

**National Park Service  
U.S. Department of the Interior**

**Canaveral National Seashore  
Florida**



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**General Management Plan / Environmental Impact Statement**

**Record of Decision**

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Recommended:

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Date:

*August 11, 2014*  
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*8/12/14*  
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**UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE**

**RECORD OF DECISION**

**GENERAL MANAGEMENT PLAN /  
ENVIRONMENTAL IMPACT STATEMENT**

**Canaveral National Seashore**

**Florida**

The Department of the Interior, National Park Service (NPS), has prepared this “Record of Decision” on the *Final General Management Plan / Environmental Impact Statement* for Canaveral National Seashore (“seashore”). This record of decision includes a background description of the project, a statement of the decision made, a listing of mitigation measures to minimize environmental harm, a synopsis of other alternatives considered, the basis for the decision, a determination of nonimpairment of seashore resources and values for the preferred alternative, a description of the environmentally preferable alternative, and an overview of public and agency involvement in the decision-making process.

**BACKGROUND OF THE PROJECT**

Canaveral National Seashore was established as a new unit of the national park system by the U.S. Congress in 1975 (Public Law 93-626) to preserve and protect the natural, scenic, scientific, ecological, archeological, and historical values and resources within the national seashore and to provide for public outdoor recreational use and enjoyment of those resources. The national seashore is situated on both a barrier island and the mainland along Florida’s east coast; the seashore includes pristine, undeveloped beach, and dunes and lagoon that offer sanctuary to an abundant blend of plants and animals. Year-round recreation includes fishing, boating, canoeing, surfing, sunbathing, swimming, hiking, camping, enjoying nature and historic trails, and exploring cultural resources.

The national seashore’s current General Management Plan was approved in 1982 and amended in 1998 to address management issues for the Seminole Rest property that was added to the national seashore in 1988. Conditions in the national seashore have changed substantially since the early 1980s, including new land acquisitions, new opportunities for joint management with other federal, state, and local agencies, and changes in the ways visitors access and use the national seashore. A new plan is needed to:

- Clearly define resource conditions and visitor experiences to be achieved at Canaveral National Seashore.
- Provide a frame work for NPS managers to use when making decisions about how to best protect seashore resources, how to provide a diverse range of visitor experience

opportunities, how to manage visitor use, and what kinds of facilities, if any, to develop in the national park system unit.

- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

This *Final General Management Plan / Environmental Impact Statement* presents four alternatives for future management of Canaveral National Seashore. The alternatives, which are based on the seashore's purpose, significance, and special mandates, present different ways to manage resources and visitor use and improve facilities and infrastructure. The four alternatives are the (1) no-action alternative (continue current management), (2) alternative B (preserve and enhance the natural and historic landscapes), (3) alternative C (provide visitors a range of opportunities for recreation and education), and (4) alternative D (enhance existing lands, resources, and facilities). Alternative B has been identified as the NPS preferred alternative.

## **STATEMENT OF DECISION MADE (SELECTED ACTION)**

### **Summary**

With the selected action, labeled as the "NPS preferred alternative" in the *Final General Management Plan / Environmental Impact Statement*, Canaveral National Seashore will be managed to preserve and enhance the natural and historic landscape features associated with the seashore's eastern Florida coastal barrier island system. Emphasis will be placed on retaining the seashore's relatively undeveloped character and providing uncrowded experiences by dispersing visitors via a shuttle service or canoe, kayak, hiking and walking trails, and bicycle trails. Elements of this alternative will support the resilience of the seashore to expected impacts from climate change, such as sea level rise, coastal erosion, and higher storm surges, all of which may affect cultural and natural resources as well as visitor experience at the seashore.

Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and development will be applied to seashore lands and waters consistent with this concept. The selected action will also seek to enhance resource protection, protect cultural resources, and improve collaboration with local, state, and federal partners.

