

## Appendix C

### Padre Island National Seashore Management Plan

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**U.S. Army Corps of Engineers  
Laguna Madre Dredging Final EIS  
Padre Island National Seashore Proposed Spoil Island Management Plan**

The following information is presented to the ICT for incorporation into the Final Environmental Impact Statement (FEIS) being developed for the U.S. Army Corps of Engineers (COE) dredging activities for the Gulf Intracoastal Waterway (GIWW).

A meeting to begin development of a National Park Service (NPS) Spoil Island Management Plan was held at Padre Island NS on September 7, 2001. Participants included the U.S. Fish and Wildlife Service (Tom Shearer), U.S. Army Corps of Engineers (Terry Roberts), Coastal Bend Bays and Estuaries Program Representatives (Gene Blacklock, Allan Chaney, Ph.D., and Leo Trevino), and NPS staff members (Jock Whitworth, Ken McMullen, Darrell Echols, Jody Mays).

The Spoil Island Management Plan is being developed to identify NPS management options on 20 man-made islands developed within the park by over 40 years of COE long-term and periodic maintenance dredging activities in the upper Laguna Madre. Two natural islands, North and South Bird Islands, are also included in the management plan, but have not received any dredged material placement from COE dredging operations.

The objectives of the plan are the following:

1. To protect park natural resources.
2. To prevent impairment of park resources and values from COE dredging activities.
3. Assess and define the beneficial uses of the dredged material.
4. Maintaining and enhancing outdoor recreation opportunities
5. To protect and enhance colonial water bird nesting, roosting, and loafing habitat
6. To preserve and protect seagrass communities in the Laguna Madre,
7. Protect any Threatened or Endangered Species and necessary habitat required under the Endangered Species Act, or as part of any ongoing recovery efforts, including the protection and enhancement of any Texas species of concern and their habitat known to occur within Padre Island NS.
8. Protection of important fish nursery areas and other marine organisms.

An assessment of impacts on the marine ecosystem from the dredging operations will be conducted as part of the FEIS now being developed.

The information in Table 1 is presented to begin the development of management prescriptions for these islands and to help determine what beneficial uses can be identified for proposed dredge material. A few definitions are necessary to ensure all parties are familiar with key terms and policies relating to the use of dredge materials within Padre Island National Seashore.

### **DEFINITIONS**

#### **Impairment:**

The National Park Service defines "Impairment" in Director's Order #55. The authority for this Director's Order is found in the NPS Organic Act (1916), the NPS General Authorities Act (1970) as amended, and in Part 245 of the Department of the Interior Manual.

The key management-related provision of the Organic Act is:

*"The National Park Service shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified...by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."*

Congress supplemented and clarified these provisions through enactment of the General Authorities Act in 1970, and again in 1978 through enactment of the "Redwood Amendment," which was contained in a bill expanding Redwood National Park. For simplicity, NPS Management Policies uses "impairment" not "derogation" to refer to a single standard.

**Impairment** that is prohibited by these acts is defined as *"an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts. An impact from an activity that is directly and specifically authorized by Congress does not constitute an impairment."*

**Dredged Spoil:**

Padre Island NS considers "dredged material" as all materials brought to the surface and relocated or deposited, or left suspended in the water column, during or as a result of removal or relocation of natural earth and organic waste materials in the Laguna Madre, by a federal or State agency or private company, for the purposes of development, mineral exploration, access/egress, GIWW traffic, or channel maintenance operations.

**Beneficial Use:**

A beneficial use is a use that does not impair park resources or values and that will cause a direct or indirect benefit to the management of the park. An example of a beneficial use of dredged material is the placement of non-contaminated materials within an existing dredged placement area that enhances bird nesting habitat, without **long-term** impacts to recreation opportunities (shallowing of Laguna Madre waters that inhibit boating opportunities) or seagrass communities (loss of biomass and productivity).

Open water disposal in the deeper areas of the Laguna Madre within Padre Island NS is not considered a beneficial use because there is no direct or indirect benefit to park resources or values. In such a case, the only benefit is to the COE (or operator) as a means to dispose of dredge materials.

