the creek, and sounds from adjacent traffic on Virginia Avenue.

Stono River

The ambient noises at the Sol Legare boat landing include passing small vessels and are limited due to the remote location. The landing is at the end of a small road and the closest interstate is 8 miles away at the southern terminus of Interstate 526. Planned expansion of 526 may increase this proximity in the future.

5.3. Biological Environment

5.3.1. Freshwater Fish, Wildlife, and Vegetation (including Habitats)

There are no freshwater aquatic fish, wildlife, vegetation, or habitats at the recreational use restoration alternative sites; they are all estuarine and marine.

5.3.2. *Marine and Estuarine Fauna (Fish, Benthic Organisms, Shellfish, and Wildlife), Vegetation, and Habitats*

5.3.2.1 Fish and Benthic Organisms

Filbin Creek

Filbin Creek's fish, wildlife, and vegetation community are typical of an urban tidal creek that flows to a major industrialized river. Fish and macroinvertebrates in Filbin Creek likely include mummichogs (*Fundulus heteroclitus*), fiddler crab (*Uca pugilator*), striped mullet (*Mugil cephalus*), spot (*Leiostomus xanthurus*), blue crab (*Callinectes sapidus* and *C. similis*), brown shrimp (*Farfantepenaeus aztecus*), and white shrimp (*Litopenaeus setiferus*).

Commercially and recreationally important species known to use this tide zone of the mainstem Cooper River in various life stage include oysters (*Crassostrea virginica*), hard clam (*Mercenaria* sp.), peneid shrimp (*Farfantepenaeus aztecus*, *Litopenaeus setiferus*, and *Litopenaeus duorarum*), blue crab, striped bass (*Morone saxitilis*), bluefish (*Pomatomus saltatrix*), cobia (*Rachycentron canadum*), sheepshead (*Archosargus probatocephalus*), spotted seatrout (*Cynoscion nebulosus*), weakfish (*Cynoscion regalis*), black drum (*Pogonia cromis*), red drum (*Sciaenops ocellatus*), Spanish mackerel (*Scomberomorus maculatus),* and summer and southern flounder (*Paralichthys dentatus,* and *P. lethostigma*). Red drum and seatrout are the most popular sport fishing species in the area and nearby tidal creeks across the river around Clouter Island, such as Yellow House Creek, are noted for fishing opportunities.

The larvae and juveniles of many species use small tidal creeks as nursery habitat. Important fishing bait species and forage species present in this salinity zone of the river include striped mullet (*Mugil cephalus*), grass shrimp (*Palaemonetes pugio*), ladyfish (*Elops saurus*), American eel (*Anguilla rostrata*), blueback herring (*Alossa aestivalis*), American shad (*Brevoortia tyrannus*), bay anchovy (*Anchoa mitchilli*), sheepshead minnow (*Cyprinodon variegatus*), mummichog, Atlantic silversides (*Menidia menidia*), pinfish (*Lagodon rhomboides*), spot (*Leiostomus xanthurus*), southern kingfish (*Menticirhhus americanus*), and Atlantic croaker (*Micropogonias undulatus*). Croaker is also an important subsistence fish for residents. The National Marine Fisheries Service's Essential Fish Habitat (EFH) mapper shows the site as EFH for the snapper and grouper managed species assemblage, and the tidal creeks are EFH for the penaeid shrimp. These species may use Filbin Creek for habitat.

Filbin Creek has docks and piling structures nearby that may act as fish attractants. Fish aggregate around structures, including piers such as those supporting the derelict rail line just downstream of the boat landing. Fishermen targeting black drum and sheepshead often seek these fish around pilings and bridge supports, such as those for the Mark Clark Expressway that crosses above Filbin Creek.

Stono River

At Sol Legare, the salinity range trends higher than at Filbin Creek due to the close proximity to the ocean. The higher salinity results in more marine species as well as estuarine fish. The fish community likely includes those species found in Filbin Creek described above, as well as species from higher salinity marine waters, including stone crabs (*Menippes* spp.), sharks, rays,

and adult life stages of snapper and grouper species. The most common sharks in the area are the Atlantic sharpnose shark (*Rhizopionodon terraenovae*), blacktip (*Carcharhinus limbatus*), spiny dogfish (*Squalas acanthias*), and sandbar shark (*Carcharhinus plumbeus*). The Stono River inlet and estuary in the project vicinity is a nursery area for sandbar sharks (Stringer 2018).

Fishing for red drum and spotted seatrout is popular in the Stono Inlet area near Sol Legare. Fishes caught for the commercial market from that area include blue crab, oysters, and flounder. A SCDNR artificial reef was installed in 2005 just upstream of the landing, and yields catches of red drum, spot, croaker, and other recreational fishes (SCDNR 2005). Fishes caught in the Stono inlet downstream and nearshore include mangrove snapper, almaco jack, triggerfish, black sea bass, and other members of the snapper and grouper assemblage. The area near Sol Legare by both Holland Creek and Abbapoola Creek are locally popular recreational fishing areas for large red drum based on tagging efforts by the Coastal Conservation Association and South Carolina Department of Natural Resources (SCDNR 2019).

5.3.2.2 Shellfish

Filbin Creek

Filbin Creek is classified by SCDHEC as SB, which is the lowest general classification for tidal waters quality and prohibits harvesting of filter feeders such as oysters and clams for human consumption. Although the water quality at Filbin Creek and this reach of the Cooper River does not support shellfish harvest at this time, the landing can be used to access Shellfish Harvest Area 9B to the east.

Stono River

Sol Legare landing is within Shellfish Harvest Area 11. It is near the western edge of Harvest Area 10 and provides access to this area as well. Shellfish harvesting occurs in the cooler months of the year, typically October through April, depending on water temperature. The water quality at Sol Legare supports other recreational shellfish harvest including commercial crabbing and recreational shrimping. Additionally, South Carolina allows year-round oyster harvesting with mariculture, and the Stono River is a desired site for this practice.