## **MANAGEMENT STRATEGIES OF SELECTED ACTION**

Under alternative B, the selected action, Canaveral National Seashore will be managed to preserve and enhance the natural and historic landscape features associated with the national seashore's eastern Florida coastal barrier island system. Coordination with land-managing partners will be increased to provide additional educational opportunities and programs for visitors and enhanced monitoring of Mosquito Lagoon resources.

## **VISITOR EXPERIENCE**

Visitors entering the national seashore experience the relatively pristine natural setting of the national seashore and lagoon that are mostly free of unnecessary distractions. Opportunities for experiencing an uncrowded natural environment will be easily found throughout the national seashore. High visitor use levels might be encountered at visitor contact centers or at portals to the beach and lagoon, but emphasis will be placed on encouraging visitors to experience areas of the seashore that are relatively undeveloped.

## **RESOURCE PROTECTION**

Natural resource management efforts will focus on protection, preservation, and rehabilitation of species and ecosystem features, inventorying and monitoring resources, and applied research efforts as well as preservation of the national seashore's soundscape and water quality. Coordination with land-managing partners will be increased to provide a comprehensive approach to ecosystem and cultural resource management as well as additional educational opportunities and programs for visitors.

Agreements and partnerships with educational institutions could be developed for research and inventory and monitoring of national seashore resources.

### **Beaches**

Beaches will remain relatively pristine and undeveloped, with emphasis on preserving a healthy dune system, using boardwalks for public access across the dunes, and restoring impacted areas.

Restoration of disturbed areas to natural conditions will be a principal focus of resource management efforts. Travel in shallow water areas in the national seashore could be limited to pole/troll or nonmotorized methods to protect fragile seagrass and fish spawning areas and oyster beds and to minimize coastal erosion caused by boat wakes.

### **Cultural Resources**

Cultural resource management efforts will continue to focus on protection, preservation, and interpretation of more than 180 archeological sites and historic structures such as the Eldora State House and the main house and caretaker's house at Seminole Rest. In selected areas, such as Seminole Rest and the Eldora Hammock area, key cultural landscape features will be rehabilitated to reflect historic conditions associated with their periods of significance.

In addition, resource management personnel will work with interpretive staff to highlight appropriate themes for the educational program.

### **Fisheries**

The National Park Service will develop a separate fishery management plan. The plan will include a public involvement and environmental compliance process and will be developed in partnership with the Florida Fish and Wildlife Conservation Commission, U.S. Fish and Wildlife Service

USFWS), and other federal and state agencies. In the interim, the National Park Service will develop a memorandum of understanding with the Florida Fish and Wildlife Conservation Commission that outlines the commitment of both agencies to collaborate in the management of fisheries within the national seashore and become cooperating agencies in the development of the fishery management plan.

Once the fishery management plan is developed and completed, it will address fishing activities within the national seashore to protect park resources, including valuable fisheries resources, and to determine sustainable harvest levels found within boundaries of the national seashore. Impacts of vessel operations on fisheries resources will also be addressed. The National Park Service will use the best available science to make informed decisions in the fishery management plan.

Until the fishery management plan is approved, the National Park Service will coordinate with the Florida Fish and Wildlife Conservation Commission pursuant to the memorandum of understanding (discussed in the “Interagency Agreements” section of chapter 1 and elsewhere throughout the document) prior to developing and implementing management actions that modify current management of fishing activities or fishing vessel operations. Management actions include but are not limited to new or modified use of management strategies that limit the use of internal combustion motors (e.g., pole and troll areas), or limit vessel speed (e.g., idle/slow speed zones), permitting requirements for recreational fishing activities, access limitations, or area closures. Until the fishery management plan is approved, the National Park Service will continue to adopt the Florida Fish and Wildlife Conservation Commission’s fishing regulations and actively monitor and patrol fishing activities in Mosquito Lagoon to ensure state regulations are met.