**Recreational Opportunities:**

This covers the entire spectrum of authorized recreational use and opportunities at Padre Island NS. For the purposes of the NPS Spoil Island Plan, recreational opportunities include, but are not limited to, windsurfing, boating, fishing, wildlife viewing, photography, camping, and snorkeling. Future recreational opportunities may also include kayaking along a defined route, including use of designated camping sites.

**Vegetation Manipulation:**

Manipulation of island vegetation would be conducted on man-made islands and may be utilized on the natural islands of North and South Bird as needed. The purpose of the treatments is to address issues related to exotic plant management and removal, removal of exotic or undesirable plant communities to enhance nesting and rookery use, and maintenance of nesting habitat on selected spoil islands.

The methods proposed for vegetation control and manipulation are: fire (controlled burns), hand-cutting and grubbing using hand tools, use of hand operated power tools, application of NPS approved herbicides, restoration with native seed or native plant cuttings, and use of dredged material (burial).

**Shoreline Management:**

Shoreline management would be conducted on man-made islands and may be utilized on the natural islands of North and South Bird as needed. Shoreline management would include reinforcement/stabilization of an eroding shoreline or expansion of an existing shoreline. Reinforcement measures could include the use of geotubes, riprap, or other hardened structure, the refurbishment of existing structures, supplemental or targeted dredge material deposition, or other methods. Expansion of an existing shoreline could include targeted dredge material deposition following specific guidelines for a selected island. Other shoreline management activities could include the removal of debris items or contaminants and the placement of informational signs.

**Pest and Disease Control:**

Insect predation on nests or young birds, by non-native fire ant colonies, tick infestation, or other parasites or disease vectors may need to be periodically treated with pesticides or other approved methods to protect park resources. Use of pesticides will follow NPS policy and regulations, and will incorporate latest environmental safety technology and chemical compositions to reduce the potential risk to non-target species and off-site transfer of chemical residue or properties. Several islands are infested with both native and non-native fire ant colonies and ticks that present an increased risk to nesting birds and their offspring. Treatment of targeted large populations of ants, lice, and ticks would be implemented on several islands to protect nesting sites and the young from disease transmission. The methods proposed for control and manipulation of targeted ant colonies and infested areas are fire (controlled burns) or application of dredge material, and hand application of NPS approved pesticides and alternative "environmentally green" products.

**Predator Control:**

Over several years of monitoring the man-made and natural islands has shown nesting success to be compromised by predation on nests, young and adults. Capture of the few island predators (raccoon and badger) and their relocation to other areas of the park is the preferred method of control. An occasional taking of two animals (coyote) per year may be required on an infrequent basis and would be coordinated through the Texas Parks and Wildlife Department and the Texas Wildlife Damage Control Service. Coyotes are difficult to live-trap and may be more humanely removed by culling from the few islands where they are present.

**Treatment Periods:**

All control measures would be carried out in the non-nesting periods to avoid impacting active rookeries. Currently, this means that work would only be authorized during the fall and winter months, typically September 1 through March 15. However, developing information suggests that certain islands may need to be treated differently as species that utilize those islands have different nesting requirements. These islands may need to be closed from September 1 through December 31. Some islands have no documented nesting activity. So, for the purposes of this plan, some islands will have different nesting closure periods, some islands may need to have year round closures to all uses, except for authorized land administrative actions, and other islands will not have any restrictions on use if there are no resources to be impacted by that use (recreational). Dredge material placement would need to be coordinated with the NPS for these spoil islands, and identification of these islands is ongoing. The actual number and closure periods for each island will be available before the completion of the FEIS.

**Preferred Size and Shape:**

For those islands where dredge material placement and increased size is a recommended option, specific placement guidelines are provided. In general, the preferred dimensions for these islands are modeled after the size relationships of islands #111, #113, #115, and #117, the most productive cluster of islands in the park for colonial waterbird nesting.

For each pair of islands #127 and #131, #141 - #143, and #157 - #159 and for island #169, the preferred size and shape should approximate the islands in the #111-117 cluster. These islands should slope gradually on the southeast side toward the water with no abrupt edges. As vegetation begins to appear and provide stabilization, subsequent deposition of dredge material should be relocated to those areas of each island not yet vegetated. Ideally, resulting islands would contain areas with bare substrate and areas with vegetation.