5.3.2.3 Wildlife

Filbin Creek

Wildlife at Filbin Creek and the Hendricks Park area includes wading birds foraging in the marsh, such as the great egret (*Ardea alba*), and marine birds foraging in the creek. Bottlenose dolphins (*Tursiops truncatus*) and West Indian manatees (*Trichechus manatus*) occur in the Cooper River as well.

Terrestrial wildlife at Filbin Creek include urban-adapted species such as the following: opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), Eastern cottontail rabbit (*Sivilagus floridanus*), American robin (*Turdus migratorius*), Northern cardinal (*Cardinalis cardinalis*), brown thrasher (*Toxostoma rufum*), mockingbird (*Mimis polyglottis*), Carolina wren (*Thryothaurus ludovicianus*), osprey (*Pandion haliaetus*), turkey vultures

(*Cathartes aura*), green anole (*Anolis carolinensis*), southeastern five lined skink (*Eumeces imexpectatus*), and eastern garter snake (*Thamnophis sirtalis*).

Stono River

Marine and estuarine wildlife likely found at Sol Legare include bottlenose dolphin, as well as river otter (*Lutra Canadensis*), mink (*Neovision vision*), red fox (*Vulpes vulpes*), and other birds, mammals, and reptiles typical of a coastal barrier island marsh hammock environment, as well as those listed above for Filbin Creek. The diamondback terrapin (*Malaclemys terrapin*) is also present (Arendt et al. 2015). Large mammals, such as deer (*Odocoileus virginianus*) or coyote (*Canis lutrans*) may also be present.

5.3.2.4 Vegetation

Filbin Creek

Vegetation at the Filbin Creek site along the estuarine habitat is salt marsh dominated by smooth cordgrass (*Spartina alterniflora)* along the edge of the creek, with groundsel tree (*Baccharis halimifolia*) and sea oxeye daisy (*Borrichia frutescens*) along upper elevations. Throughout the estuarine marshes in this region, stands of black needlerush (*Juncus roeamerianus*) establish at higher elevations in the marsh, such as spoil piles. The uplands of Hendricks Park are dominated by maintained grass and live oaks (*Quercus virginiana*). Adjacent unmaintained shrub and causeway areas are dominated by maritime hammock species like red cedar (*Juniperus virginica*), yaupon holly (*Ilex vomitoria*), wax myrtle (*Myrica cerifera*), as well as invasive non-native chinese privet (*Ligustrum sinensis*) and Japanese privet (*Ligustrum japonicum*).

Stono River

Vegetation at the Sol Legare site has a maritime hammock character, with the marsh dominated by a smooth cordgrass, transitioning to sea oxeye daisy in the upper intertidal area. Pickleweed (*Salicornia*) colonizes areas of mud flat in the transition to cordgrass. Eastern red cedar, oaks, yaupon holly, and wax myrtle dominate the uplands.

5.3.2.5 Habitats

Filbin Creek

Habitats found at Filbin Creek include tidal creek, estuarine open water, intertidal flat, estuarine unconsolidated bottom, high and low salt marsh, filled causeways, and shrub thicket. The landscaped grounds of the park and the large live oaks provide additional habitat for urban adapted species. The habitats contain the vegetation described above, as well as the following found in the surrounding area and upstream of the site along Filbin Creek: marsh elder (*Iva frutescens*), broadleaf cattail, (*Typha angustifolia*), bushy bluestem (*Andropogon glomeratus*), and cabbage palm (*Sabal palmetto*).

While industry dominates to the north and south of Filbin Creek, this area provides an oasis of natural foraging habitat along an industrialized shoreline. These habitats support the animals

described above as well as small invertebrates and additional species that likely use the area in warmer seasons.

Stono River

Habitats found at Sol Legare include salt marsh, oyster reef, open estuarine water, intertidal mudflat and marsh, and marsh hammock. The surrounding area includes hundreds of acres of marsh and open water, as well as marsh hammocks, barrier islands, and intertidal sand and mudflats.

5.3.3 Protected Species and Habitats

The federally threatened and endangered species in Table 5.1 may be present in Charleston County, within which both restoration alternatives are located, and may potentially occur in the project areas. Designated critical habitat units for the loggerhead sea turtle (Folly Island and Kiawah Island beaches) and the piping plover (Stono Inlet on eastern end of Kiawah Island and on the Bird Key-Stono Heritage Preserve) occur in the vicinity of the Sol Legare landing, but not within the project footprint. No designated critical habitat units are in the vicinity of Hendricks Park.

In addition to the federally threatened and endangered species that may be present in the project areas, the bald eagle (*Haliaeetus leucocephalus*), which is protected by the Bald and Golden Eagle Protection Act, as well as a variety of migratory birds, which are protected by the Migratory Bird Treaty Act, may also be present in the project areas.

Table 5.1. Federal Endangered or Threatened Species in Charleston County (USFWS 2018)

Common Name	**Scientific Name**	**Federal Status**
Mammals		
West Indian manatee	*Trichechus manatus*	Threatened
Finback whale	*Balaenoptera physalus*	Endangered
Humpback whale	*Megaptera novaenglidae*	Endangered
Northern right whale	*Balaena glacialis*	Endangered
Northern long-eared bat	*Myotis septrentrionalis*	Threatened
Birds		
Bachman's warbler	*Vermivora bachmanii*	Endangered
Piping plover	*Charadrius melodus*	Threatened
Red knot	*Calidris canutus rufa*	Threatened
Eastern black rail	*Laterallus jamaicensis jamaicensis*	Proposed Threatened
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Wood stork	*Mycteria americana*	Threatened
Reptiles and Amphibians		
Green sea turtle	*Chelonia mydas*	Threatened
Leatherback sea turtle	*Dermochelys coriacea*	Endangered