## **COMMERCIAL FISHING**

The National Park Service has determined that future management of commercial fishing in Canaveral National Seashore will be addressed separate from the *Final General Management Plan / Environmental Impact Statement*. Commercial fishing refers to fishing that involves the sale of the harvest. This is not to be confused with commercial guided fishing, which does not involve the sale of the harvest. Commercial guided fishing is defined as “fishing from a vessel carrying a passenger for hire who is engaged in recreational fishing.” These definitions can be found in section 2101 of Title 46 *United States Code* (USC). For this Final GMP/EIS, all alternatives assume the same level of commercial fishing. The national seashore would continue to renew permits to existing commercial fishing permit holders and strictly enforce the use of catch logs. The seashore would also continue to adopt the Florida Fish and Wildlife Conservation Commission’s commercial fishing regulations and actively monitor and patrol fishing activities in Mosquito Lagoon to ensure state regulations are met.

The U.S. Fish and Wildlife Service has decided to stop commercial fishing in 2018 within the Merritt Island National Wildlife Refuge, which includes the National Park Service / U.S. Fish and Wildlife Service joint management area of the national seashore (where the U.S. Fish and Wildlife Service has primary jurisdiction over natural resources and the National Park Service has primary jurisdiction over cultural resources). This part of the seashore is administered for refuge purposes through the U.S. Fish and Wildlife Service, pursuant to the National Wildlife Refuge System Administration Act. This USFWS decision was addressed and announced as part of the finalization of the Merritt Island National Wildlife Refuge Comprehensive Conservation Plan in 2007. Until 2018, the U.S. Fish and Wildlife Service would continue to manage fishing in this area according to state regulations and commercial fishing would continue through the existing joint NPS/USFWS

permit system. The USFWS determination to stop commercial fishing in 2018 is independent of the NPS determination of the appropriate long-term action it will take regarding commercial fishing.

## **NATIONAL SEASHORE OPERATIONS AND FACILITIES**

Readily identifiable visitor contact facilities for orientation and educational purposes and ranger stations will be conveniently located and will provide quick access to beach and lagoon areas. Other support facilities for national seashore operations, such as administration, resource management, and maintenance, will be visually screened from visitor use areas, but will be conveniently located to critical beach and lagoon resource areas to promote efficient operations. Efforts will be undertaken to separate public and administrative/ maintenance traffic to provide enhanced visitor experiences and safety.

Access to areas within the national seashore will be accommodated with low-impact structures that blend with their natural surroundings to avoid impacts on fragile resources such as dune vegetation and shoreline edges, scenic views, and cultural sites and landscapes.

## **AREA-SPECIFIC MANAGEMENT ACTIONS**

### **Playalinda Beach Area**

Current management trends will continue, such as maintaining relatively pristine beach conditions, preserving the dune system, protecting special status species, and providing safe recreational opportunities. Preservation of the primary dune system and restriction of visitor access only to designated dune crossover trails will continue. NPS staff will maintain an active resource monitoring and dune restoration program to repair areas of the dune system that have been denuded by visitor-created (social) trails. Other management actions include:

- The Playalinda Beach restrooms will be replaced.
- A new bicycle trail will be developed along the roadway.
- The entrance station will be maintained.
- The visitor contact station will be accommodated in the ranger station.
- The desirability of moving lifeguard operations to Eddy Creek will be evaluated.
- The administrative boardwalk dune crossover will be reconfigured.
- Lands and waters south of S.R. 402 will continue to be managed for natural resources.
- Public access will continue to be restricted in accordance with National Aeronautics and Space Administration (NASA) security concerns.

### **Klondike Beach Area**

Current management trends that emphasize preserving pristine beach conditions and protecting special status species will continue. Public access to Klondike Beach will continue to be by permit only and limited to 25 persons per day on the south end of the beach and 25 persons per day on the north end of the beach. Limits on and registration of visitor use are intended to provide opportunities for solitude, maintain pristine beach conditions, protect special status species, and

ensure public safety. NPS staff will maintain an active resource monitoring and dune restoration program to repair areas of the dune system that may become denuded by visitor-created (social) trails.