**Table 1. Issues of concern and management prescriptions for colonial waterbird (CWB) management on rookery islands at Padre Island National Seashore.**

<b>GENERAL RECOMMENDATIONS FOR ALL ISLANDS</b>	
<ul style="list-style-type: none"> <li>• Conduct research, inventory, and monitoring of mammals, herptofauna, insects, vegetation, benthic invertebrates, fish, hydrology, bathymetry, etc. on all islands with approved NPS permit.</li> <li>• Limit dredge material deposition to Sep 15 – Dec 15 on selected islands. Deposition guidelines for each island are specified below.</li> <li>• Create a gentle slope, facing S/SE, to water when depositing dredge material.</li> <li>• Minimize impacts to the ecosystem, including species of concern and seagrass communities.</li> <li>• Avoid creating berms or dikes unless specified by NPS. Berms/dikes will require grade work to the S/SE.</li> </ul>	<ul style="list-style-type: none"> <li>• Confine recreational use to non-nesting islands.</li> <li>• Increase protection of declining populations of targeted species (Great Blue Herons, White-faced Ibis, etc.) through seasonal closures on selected islands as specified below.</li> <li>• Control non-native fire ants on all islands.</li> <li>• Conduct shoreline management activities as appropriate on all islands.</li> <li>• Conduct active vegetation manipulation as appropriate on all islands.</li> <li>• Management prescriptions and deposition guidelines that are outlined below apply to all islands that are grouped together unless otherwise specified.</li> </ul>

Island ID			Island Characterization and Colonial Waterbird (CWB) Nesting History	Issues of Concern	Management Prescriptions
PAIS ID	TX Colonial Waterbird Colony	ACOE PA #			
North Bird	614-306	N/A	<ul style="list-style-type: none"> <li>• Natural island</li> <li>• Heavily vegetated with herbaceous vegetation</li> <li>• No exotic vegetation</li> <li>• In shallow water near Padre Island and other islands</li> <li>• Easily accessible by predators and fire ants</li> <li>• Documented presence of predators</li> <li>• Last documented CWB nesting occurred in 1982</li> <li>• May be an important feeding area for wading birds</li> <li>• Potential nesting habitat for selected CWBs if predators are controlled</li> <li>• Minimally productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>• NPS policy of limited manipulation of natural islands</li> <li>• Predator access and presence</li> <li>• Recreational access and use</li> </ul>	<ul style="list-style-type: none"> <li>• No deposition of dredge material</li> <li>• Predator control and monitoring</li> <li>• Limited manipulation for enhancement of recreational use</li> <li>• No seasonal closures</li> <li>• Development of guidelines for boat access and visitor use</li> </ul>
South Bird	614-340	N/A	<ul style="list-style-type: none"> <li>• Natural island</li> <li>• Heavily vegetated with herbaceous vegetation and yuccas</li> <li>• No exotic vegetation</li> <li>• In shallow water near Padre Island and other islands</li> <li>• Easily accessible by predators and fire ants</li> <li>• Documented presence of predators</li> <li>• Last documented CWB nesting occurred in 2001</li> <li>• White Pelicans nested until the mid-1970's, then abandoned the island due to human disturbance and/or predators</li> <li>• CWB nesting has declined, particularly nesting by Ibis and Skimmers</li> <li>• Moderately productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>• NPS policy of limited manipulation of natural islands</li> <li>• Predator access and presence</li> <li>• Recreational access and use</li> <li>• Decline in CWB nesting diversity and density</li> </ul>	<ul style="list-style-type: none"> <li>• No deposition of dredge material</li> <li>• Predator control and monitoring</li> <li>• Seasonal closure to visitor access Jan 1 - Sep 30</li> <li>• Installation of nesting platforms</li> </ul>
87-91	614-304	182	<ul style="list-style-type: none"> <li>• Man-made islands</li> <li>• Moderately vegetated with herbaceous vegetation and small trees</li> <li>• Exotic vegetation present (<i>Tamarisk</i>)</li> <li>• Easily accessible to predators traveling from islands north of the park and to fire ants</li> <li>• Documented presence of predators</li> <li>• Last documented CWB nesting occurred in late 1970's - early 1980's</li> <li>• North end of #87 removed for predator control</li> <li>• Active seagrass restoration occurring at north end of #87</li> <li>• #89 has shallow "pit" created by dredge activities that holds fresh water at least part of the year</li> <li>• Habitat suitable for neotropical migrants</li> <li>• Minimally productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>• Predator access and presence</li> <li>• Recreational access and use</li> <li>• Decline in CWB nesting diversity and density</li> <li>• Minimal availability of fresh water</li> <li>• Neotropical migrant use</li> <li>• Ongoing seagrass restoration project on island #87</li> <li>• Presence of exotic vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• Predator control and monitoring</li> <li>• Limited manipulation for enhancement of recreational use</li> <li>• No seasonal closures</li> <li>• Development and protection of fresh water sources</li> <li>• Protection of shrub/tree habitats</li> <li>• Development of guidelines for boat access and visitor use</li> </ul>