Loggerhead sea turtle	*Caretta caretta*	Threatened
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Frosted flatwoods salamander	*Ambystoma cingulatum*	Endangered
Fish		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Atlantic sturgeon	*Acipenser oxyrhynchus*	Endangered
Plants		
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Canby's dropwort	*Oxypolis canbyi*	Endangered
Pondberry	*Lindera melissifolia*	Endangered
American chaffseed	*Schwalbea americana*	Endangered

Table 5.2. South Carolina State List of Endangered or Threatened Wildlife Species (SC Reg 123-150 through 123-150.2)

Common Name	Scientific Name	State Status
Mammals		
West Indian (Florida) manatee	*Trichechus manatus*	Threatened
Finback whale	*Balaenoptera physalus*	Endangered
Humpback whale	*Megaptera novaenglidae*	Endangered
Northern right whale	*Balaena glacialis*	Endangered
Northern long-eared bat	*Myotis septrentrionalis*	Threatened
Atlantic Right Whale	*Eubalaena glacialis*	Endangered
Blue Whale	*Balaenoptera musculus*	Endangered
Bowhead Whale	*Balaena mysticetus*	Endangered
Eastern Cougar	*Felis concolor cougar*	Endangered
Indiana Bat	*Myotis sodalis*	Endangered
Sei Whale	*Balaenoptera borealis*	Endangered
Sperm Whale	*Physeter catodon*	Endangered
Rafinesque's Big-eared Bat	*Plecotus rafinesquii*	Endangered
Small-footed Bat	*Myotis leibii*	Threatened
Birds		
Bachman's warbler	*Vermivora bachmanii*	Endangered
Piping plover	*Charadrius melodus*	Endangered
Bewick's Wren	*Thryomanes bewickii*	Endangered
Kirtland's Warbler	*Dendroica kirtlandii*	Endangered
Eskimo Curlew	*Numenius borealis*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Wood stork	*Mycteria americana*	Endangered
Swallow-tailed Kite	*Elanoides forficatus*	Endangered
American Peregrine Falcon	*Falco peregrines anatum*	Threatened
Bald Eagle	*Haliaeetus leucocephalus*	Threatened
Bewick's Wren	*Thryomanes bewickii*	Threatened
Common Ground Dove	*Columbina passerina*	Threatened

Least Tern	*Sterna albifrons*	Threatened
Wilson's Plover	*Charadrius wilsonia*	Threatened
Reptiles and Amphibians		
Green sea turtle	*Chelonia mydas*	Threatened
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Loggerhead sea turtle	*Caretta caretta*	Threatened
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Frosted flatwoods salamander	*Ambystoma cingulatum*	Threatened
Gopher Tortoise	*Gopherus polyphemus*	Endangered
Atlantic Hawksbill Sea Turtle	*Eretmochelys imbricata*	Endangered
Webster's Salamander	*Plethodon websteri*	Endangered
Carolina Gopher Frog	*Rana c. capito*	Endangered
American Alligator	*Alligator mississippiensis*	Threatened
Coal Skink	*Eumeces anthracinus*	Threatened
Bog Turtle	*Clemmys muhlenbergii*	Threatened
Spotted Turtle	*Clemmys guttata*	Threatened
Southern Hognose Snake	*Heterodon simus*	Threatened
Dwarf Siren	*Pseudobranchus striatus*	Threatened
Pine Barrens Tree frog	*Hyla andersonii*	Threatened
Fish and Shellfish		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Pinewoods Darter	*Etheostoma mariae*	Endangered
Carolina Pygmy Sunfish	*Elassoma boehlkei*	Threatened
Broadtail Madtom	*Noturus sp.*	Threatened
Atlantic Pigtoe Mussel	*Fusconaia masoni*	Endangered
Brother Spike Mussel	*Elliptio fraterna*	Endangered

5.4. Cultural and Historic Resources

Filbin Creek

Filbin Creek's existing cultural and historic resources are limited due to the intense development of the surrounding area. Ralph Hendricks Park is named after a former Charleston resident (Ralph M. Hendricks, 1929-2015) who made a career in the paper industry at Westvaco, up the river from the park.

Stono River

The most well-known historic resource on the island is the Seashore Farmers' Lodge, which is in the National Register of Historic Places. The Lodge was built in 1915 for the community on the former site of the Solomon Legare Plantation. Today the Seashore Farmers' Lodge houses the African American Museum and Cultural Center and is open to the public.

The Sol Legare community has been nominated for inclusion in the National Register (Charleston County 2018). Mosquito Beach, the boat landing, and other important cultural and historic resources are described in the recently developed island master plan. The plan was

developed with Charleston County to preserve and protect the cultural heritage of the island, as well as improve the quality of life for residents (Charleston County 2018).

5.5. Socioeconomics

5.5.1. Infrastructure

Filbin Creek

Filbin Creek runs parallel to Interstate 526, and the surrounding area includes rail lines and industrial facilities. Westrock paper mill and the Hess Oil terminal are on either side of the park. Port facilities are also nearby, with the North Terminal upriver, Veterans Terminal downriver, and the Clouter Island dredged material disposal area across the Cooper River from the mouth of Filbin Creek (USACE 2015). The Southern Railroad, Seaboard Coast Line Railroad, North Rhett Avenue, and Virginia Avenue cross the creek. There are tide gates on the creek at Virginia Avenue. There are bridges over the creek at US Highway 52, Attaway Avenue, Southern Railroad, Sea Coast Line Railroad. A derelict rail line runs across the creek at the boat landing project site. The derelict condition of the railroad causeway and continued erosion at the base appears to undercut the causeway on which the rail line crosses the creek.

Stono River

Sol Legare boat landing infrastructure consists of the road access, parking lot, small boat ramp, and courtesy dock for launching and trailering small boats. The road to the landing is two lanes and paved. It crosses over causeways that are at low elevations.