## **Apollo Beach Area**

Current management trends, such as maintaining relatively pristine beach conditions, protecting special status species, and providing safe recreational opportunities, will continue. Preservation of the primary dune system and restriction of visitor access only to designated dune crossover trails will continue. NPS staff will maintain an active resource monitoring and dune restoration program to repair areas of the dune system that have been denuded by visitor-created (social) trails. Other management actions include:

- Bicycle trails and new bus access might be developed at Apollo Beach.
- Toilets will be replaced, and powerlines will be placed underground.
- The entrance station and gate will be relocated toward the northern boundary.
- The visitor center, pavilion, and ranger station at Apollo Beach will continue to serve as the hub of visitor activities and programs for the North District.
- Turtle Mound will continue to be preserved. Trail, waysides, and parking will remain.
- The North District maintenance facility will be reconfigured/redesigned and screened from view.
- In the beach operations area, the administrative dune crossover boardwalk will remain for beach emergencies.

## **Eldora Hammock Area**

The Eldora State House, Cisterns, and Dock will be preserved. Public access to the first floor will continue to be provided. Interpretation of the Eldora historic area will continue with permanent exhibits and administrative office space in the Eldora State House. The area will be studied as a cultural landscape, and key features will be rehabilitated to reflect historic conditions associated with their period of significance. An exhibit area will be maintained in the state house pursuant to the permanent exhibit and historic furnishings plans. Other management actions include:

- Powerlines will be placed underground in the Eldora Hammock Area.
- The Eldora Hammock Interpretive Trail and waysides will be maintained. The level of interpretive opportunities will be unchanged.
- The Castle Windy mound will continue to be protected, and the interpretive trail will be extended.
- The garage on the former Hebner property will continue to be used for park operations. Existing utilities will remain.
- The former Feller property will be offered for research, inventorying, and monitoring activities.
- The house on the former Schultz property will continue to be used for administrative purposes.

- The lands south of Eldora Hammock will be managed for resource protection and closed to visitors except along Castle Windy Interpretive Trail and the shoreline accessed by boat.
- The national seashore will continue to pursue supporting research operations at the Marine Science Educational Station.

### **Northern Mosquito Lagoon (Gomez Grant line to NPS north boundary)**

The boat access area entrance will be relocated, and 24-hour access will be phased out. A nonmotorized or pole/troll area will be developed, and a slow-speed area will be developed between Eldora State House, parking lot 7, and the first island to the west.

As previously described, the National Park Service will develop a separate fishery management plan to address recreational fishing in the lagoon and offshore waters in order to protect park resources including valuable fisheries resources and to determine sustainable harvest levels found within boundaries of the national seashore.

Diverse, low-impact backcountry opportunities will be provided on lagoon islands.

### **Oak Hill Area**

At Seminole Rest, interpretive and educational programs will be expanded. Cultural landscapes will be studied and key features rehabilitated.

The National Park Service will continue to pursue acquisition of the Stuckey property on a willing-seller basis. A future determination as to its appropriateness as a future park headquarters will be made sometime following acquisition.

At Bill's Hill, parking, trails, waysides, canoe/kayak landing, and water trails will be developed.

### **USFWS/NPS Joint Management Area**

Throughout the USFWS/NPS Joint Management Area, the National Park Service will continue to support USFWS-led management direction and recreational activities. Temporary closures of portions of the joint management area to visitor use before scheduled NASA activities, such as launches and landings, may continue. Other management actions include:

- A new canoe launch will be developed on Bio Lab Road.
- Self-guided interpretive opportunities will continue under USFWS direction at the manatee viewing area, Scrub Ridge Interpretive Trail, and the Sand Road/Trail.
- NPS staff will continue to assist USFWS staff and NASA staff with its primary responsibility in the management of cultural resources in the joint management area (such as Target Rock, Ross Hammock, "Confederate salt works," Old Haulover Canal, Clifton Schoolhouse site, and Dummit Cove).
- USFWS staff will continue to maintain public access along Bio Lab Road for wildlife viewing, fishing, waterfowl hunting, and boat access to Mosquito Lagoon.