Island ID			Island Characterization and Colonial Waterbird (CWB) Nesting History	Issues of Concern	Management Prescriptions
PAIS ID	TX Colonial Waterbird Colony	ACOE PA #			
93	614-305	None	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Minimally vegetated with grasses and small shrubs and trees</li> <li>Exotic vegetation present (Oleander, <i>Tamarisk</i>, Brazilian Pepper, etc.)</li> <li>Easily accessible to predators traveling from islands north of the park and to fire ants</li> <li>Documented presence of predators</li> <li>Last documented CWB nesting occurred in 1993 with little prior nesting</li> <li>Oil production facility present until 1997</li> <li>Vegetation restoration project located near site of oil production facility</li> <li>Access channel located on southern and western side of island</li> <li>Remains of cabin (large concrete pad) in center of island</li> <li>Habitat suitable for neotropical migrants</li> <li>Minimally productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Predator access and presence</li> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity and density</li> <li>Availability of fresh water limited to nearby island</li> <li>Neotropical migrant use</li> <li>Ongoing vegetation restoration project</li> <li>Presence of exotic vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Predator control and monitoring</li> <li>Limited manipulation for enhancement of recreational use</li> <li>No seasonal closures</li> <li>Development and protection of fresh water sources</li> <li>Protection of shrub/tree habitats</li> <li>Development of guidelines for boat access and visitor use</li> </ul>
95	None	183	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Heavily vegetated with herbaceous vegetation, grasses, shrubs and large trees</li> <li>Exotic vegetation present (Brazilian Pepper and <i>Tamarisk</i>)</li> <li>Easily accessible to predators traveling from islands north of the park and to fire ants</li> <li>Documented presence of predators</li> <li>Last documented CWB nesting occurred in 1982 with little prior nesting</li> <li>Unique island with an 8-foot berm around 90% of island and an open edge around 10% of the island on the NE side</li> <li>Access channel located on northern end of island</li> <li>Areas of fresh water present most of the time</li> <li>Habitat suitable for neotropical migrants</li> <li>Minimally productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Predator access and presence</li> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity and density</li> <li>Neotropical migrant use</li> <li>Hindrance of terns and skimmers by berm</li> <li>Presence of exotic vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Predator control and monitoring</li> <li>Limited manipulation for enhancement of recreational use</li> <li>No seasonal closures</li> <li>Protection of shrub/tree habitats</li> <li>Development and protection of fresh water sources</li> <li>Development of guidelines for boat access and visitor use</li> </ul>
97-103	None	183	<ul style="list-style-type: none"> <li>Man-made islands</li> <li>Heavily vegetated with herbaceous vegetation, grasses, shrubs and large trees</li> <li>Exotic vegetation present (<i>Tamarisk</i>, Oleander, <i>Lucina</i>, and Date Palm)</li> <li>Easily accessible to predators traveling from islands north of the park and to fire ants</li> <li>Documented presence of predators</li> <li>Last documented CWB nesting occurred in the mid-1980's</li> <li>Access channel located on southern end of island #101</li> <li>Remnants of berm around W side of island #103</li> <li>Substrate is mostly silt and won't build like sand</li> <li>Habitat suitable for neotropical migrants</li> <li>Minimally productive rookery islands</li> </ul>	<ul style="list-style-type: none"> <li>Predator access and presence</li> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity and density</li> <li>Availability of fresh water limited to nearby island</li> <li>Neotropical migrant use</li> <li>Hindrance of tern nesting on island #103 due to partial berm and height of island</li> <li>Presence of exotic vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Predator control and monitoring</li> <li>Limited manipulation for enhancement of recreational use</li> <li>No seasonal closures</li> <li>Development and protection of fresh water sources</li> <li>Protection of shrub/tree habitats</li> <li>Development of guidelines for boat access and visit or use</li> </ul>