5.5.2. Land and Marine Use and Management

Filbin Creek

Land use at the Filbin Creek site is a public park, the Ralph M. Hendricks Park, managed by the City of North Charleston. Adjacent uses are highly industrial.

Stono River

Land use at the Sol Legare landing is a public boat landing managed by Charleston County Parks and Recreation Commission. Adjacent uses include residential properties to the north and south, most of which have docks on the Stono River.

5.5.3. Tourism and Recreational Use

Filbin Creek

Public boat access to the Cooper River is limited, and Hendricks Park provides boat access to the Cooper River. It is a popular kayak launching area. The low clearance under the railroad trestle and the shallow water limit the size of boats that can use this area. The overlook dock provides opportunities for crabbing and fishing. The small size and limited offerings promote use by local residents, and the site is not promoted as a tourist destination.

Friends of Filbin Creek promotes the maintenance and community involvement with the creek and the park and hosts litter removal events along the creek, indicating local value of the creek for recreation beyond the park area.

Stono River

The Sol Legare boat landing provides public access to the Stono River as well as the Folly River and Atlantic Ocean. It is a popular place to launch small boats and kayaks to access the river and beaches that are not accessible by road, such as Sandy Point. The amenities include ample parking and the dock that separates the two boat ramps, used for launching and docking, as well as for crabbing and fishing. Other than waste and recycling containers at Sol Legare landing, there are no other facilities.

5.5.4. Aesthetics and Visual Resources

Filbin Creek

Hendricks Park visual resources are contemporary, with waterfront views mixed with urbanized landscapes.

Stono River

Sol Legare visual resources are undeveloped marsh areas and forested hammocks. Docks to the north and south extend over the marsh but the homes are not a prominent feature in the view from the landing.

5.5.5. Public Health and Safety

Both Hendricks Park and Sol Legare have public health and safety conditions typical of unstaffed public properties.

5.6. Environmental Justice

Filbin Creek

The population living within a mile of Hendricks Park has a population density of 712 per square mile, and is 42% minority: 31% black, 9% Hispanic, and 2% American Indian. The estimated per capita income is $31,872, and of the population 16 and over, 73% are employed (EPA 2019, ACS 2017).

Stono River

The American Community Survey estimates for 2012-2016 in this area show that it has a population density of 553 people per square mile, and 33% minority population. Of that minority population, 25% were black, 2% Asian, and 5% Hispanic. The per capita income was $37,304.

6. NEPA Environmental Consequences

6.1. Scope of the NEPA Analysis

This 2019 Draft RP/EA describes and compares the potential impacts of the proposed action and alternatives, including the No Action alternative. In particular, this 2019 Draft RP/EA analyzes the potential direct, indirect, and cumulative ecological, social, cultural, and economic impacts associated with the alternatives.

The following definitions were generally used to characterize the nature of the various impacts evaluated with this EA:

Short-term or long-term impacts. These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that would occur only with respect to a particular activity or for a finite period. Long-term impacts are those that are more likely to be persistent and chronic.

Direct or indirect impacts. A direct impact is caused by a proposed action and occurs contemporaneously at or near the location of the action. An indirect impact is caused by a proposed action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action. For example, a direct impact of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect impact of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish downstream.

Minor, moderate, or major impacts. These relative terms are used to characterize the magnitude of an impact. Minor impacts are generally those that might be perceptible but, in their context, are not amenable to measurement because of their relatively minor character. Moderate impacts are those that are more perceptible and, typically, more amenable to quantification or measurement. Major impacts are those that, in their context and due to their intensity (severity), have the potential to meet the thresholds for significance set forth in Council of Environmental Quality (CEQ) regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for potential means for mitigation to fulfill the requirements of NEPA.

Adverse or beneficial impacts. An adverse impact is one having adverse, unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.

Cumulative impacts. CEQ regulations implementing NEPA define cumulative impacts as the "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time within a geographic area.

6.2. Restoration Alternative A: Hendricks Park Courtesy Dock

6.2.1. Physical Environment

Short-term, direct, minor adverse impacts to aquatic substrates will result from construction in the form of temporary disturbance to the sediments from placing the dock sections and their supports on the substrates. Long-term, direct, minor adverse impacts to aquatic substrates will include the driving of piles to support the dock, which may affect currents and thus, accretion of sediment.

Short-term, direct, minor adverse impacts to surface waters, including estuarine surface waters, from construction include a temporary increase in turbidity immediately adjacent to the site. Best Management Practices such as installation of turbidity curtains will be utilized during construction to minimize these impacts. No long-term direct or indirect adverse impacts to water resources are anticipated from the proposed action.

There would be minor, short-term, direct, adverse impacts to air quality because of construction activities. Exhaust emissions from heavy equipment would occur during the construction phase, but the amounts would be small and temporary. Adverse impacts would be short-term because air quality would return to present levels immediately after construction.

The proposed action will not have any beneficial or adverse effects on climate change because the action will not emit a substantial amount of greenhouse gases or directly mitigate for climate change impacts.

Noise associated with construction represents a short-term, direct, minor, adverse impact during the construction phase. It is possible that construction activities may temporarily disturb wildlife in the immediate vicinity, or cause movement of wildlife away from the site. However, the site is in a noisy environment and construction will be of short duration. Similarly, it is possible that some persons may avoid this area due to noise during construction. As with wildlife, such disruption will be limited to the construction phase. No long-term direct or indirect adverse impacts would occur as a result of noise during construction or operation.

No Action: There would be no short- or long-term, direct or indirect adverse or beneficial impacts to soils, water and air quality, or noise because no construction activities would occur. There would be no adverse or beneficial impacts to climate change.