- Public access will continue to be restricted in and around NASA tracking facilities.

## **Merritt Island National Wildlife Refuge**

The U.S. Fish and Wildlife Service will remain the lead agency for visitor information in the South District. Visitor orientation to the features available at the national seashore and Merritt Island National Wildlife Refuge will continue to be provided at the USFWS visitor information center, just west of the national seashore boundary. Limited national seashore orientation (e.g., brochures and maps) will be available.

The National Park Service will work with the U.S. Fish and Wildlife Service to explore whether combined administrative headquarters functions in the South District will be the best strategy for administration of the national seashore.

The USFWS Wilson's Corner site will continue to be used for the NPS South District maintenance operations.

## **Titusville Area**

The lease arrangement for national seashore headquarters in downtown Titusville will be extended. As provided in the national seashore legislation, acquisition of the Stuckey property will be appropriate on a willing-seller basis only. A determination of this site's appropriateness for a future park headquarters will be made sometime following acquisition.

## **MANAGEMENT ZONES**

The primary building blocks for a general management plan are the management zones. All zones are developed within the scope of the park's purpose, significance, mandates, and legislation.

Management zones prescribe a range of desired resource conditions and visitor experience for the seashore and include statements about the appropriate kinds and levels of management, use, and development in each zone. The management zones provide primary guidance for subsequent decision making in the seashore. The following seven management zones have been defined for Canaveral National Seashore. See chapter 2 of the *Final General Management Plan / Environmental Impact Statement* for more details on management zones, including desired resource conditions and visitor amenities. Fisheries-related management strategies associated with certain zones may be modified or refined based on outcomes from the proposed fishery management plan.

### **Visitor Orientation/NPS Administration Zone**

This zone includes most facilities dedicated to visitor information/orientation and national seashore management. This zone will receive a high level of visitor use.

## **Environmental/Historical Education Zone**

This zone will contain resources that are both environmental and historical with high interpretive or educational value. These areas will receive occasional high visitor use.

## **Recreation Zone**

This zone is primarily used by visitors for active and passive recreational opportunities, most often associated with the surrounding waters. This zone includes some of the most heavily used areas of the national seashore.

## **Backcountry Zone**

This zone allows visitors to access areas of the national seashore that provide a more solitary, tranquil opportunity to experience the sights, smells, and sounds of nature.

## **Sensitive Resource Zone**

This zone protects primarily natural resources that are sensitive to or easily damaged by human use such as the dune ridge between the Atlantic Ocean and Mosquito Lagoon. Visitor access to this zone will be restricted to designated trail corridors. Access beyond designated trail corridors will be by special permit only.

## **NASA Security / Safety Clearance Zone**

This zone is periodically closed to all visitors before and during a launch. Access will be by special permit only.

## **Joint Management Area**

This zone encompasses the portion of Merritt Island National Wildlife Refuge that overlaps the southern two-thirds of the national seashore. The area is principally managed for wildlife and wildlife habitat.

## **MITIGATION MEASURES TO MINIMIZE ENVIRONMENTAL HARM**

Congress has charged the National Park Service with managing the lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 USC 1). As a result, the National Park Service routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of national park system resources.

To ensure that implementation of the final selected management alternative protects natural and cultural resources unimpaired for future generations and provides for a high quality visitor experience, a consistent set of mitigation measures will be applied to actions proposed in the *Final General Management Plan / Environmental Impact Statement*. The National Park Service will prepare appropriate environmental compliance reviews (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act (sections 106 and 110), Archeological Resources Protection Act, Endangered Species Act, and other relevant legislation) for such future actions. As part of the environmental review, the National Park Service will avoid, minimize, and mitigate adverse impacts. Depending on the actions implemented from this general management plan, the seashore may implement a compliance monitoring program to apply these mitigation measures and also include reporting protocols.