Island ID			Island Characterization and Colonial Waterbird (CWB) Nesting History	Issues of Concern	Management Prescriptions
PAIS ID	TX Colonial Waterbird Colony	ACOE PA #			
111-117	614-341	185	<ul style="list-style-type: none"> <li>Man-made islands</li> <li>Heavily vegetated with herbaceous vegetation, grasses, shrubs, large trees, and heavy concentrations of prickly pear cactus</li> <li>Exotic vegetation present (<i>Tamarisk</i> and <i>Lucina</i>)</li> <li>Accessible to predators traveling from the barrier island or resident on these islands and to fire ants</li> <li>Documented presence of predators</li> <li>Last documented CWB nesting occurred in 2001</li> <li>Most productive rookery islands in the park</li> <li>Nesting habitat includes bare ground for terns and skimmers, trees and shrubs for herons, herbaceous vegetation for egrets, gulls, and some terns</li> <li>Habitat suitable for neotropical migrants</li> <li>Highly productive rookery islands</li> </ul>	<ul style="list-style-type: none"> <li>Predator access and presence</li> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity and density</li> <li>No availability of fresh water</li> <li>Neotropical migrant use</li> <li>Presence of exotic vegetation</li> <li>Presence of large clusters of prickly pear as obstacles for CWB nesting</li> <li>Human disturbance</li> <li>Impacts of deposition on existing habitat</li> </ul>	<ul style="list-style-type: none"> <li>Predator control and monitoring</li> <li>Year-round closure to visitor access</li> <li>Installation of nesting platforms</li> <li>Development and protection of fresh water sources</li> <li>Deposition of dredge material on E side of #115 and 117.</li> <li>ON-SITE presence of an NPS staff member REQUIRED during ANY deposition activities</li> </ul>
127, 131	614-342	187	<ul style="list-style-type: none"> <li>Man-made islands</li> <li>#127 is moderately vegetated with herbaceous vegetation; #131 is heavily vegetated with herbaceous vegetation</li> <li>No exotic vegetation</li> <li>Not accessible to predators due to isolation of islands, however fire ants are present</li> <li>Last documented CWB nesting occurred in 2001</li> <li>Nesting density has decreased with reduction in size of islands</li> <li>#127 has reduced in length from over 1000 ft. to approximately 150 ft.; #131 has also been substantially reduced in size due to erosion</li> <li>#127 has remains of cabin with concrete rubble at northern end</li> <li>Moderately productive rookery islands</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity and density</li> <li>Human disturbance during nesting season</li> <li>Susceptibility to erosion</li> </ul>	<ul style="list-style-type: none"> <li>Seasonal closure to visitor access Apr 1 – Sep 30</li> <li>Installation of nesting platforms</li> <li>Deposition of dredge material on S end of #127 and N end of #131 to create preferred size and shape</li> </ul>
141	614-343	188	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Heavily vegetated with herbaceous vegetation</li> <li>No exotic vegetation</li> <li>Not accessible to predators due to isolation of island, however fire ants are present</li> <li>Last documented CWB nesting occurred in 2001</li> <li>Nesting density has decreased since 1997</li> <li>Remains of cabin (large concrete pad) located at center of island</li> <li>Contains two brackish ponds on south end</li> <li>Habitat suitable for neotropical migrants</li> <li>Moderately productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Decline in CWB nesting density</li> <li>Human disturbance during nesting season</li> <li>Susceptibility to erosion</li> <li>Lack of tree/shrub habitat</li> </ul>	<ul style="list-style-type: none"> <li>Seasonal closure to visitor access Apr 1 - Sep 30</li> <li>Installation of nesting platforms</li> <li>Deposition of dredge material on S end of island to create preferred size and shape</li> </ul>
143	None	188	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Emergent with no vegetation</li> <li>No exotic vegetation</li> <li>Not accessible to predators due to isolation of island</li> <li>Last documented CWB nesting occurred in 1987</li> <li>Nesting density has decreased since 1981</li> <li>Minimally productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity and density</li> <li>Susceptibility to erosion</li> <li>Lack of surface area</li> </ul>	<ul style="list-style-type: none"> <li>Seasonal closure to visitor access Apr 1 - Sep 30</li> <li>Deposition of dredge material to increase island to approximately 1,200 ft. in diameter to create preferred size and shape</li> </ul>
157-159	614-346	190	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Emergent with little vegetation</li> <li>No exotic vegetation</li> <li>Not accessible to predators due to isolation of island</li> <li>Last documented CWB nesting occurred in 2001</li> <li>Minimally productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Susceptibility to erosion</li> <li>Lack of surface area</li> </ul>	<ul style="list-style-type: none"> <li>Seasonal closure to visitor access Apr 1 - Sep 30</li> <li>Deposition of dredge material S of existing vegetation to increase island to approximately 1,200 ft. in diameter to create preferred size and shape</li> </ul>