6.2.2. Biological Environment

The proposed action will have short-term, minor, indirect adverse effects during construction on terrestrial wildlife due to construction noise and activity. No long-term direct or indirect adverse impacts will occur to the terrestrial wildlife and vegetation as a result construction or operation of the dock.

The proposed action will have short-term, minor, direct adverse effects during construction on estuarine (terrestrial and aquatic) vegetation and fauna due to turbidity and sediment disturbance during construction. The anticipated increase in recreational fishing that is intended with this

alternative will ultimately create a long-term, indirect minor impact on fisheries due to the increased fishing activity.

The expected increase in public use of Hendricks Park due to the Proposed Alternative would likely lead to an increase in habitat disturbances, particularly to upland and estuarine habitats directly adjacent to the boat landing. These disturbances would likely include increased noise, vibrations, trash/litter, and discarded fishing equipment. These potential effects would likely be minor and localized.

Federal and State-listed threatened and endangered species known to occur in Charleston County are found in Tables 5.1 and 5.2 (USFWS 2018, SC Regulation 123-150). The proposed action is in a city park and boat landing located in a heavily industrialized area, and the location is not in designated critical habitat for any of the listed species.

Short-term, direct, minor adverse impacts to threatened and endangered species may occur during construction, though not at their identified critical habitat. Best Management Practices, including implementation of manatee protection guidelines, will be employed to minimize and impacts. Additionally, the anticipated increase in boat traffic could create longer term, indirect, minor adverse impacts to threatened and endangered species in neighboring waters, though not at the specific project site. The Trustees will initiate ESA and EFH consultations prior to the release of the Final 2019 RP/EA.

No Action: There would be no short-term or long-term, direct or indirect adverse impacts to wildlife or vegetation because no construction activities would occur. There may be long-term, indirect beneficial impacts to estuarine and marine species because additional recreational fishing opportunities would not be provided.

6.2.3. Cultural and Historic Resources

The proposed action will not have any beneficial or adverse effects on cultural or historic resources because there are no resource sites in the vicinity of the project.

No Action: There would be no short-term or long-term, direct or indirect adverse or beneficial impacts to historic and cultural resources because no construction activities would occur, and there are no listed cultural or historic resources in the vicinity to be impacted.

6.2.4. Socioeconomics

The action will create short-term, direct, minor adverse impacts for infrastructure at this site. A minor increase in traffic will occur at the site during the period of construction that may increase use of the existing road infrastructure. These impacts will be coincide with construction, and will be short-term. No other impacts to infrastructure in the area are expected.

There will be long-term, direct and indirect, minor adverse impacts for land and marine management, as additional resources will be required for maintenance and management by the City of North Charleston at Hendricks Park. Long-term, direct and indirect, minor to moderate beneficial impacts are anticipated for marine use and management, by increasing opportunities and improving boater safety at the park.

There will be long-term, direct, moderate beneficial impacts for tourism and recreation use because of the increase in recreational fishing access. Though noise during construction can temporarily discourage and decrease recreational activities in the vicinity, the work is minor and will be limited in duration.

The proposed action will have long-term, direct, moderate, beneficial impacts to the aesthetic and visual resources with the installation of the new park amenity, benefitting people living and visiting the area. No adverse impacts are anticipated.

The proposed action will have long-term, direct, minor, beneficial impacts to the public health and safety of people living and visiting the area. The dock will improve the safety of docking and minimize the risks of an accident while launching and trailering small boats. No adverse impacts are anticipated.

No Action: There would be no short-term or long-term direct or indirect adverse or beneficial impacts to infrastructure, land use, or visual resources because no construction activities would occur. There would be no impacts to tourism and recreational use because additional and improved recreational fishing access would not be provided. There may be long-term, indirect adverse impacts to public health and safety with conflicting uses of boat docks for boaters and fishers remaining in place.

6.2.5. Environmental Justice

The dock will have beneficial impacts to the existing recreational, aesthetic, visual, public health and safety, tourism and recreational use, and infrastructure resources of the proposed action area. The dock will not have long-term adverse impacts to the biological or physical environment of the proposed action area. As a result, there will not be a disproportionately high and adverse impact on low income or minority populations.

No Action: There will not be a disproportionately high and adverse impact on low income or minority populations because no activities would occur.

6.3. Cumulative Impacts of the Restoration Alternative A

Both direct and indirect, minor, adverse impacts to physical and biological resources are not expected to result in cumulative adverse impacts, as most are short in duration and regular conditions are expected to return following construction. The restoration action may have minor cumulative adverse impacts to fisheries with the increased access to recreational fishing; however, the intent of this action is to provide that increased access, thus compensating the public for the lost recreational uses due to the spill incident.

6.4. Restoration Alternative B: Sol Legare Fishing/Crabbing Dock

6.4.1. Physical Environment

Short-term, direct, minor adverse impacts to aquatic substrates will result from construction in the form of temporary disturbance to the sediments from placing the dock sections and their

supports on the substrates. Long-term, direct, minor adverse impacts to aquatic substrates will include the driving of piles to support the dock, which may affect currents and thus, accretion of sediment.

Short-term, direct, minor adverse impacts to surface waters, including estuarine surface waters, from construction include a temporary increase in turbidity immediately adjacent to the site. Best Management Practices such as installation of turbidity curtains will be utilized during construction to minimize these impacts. No long-term direct or indirect adverse impacts to water resources are anticipated from the proposed action.

There would be minor, short-term, direct, adverse impacts to air quality because of construction activities. Exhaust emissions from heavy equipment would occur during the construction phase, but the amounts would be small and temporary. Adverse impacts would be short-term because air quality would return to present levels immediately after construction.

The proposed action will not have any beneficial or adverse effects on climate change because the action will not emit a substantial amount of greenhouse gases or directly mitigate for climate change impacts.