The following mitigation measures and best management practices will be applied to avoid or minimize potential adverse impacts from implementation of the general management plan. Management strategies related to the impacts of climate change on seashore resources or actions proposed in this document are also included in the *Final General Management Plan / Environmental Impact Statement*.

New facilities will be sited to minimize impacts on resources, including avoiding wetlands and sensitive areas and placing new facilities as close to existing disturbances as feasible.

## **NATURAL RESOURCES**

### **Geology and Soils**

New facilities will be sited to minimize impacts on resources, including avoiding wetlands and sensitive areas and placing new facilities as close to existing disturbances as feasible.

Measures to control impacts on soils and geologic resources will include incorporating structures such as sand ladders, boardwalks, and sidewalks to reduce impacts on the substrate; erosion and sediment controls such as silt fences and hay bales; and stormwater management practices such as infiltration and detention basins. Steep slopes and inundated areas will be avoided. Activities with the potential to disturb natural resources will be monitored for use-related impacts.

Construction permits will be obtained and complied with to minimize the potential for adverse effects. If construction projects will disturb more than 1 acre combined, a National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharge from Large Construction Activities will be required. The State of Florida requires an environmental resource permit before any construction project is initiated that will affect wetlands, alter surface water flows, or contribute to water pollution. Stormwater discharges must meet state water quality standards, as outlined in *Florida Administrative Code 62-302*.

Site-specific soil surveys will be conducted to determine if any engineering limitations are present. This information will be incorporated into design and construction of facilities.

Disturbed areas will be revegetated with native plants in a timely period, and disturbed areas will be monitored for invasive species.

## **Floodplains**

Surveys for floodplains will be carried out prior to facility development, and the information will be used to avoid or minimize any impacts on floodplains. To prevent water pollution during construction, erosion-control measures and stormwater management techniques will be used to minimize discharge to floodplains. The use of heavy equipment adjacent to and in waterways will be minimized. If parking areas are paved, an oil/water separator system will be installed. New facilities and construction will be sited outside floodplains to the extent practicable, or if that is not possible, to otherwise comply with Executive Order 11988, "Floodplain Management."

The preparation of a floodplain statement of findings will be required for any action that will result in adverse impacts on floodplains, in compliance with NPS Director's Order 77-2: *Floodplain Management*.

## **Wetlands**

Wetlands potentially affected by new facilities will be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work begins. Wetlands will be avoided or impacts will be minimized to the degree practicable. Facilities will be sited to avoid wetlands, or if that is not practicable, to otherwise comply with Executive Order 11900, "Protection of Wetlands" and regulations of the Clean Water Act. Permits will need to be acquired under section 404 of the act before conducting any activities that could cause adverse impacts on wetland habitats such as the discharge of dredge and fill material. Mitigation will likely be required to compensate for unavoidable impacts.

The preparation of a wetland statement of findings will be required for any action that will result in adverse impacts on wetlands, in compliance with the NPS "no net loss of wetlands" goal and other stipulations of Director's Order 77-1.

Boardwalks will be constructed in certain areas to avoid direct impacts on wetlands. If the parking areas are paved, pollutants in runoff will be mitigated by the use of best management practices for treatment of stormwater in paved areas.

## **Water Resources**

Impacts on water resources will be mitigated during and after construction activities. These will include incorporating structures to limit impacts and nonstructural (procedural) techniques. Construction activities will include standard soil erosion, spill prevention, and stormwater runoff prevention methods. Specific measures may include oil/water separators, silt fencing, boardwalks, and sand ladders to avoid erosion and runoff into flowing water environments or during storms. Activities with the potential to disturb natural water resources will be monitored for use-related impacts.