Island ID			Island Characterization and Colonial Waterbird (CWB) Nesting History	Issues of Concern	Management Prescriptions
PAIS ID	TX Colonial Waterbird Colony	ACOE PA #			
163 Pelican Island	614-345	191	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Heavily vegetated with herbaceous vegetation, grasses, shrubs, and small trees</li> <li>Exotic vegetation present (<i>Tamarisk</i>)</li> <li>Not accessible to predators due to isolation of island, however fire ants are present</li> <li>Documented presence of fire ants</li> <li>Last documented CWB nesting occurred in 2001</li> <li>Used by one of only two annually-recurring nesting saltwater populations of White Pelicans in the United States</li> <li>Importance to CWB nesting equals that of colony 614-342</li> <li>Nesting habitat includes bare ground for terns and skimmers, small trees and shrubs for herons, herbaceous vegetation for White Pelicans, ibis, egrets, gulls, and some terns</li> <li>Highly productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Decline in CWB nesting diversity</li> <li>Human disturbance</li> <li>Presence of exotic vegetation</li> <li>Impacts of deposition on existing habitat</li> </ul>	<ul style="list-style-type: none"> <li>Year-round closure to visitor access</li> <li>Installation of nesting platforms</li> <li>Deposition of dredge material on SE side of island only with a gentle slope to the water</li> <li>ON-SITE presence of an NPS staff member REQUIRED during ANY deposition activities</li> </ul>
169	614-347	192	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Moderately vegetated with herbaceous vegetation</li> <li>No exotic vegetation</li> <li>Not accessible to predators due to isolation of island, however fire ants are present</li> <li>Last documented CWB nesting occurred in 2001</li> <li>Small surface area</li> <li>Moderately productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Human disturbance during nesting season</li> <li>Lack of tree/shrub habitat</li> <li>Susceptibility to erosion</li> <li>Lack of surface area</li> </ul>	<ul style="list-style-type: none"> <li>Seasonal closure to visitor access Apr 1 - Sep 30</li> <li>Installation of nesting platforms</li> <li>Deposition of dredge material on S side to increase size of island to approximately 1,200 ft. in diameter</li> </ul>
187	614-360	194	<ul style="list-style-type: none"> <li>Man-made island</li> <li>Heavily vegetated with herbaceous vegetation</li> <li>No exotic vegetation</li> <li>Not accessible to predators due to isolation of island, however fire ants are present</li> <li>Last documented CWB nesting occurred in 2001</li> <li>High CWB nesting diversity</li> <li>Large emergent area on SE corner of island</li> <li>Contains one brackish pond at center of island</li> <li>Potential for use by neotropical migrants</li> <li>Highly productive rookery island</li> </ul>	<ul style="list-style-type: none"> <li>Recreational access and use</li> <li>Human disturbance</li> <li>Lack of tree/shrub habitat</li> <li>Susceptibility to erosion</li> <li>Impacts of deposition on existing habitat</li> </ul>	<ul style="list-style-type: none"> <li>Year-round closure to visitor access</li> <li>Installation of nesting platforms</li> <li>Deposition of dredge material on E and W edges of island, not directly on island, to avoid impacts to existing nesting habitat</li> <li>ON-SITE presence of an NPS staff member REQUIRED during ANY deposition activities</li> <li>Protection and development of fresh water sources</li> </ul>