Noise associated with construction represents a short-term, direct, minor, adverse impact during the construction phase. It is possible that construction activities may temporarily disturb wildlife in the immediate vicinity, or cause movement of wildlife away from the site. However, construction will be of short duration. Similarly, it is possible that some persons may avoid this area due to noise during construction. As with wildlife, such disruption will be limited to the construction phase. No long-term direct or indirect adverse impacts would occur as a result of noise during construction or operation.

No Action: There would be no short- or long-term, direct or indirect adverse or beneficial impacts to soils, water and air quality, or noise because no construction activities would occur. There would be no adverse or beneficial impacts to climate change.

6.4.2. Biological Environment

The proposed action will have short-term, minor, indirect adverse effects during construction on terrestrial wildlife due to construction noise and activity. The project will have long-term, direct, minor adverse impacts on vegetation due to construction of the dock, which will shade shoreline and upland vegetation. No long-term direct or indirect adverse impacts will occur to the terrestrial wildlife as a result construction or operation of the dock.

The proposed action will have short-term, minor, direct adverse effects during construction on marine and estuarine vegetation and fauna due to turbidity and sediment disturbance during construction. No long-term direct or indirect adverse impacts will occur to the marine and estuarine fauna and vegetation because of construction or operation of the dock. The anticipated increase in recreational fishing that is intended with this alternative will ultimately create a long-term, indirect minor impact on fisheries due to the increased fishing activity.

The expected increase in public use of facilities at Sol Legare due to the Proposed Alternative would likely lead to an increase in habitat disturbances, particularly to marsh and estuarine habitats directly adjacent to the new fishing pier. These disturbances would likely include increased noise, vibrations, trash/litter, and discarded fishing equipment. These potential effects would likely be minor and localized.

Federal and State-listed threatened and endangered species known to occur in Charleston County are found in Tables 5.1 and 5.2 (USFWS 2018, SC Regulation 123-150). The proposed action is not in designated critical habitat for any of the federally listed species. The project site is approximately 2.4 miles from Bird Key-Stono Heritage Preserve and 3 miles from the eastern end of Kiawah Island, which are part of a critical habitat unit for piping plovers. The adjacent beaches, located approximately 2.1 miles away at Folly Beach, and 2.6 miles away on Kiawah Island, are designated critical habitat units for loggerhead sea turtle nesting. The proposed action will not affect either species' critical habitat.

Short-term, direct, minor adverse impacts to threatened and endangered species may occur during construction, though not at their identified critical habitat. Best Management Practices, including implementation of manatee protection guidelines, will be employed to minimize impacts. Additionally, the anticipated increase in recreational fishing from the pier could create longer term, indirect, minor adverse impacts to threatened and endangered species. The Trustees will initiate ESA and EFH consultations prior to the release of the Final 2019 RP/EA.

No Action: There would be no short-term or long-term, direct or indirect adverse impacts to wildlife or vegetation because no construction activities would occur. There may be long-term, indirect beneficial impacts to estuarine and marine species because additional recreational fishing opportunities would not be provided.

6.4.3. Cultural and Historic Resources

NOAA, in consultation with the South Carolina State Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. Part 800 of the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), recognize the need to consider the effects of the action on the Seashore Farmers' Lodge, approximately 2 miles from the project site, and which is listed in the National Register of Historic Places (NHRP). No short-term or long-term, indirect or direct adverse impacts to the Seashore Farmers' Lodge are anticipated, nor to other sites on Sol Legare Island that are in the process of becoming listed as places and historic districts, such as Mosquito Beach. A letter of concurrence will be provided in the Final RP/EA.

No Action: There would be no short-term or long-term, direct or indirect adverse or beneficial impacts to historic and cultural resources because no construction activities would occur.

6.4.4. Socioeconomics

A minor increase in traffic will occur at the site during the period of construction that may increase use of the existing road infrastructure. This will result in short-term, direct and indirect, minor, adverse impacts to infrastructure during the construction phase. Once construction is complete, the added land-based equipment traffic will end. No other impacts to infrastructure in the area are expected.

There will be long-term, direct and indirect, minor adverse impacts for land and marine management because the action will require additional resources for maintenance and management by CCPRC at the Sol Legare boat landing. Long-term, direct and indirect, minor beneficial impacts are anticipated for marine use and management, by increasing recreational fishing opportunities, and improving safety for the fishing and boating public.

There will be long-term, direct, moderate beneficial impacts for tourism and recreation use at this site because of increased access to recreational fishing. Though noise during construction can temporarily discourage and decrease recreational activities in the vicinity, the work is minor and will be limited in duration.

The proposed action will have long-term, direct, moderate, beneficial impacts to the aesthetic and visual resources that benefit people visiting the area. No adverse impacts are anticipated.

The proposed action will have long-term, direct, minor, beneficial impacts to the public health and safety of people living and visiting the area. The crabbing and fishing dock will improve the safety of these activities and avoid boater-fisher conflicts. This minimizes the risks of an accident while fishing from the boat launching and trailering dock. No adverse impacts are anticipated.

No Action: There would be no short-term or long-term direct or indirect adverse or beneficial impacts to infrastructure, land use, or visual resources because no construction activities would occur. There would be long-term direct adverse impacts to tourism and recreational use because additional and improved recreational fishing access would not be provided. There may be long-term, indirect adverse impacts to public health and safety with continued use of the courtesy boating dock for fishing and crabbing uses.

6.4.5. Environmental Justice

The proposed action will have beneficial impacts to the existing recreational, aesthetic, visual, public health and safety, tourism and recreational use, and infrastructure resources of the proposed action area. The fishing dock will not have long-term adverse impacts to the biological or physical environment of the proposed action area.

No Action: There will not be a disproportionately high and adverse impact on low income or minority populations because no activities would occur.