Structural mitigation measures could include soil erosion-control devices, use of permeable surfaces, and vegetated or natural filters to trap or filter stormwater runoff. Construction activities in or near waterways will be minimized to the extent practicable.

In some areas, reducing permissible speed limits for motorized watercraft may alleviate sediment resuspension (turbidity), water pollution, shoreline erosion, and disturbance of aquatic life.

## **Vegetation and Wildlife**

Surveys for sensitive wildlife and vegetation species will be carried out before construction activities to allow for facility design that will avoid sensitive plant species and sensitive habitat. Construction activities will be timed to result in the least impact on wildlife species, especially during nesting periods.

## **Soundscapes**

Under all four alternatives, standard noise abatement measures will be implemented, as appropriate, during national seashore operations and construction activities. Examples include scheduling activities so that impacts are minimized, use of the best available noise control techniques, use of hydraulically or electrically powered tools, and situating noise-producing machinery as far as possible from sensitive uses or resources.

Efforts will be made to separate public and administrative/maintenance traffic, which could reduce adverse impacts from vehicle noise in certain areas. Construction activities will be scheduled for hours that will minimize the impact on the natural soundscape. The idling of motors during construction will be minimized. Facilities will be located and designed to minimize objectionable noise.

## **Air Quality**

Measures to control dust and erosion during construction will be implemented and could include the following: water or otherwise stabilize soils, minimize vegetation clearing, revegetate with native species, cover haul trucks, and employ speed limits on unpaved roads.

NPS vehicle emissions will be minimized by using the best available technology whenever possible.

## **Night Sky**

Outdoor lighting for new or rehabilitated facilities will be the minimum amount required to provide for personal safety. Lights will be shielded and/or directed downward to minimize impact on the night sky and disorientation of sea turtles. Lights will also not allow short wavelength light (i.e., white) to be visible from the marine turtle nesting beach for the protection of sea turtles, while still meeting human safety needs.

## **Threatened and Endangered Species**

Surveys will be conducted, as appropriate, for threatened and endangered species and species of concern before ground-disturbing activities are undertaken. The information will be used to mitigate for or avoid impacts on listed species.

Conservation measures will be implemented in consultation with the U.S. Fish and Wildlife Service and will be required if

- activities expected to have impacts on listed species or their designated critical habitat beyond those addressed in the Final EIS were initiated
- additional species occurrences were identified within the national seashore

Should any of the above events occur, renewed discussion and consultation with the U.S. Fish and Wildlife Service will focus on development of specific conservation measures to reduce potential impacts on these species and/or designated critical habitat.

## **CULTURAL RESOURCES**

### **Archeological Resources**

The Archeological Resources Protection Act of 1979 requires that all federal land managers develop plans for surveying lands under their control to determine the nature and extent of archeological resources on those lands. Funding for a comprehensive survey has been requested, and site-specific surveys continue to be conducted in the interim. The following procedures will be taken to ensure that archeological resources are not lost or damaged due to NPS activities:

- As appropriate, archeological surveys and/or monitoring will precede any construction. Known archeological resources will be avoided to the greatest extent possible. If archeological resources listed in or eligible for listing in the national register could not be avoided, an appropriate mitigation strategy will be developed in consultation with the state historic preservation officer and, if necessary, associated American Indian tribes. If during construction previously undiscovered archeological resources are uncovered, all work in the immediate vicinity of the discovery will be halted until the resources can be identified and documented and an appropriate mitigation strategy can be developed in consultation with the state historic preservation officer and, if necessary, associated American Indian tribes.
- Archeological sites will continue to be managed to preserve their documented values in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Archeological Documentation*.

### **Human Remains**

In the event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) and other applicable laws will be followed.

### **Ethnographic Resources**

Ethnographic resources are defined by the National Park Service as any "site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or

other significance in the cultural system of a group traditionally associated with it” (Director’s Order 28: *Cultural Resource Management Guideline*, 181).