6.5. Cumulative Impacts of the Restoration Alternative B

Both direct and indirect, minor, adverse impacts to physical and biological resources are not expected to result in cumulative adverse impacts, as most are short in duration and regular conditions are expected to return following construction. The restoration action may have minor cumulative adverse impacts to fisheries with the increased access to recreational fishing; however, the intent of this action is to provide that increased access, thus compensating the public for the lost recreational uses due to the spill incident.

7. Compliance with Other Laws and Regulations

7.1. Federal Laws

7.1.1. Endangered Species Action (ESA)

The purpose of the ESA is to conserve endangered and threatened species and the ecosystems upon which they depend. The ESA directs all federal agencies to utilize their authorities to further these purposes. Section 7(a)(1) requires federal agencies, in consultation with NMFS and USFWS, to carry out programs for conservation of listed species. Restoration under this program is likely to further the conservation of listed species. Section 7(a)(2) of the ESA requires every federal agency, in consultation with and with the assistance of the Secretaries of the Interior and Commerce, to ensure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. Section 9 of the ESA and regulations issued pursuant to Section 4(d) of the ESA prohibit the take of listed species unless exempted by the NMFS or USFWS. To "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect listed species. This prohibition applies to federal and nonfederal parties. An incidental take statement (ITS) is included in formal consultations and exempts an action agency from Section 9 prohibitions as long as the action agency complies with the reasonable and prudent measures and terms and conditions of the ITS. Endangered and threatened species known to occur in and around the Charleston Harbor estuary are listed in Tables 5.1 and 5.2 (Section 5.3.3). The estuary's habitats provide general support for any threatened and endangered species migrating through or utilizing these communities. The general locale where the restoration actions would be sited is not critical habitat for any listed species. Manatee protection guidelines will be followed during project implementation. The anticipated increase in recreational fishing and/or boating could create longer term, indirect, minor adverse impacts to threatened and endangered species in area waters. The Trustees will initiate ESA consultation prior to the release of the Final 2019 RP/EA.

7.1.2. Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)

The MSFCMA as amended in 1996 created a requirement for federal agencies to consult with the NOAA NMFS when their actions or activities may adversely affect habitat identified by federal regional fishery management councils or NMFS as EFH. Rules published by the NOAA Fisheries (50 C.F.R. §§ 600.805 - 600.930) specify that any Federal agency that authorizes, funds or undertakes, or proposes to authorize, fund, or undertake an activity which could adversely

affect EFH is subject to the consultation provisions of the above-mentioned act and identifies consultation requirements.

The South Atlantic Fishery Management Council identified the proposed project area as EFH for the snapper and grouper managed species assemblage, and the tidal creeks are EFH for the penaeid shrimp. The anticipated increase in recreational fishing and/or boating could create longer term, indirect, minor adverse impacts to managed species in area waters. The Trustees will initiate EFH consultation prior to the release of the Final 2019 RP/EA.

7.1.3. Marine Mammal Protection Action (MMPA)

The MMPA provides for the long-term management of and research programs for marine mammals. It places a moratorium on the taking and importing of marine mammals and marine mammal products, with limited exceptions. The Department of Commerce is responsible for whales, porpoise, seals, and sea lions. The Department of the Interior is responsible for all other marine mammals. The restoration actions described in this Draft DARP/EA are not expected to adversely affect marine mammals. Manatee protection guidelines will be followed during project implementation.

7.1.4. Coastal Zone Management Act (CZMA)

The goal of the CZMA is to encourage states to preserve, protect, develop, and, where possible, restore and enhance the nation's coastal resources. Under Section 1456 of the CZMA, restoration actions undertaken or authorized by federal agencies within a state's coastal zone are required to comply, to the maximum extent practicable, with the enforceable policies of a state's federally approved Coastal Zone Management Program. The proposed restoration projects are consistent with state policy. The Trustees will initiate CZMA consultation prior to the release of the Final 2019 RP/EA.

7.1.5. National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires Federal undertakings to take into account the effect of the undertaking on any historic property and establishes the Advisory Council on Historic Properties to comment. The proposed restoration actions will have no adverse effect on any known cultural or historic resources within, or in the vicinity of, the Charleston Harbor estuary. The Trustees will initiate consultation with the State Historic Preservation Officer (SHPO) prior to the release of the Final 2019 RP/EA.

7.1.6. Clean Water Act (CWA)

The CWA is the principal law governing pollution control and water quality of the Nation's waterways. Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States. Section 401 of the CWA requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the State in which the discharge originates or would originate. The U.S. Army Corps of Engineers administers the program. The Trustees will require all necessary permits be in place prior to all construction activities.

7.1.7. Rivers and Harbors Act (RHA)

The RHA regulates development and use of the nation's navigable waterways. Section 10 of the R&HA regulates obstruction or alteration of navigable waters of the United States. Both of the proposed restoration projects would cause an obstruction to jurisdictional waters. The Trustees will require all necessary permits be in place prior to all construction activities.

7.1.8. Fish and Water Conservation Act 16 U.S.C. § 2901 et seq.

The Fish and Wildlife Conservation Act of 1980 provides for the consideration of impacts on wetlands, protected habitats and fisheries. The restoration actions described herein may have minor adverse impacts on estuarine fisheries, due to increased recreational activities.

7.1.9. Fish and Wildlife Coordination Act (FWCA)

The FWCA requires that federal agencies consult with USFWS, NOAA Fisheries, and state wildlife agencies regarding activities that affect, control, or modify waters of any stream or bodies of water, in order to minimize the adverse impacts of such actions on fish and wildlife resources and habitat utilizing these aquatic environments. Coordination is taking place by and between NOAA Fisheries, the USFWS and SCDNR, the appropriate state wildlife agency. This coordination is also incorporated into compliance processes used to address the requirements of other applicable statutes, such as Section 404 of the CWA. The restoration actions described herein may have minor adverse impacts on estuarine fisheries, due to increased recreational activities.

7.1.10. Migratory Bird Treaty Act, 16 U.S.C. § 703 et seq.

The Migratory Bird Treaty Act provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. The proposed restoration actions are not expected to adversely impact migratory birds.

7.1.11. Clean Air Act (CAA)

The CAA directs EPA to set limits on air emissions to ensure basic protection of health and the environment. The fundamental goal is the nationwide attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). Primary NAAQS are designed to protect human health. Secondary NAAQS are designed to protect the public welfare (for example, to prevent damage to soils, crops, vegetation, water, visibility, and property). The proposed project areas are in attainment for the National Ambient Air Quality Standards (NAAQS). The proposed restoration actions will have no adverse effect on air quality.

7.1.12. Executive Orders

<u>E.O. 11514: Protection and Enhancement of Environmental Quality, as amended by E.O. 11991</u>

Executive Orders 11514 and 11991 require that federal agencies monitor, evaluate, and control their activities to protect and enhance the quality of the Nation's environment to sustain and

enrich human life; inform the public about these activities; share data gathered on existing or potential environmental problems or control methods; and cooperate with other governmental agencies. Releasing the Draft RP/EA for public comment fully addresses the intent of this Executive Order.

E.O. 11990: Protection of Wetlands

This Executive Order requires each federal agency to take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for: acquiring, managing, and disposing of federal lands and facilities; providing federally undertaken, financed, or assisted construction and improvements; and conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. The Trustees have concluded that the proposed restoration actions will meet the goals of this Executive Order.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

This Executive Order requires each federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations. EPA and the Council on Environmental Quality (CEQ) have emphasized the importance of incorporating environmental justice review in the analyses conducted by federal agencies under NEPA and of developing mitigation measures that avoid disproportionate environmental effects on minority and low-income populations. The Trustees have concluded that there are no low-income or ethnic minority communities that would be adversely affected by the proposed restoration actions.

E.O. 12962: Recreational Fisheries

This Executive Order requires that federal agencies, to the extent permitted by law and where practicable, and in cooperation with states and tribes, improve the quantity, function, sustainable productivity, and distribution of the Nation's aquatic resources for increased recreational fishing opportunities. The Trustees have concluded that the proposed restoration actions will not result in adverse effects on recreational fisheries; rather, will improve recreational fishing opportunities.

E.O. 13112: Safeguarding the Nation from the Impacts of Invasive Species

The purpose of this Executive Order is to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause. The proposed restoration actions are not expected to cause or promote the introduction or spread of invasive species.

7.1.13. Violation of Environmental Protection Laws

The proposed restoration actions do not require, nor do the Trustees anticipate, any violation of federal, state or local laws designed to protect the environment incident to, or as a consequence of, the implementation of the proposed actions. The proposed restoration actions can be implemented in compliance with all applicable environmental laws.

7.2. Compliance with State and Local Laws

The Natural Resource Trustees will ensure compliance with all applicable state and local laws and other applicable federal laws and regulations relevant to the State of South Carolina. The entity will seek and comply with all necessary permits. To date, a permit application is under review for the Sol Legare restoration alternative. Status of both proposed alternatives will be reviewed prior to the release of a Final Restoration Plan and Environmental Assessment.

8. List of Preparers, Agencies, and Persons Consulted

Agency	Name	Position
State of South Carolina		
Department of Health and Environmental Control	David Graves	Natural Resource Trustee, Aquatic Science Programs
Department of Health and Environmental Control	Susan Lake	Attorney
Department of Health and Environmental Control	Nathan Haber	Attorney
Department of Natural Resources	Priscilla Wendt	Natural Resource Trustee, Environmental Health Manager
Department of Natural Resources	Stacie Crowe	Natural Resource Trustee, Coastal Environmental Project Manager
Department of the Interior		
United State Fish and Wildlife Service	Anthony Sowers	Natural Resource Trustee, Biologist
National Oceanic and Atmospheric Administration		
Restoration Center/Earth Resources Technology, Inc.	Krista McCraken	Natural Resource Trustee, Marine Habitat Resource Specialist
Restoration Center	Howard Schnabolk	Natural Resource Trustee, Marine Habitat Resource Specialist

9. Literature Cited

American Community Survey. 2017. Accessed through EPA EJ Screening Tool in January 2019 at https://ejscreen.epa.gov/mapper/demogreportpdf.aspx?report=acs2016

Arendt, M., Schwenter, J., Levesque, E., Grosse, A., and D. Whitaker. 2015. Assessment of mortality sources on diamondback terrapins (*Malaclemys terrapin*) in the Charleston Harbor estuary. Annual report to US Fish and Wildlife Service. Prepared by SCDNR.

Charleston County Zoning and Planning Department. 2018. Sol Legare Community Plan. 14 pp.

Environmental Protection Agency, 2019. Environmental Justice Mapper, accessed January 22-23, 2019 at https://ejscreen.epa.gov/mapper/

Natural Resources Conservation Service, 2019. Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Sanders, C. 1987. Floodflow characteristics of Filbin Creek for pre- and post-construction conditions, 1986, at North Charleston, Sc. USGS Water Resources Investigations Report 87-1457 in cooperation with SC Department of Highways and Public Transportation. 22 pp.

SCDNR 2019. Inshore Fisheries Research Section: Tag and Release Studies. http://www.dnr.sc.gov/marine/mrri/insh_fish/tag.html

Stringer, 2017. Observations of inshore South Carolina sharks 1967-2017. 41 pp.

US Army Corps of Engineers. 2015. Charleston Harbor Post 45 Final Integrated Feasibility Report/ Environmental Impact Statement Executive Summary. 386 pp.

US Fish and Wildlife Service. 2018. List of Protected Species in South Carolina for Charleston County.
https://www.fws.gov/charleston/pdf/Endangered/species_by_county/charleston_county.pdf