Canaveral National Seashore staff will consult with associated American Indian tribes to develop and accomplish programs in a way that respects the beliefs, traditions, and other cultural values of the American Indian tribes who have ancestral ties to national seashore lands. NPS staff will maintain government-to-government relations with associated tribes to ensure a collaborative working relationship, and will consult regularly with them before taking actions that will affect natural and cultural resources that are of interest and concern to them. Access to, and ceremonial use of, American Indian sacred sites by American Indian religious practitioners will be accommodated in a manner that is consistent with national seashore purposes and applicable law, regulations, and policy.

## **Historic Structures**

Historic structures and landscapes have been identified and evaluated in the 2008 historic resource study. However, not all have been fully documented or nominated to the national register. Until that action has occurred, however, all properties listed in or appearing to meet national register criteria, including those identified in the 2008 historic resource study, will be treated as though they are listed. No action affecting any of these resources may proceed without appropriate consultation with the state historic preservation officer and documentation of the action under section 106 of the National Historic Preservation Act of 1966, as amended, as promulgated under the Advisory Council on Historic Preservation’s “Regulations for the Protection of Historic and Cultural Properties” (36 CFR 800).

## **Cultural Landscapes**

A cultural landscape is defined as “a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions (Director’s Order 28: *Cultural Resource Management*).

Four cultural landscapes have been identified in the national seashore: (1) Eldora Historic District, (2) Haulover Canal, (3) Indian River Citrus Landscape, and (4) Seminole Rest. Cultural landscapes will continue to be surveyed, inventoried, and evaluated under National Register of Historic Places criteria to determine eligibility for listing in the national register. Listed, as well as determined eligible, cultural landscapes will be managed to preserve their natural resource values and culturally significant character defining patterns and features in accordance with *The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

## OTHER ALTERNATIVES CONSIDERED

Other alternatives were considered during the planning process. The paragraphs below describe the concept and key features of these alternatives. More detailed information on these alternatives can be found in chapter 2 of the *Final General Management Plan / Environmental Impact Statement*.

### **ALTERNATIVE A: THE NO-ACTION ALTERNATIVE (CONTINUE CURRENT MANAGEMENT)**

Alternative A, the no-action alternative, serves as a basis for comparison between Canaveral National Seashore's current management and the other alternatives and thus provides a baseline for evaluating changes and impacts in the other alternatives considered in the plan. This alternative is also useful in understanding why the National Park Service or the public may believe that changes in management direction are needed.

Under this alternative, the National Park Service would continue to manage Canaveral National Seashore under the overall operational direction provided in its enabling legislation (PL 93-626 and as amended by PL 100-564), previous planning documents, and interagency/cooperative agreements between (1) NASA, which has jurisdiction over about 70% of the national seashore acreage, and the Department of the Interior (April 2, 1975), and (2) between the National Park Service and the U.S. Fish and Wildlife Service (July 10, 1975), which manages the Merritt Island National Wildlife Refuge. The latter agreement, which is periodically updated, defines the general boundaries of an overlap area (designated the "Joint Management Area") in and around Mosquito Lagoon and delineates responsibilities of the two agencies for cooperative administration and management of the area. Under this agreement, the National Park Service would continue to support USFWS management direction and initiatives as outlined in the Merritt Island National Wildlife Refuge Comprehensive Conservation Plan (2008), assist that agency in preserving this area's cultural resources, and partner with them in seeking grants to support enhanced resource management efforts.

The National Park Service would continue to coordinate and comply with NASA security concerns and policies as they relate to the national seashore.

For the foreseeable future, there would be no major change in the management direction of the national seashore. Current legislation, NPS policies, management guidelines, administrative commitments, and plans, such as the national seashore's approved 1982 *General Management Plan* and 1998 *General Management Plan Amendment for Seminole Rest*, would continue to provide guidance for managing the national seashore.

### **ALTERNATIVE C**

Under alternative C, Canaveral National Seashore would be managed as a place where visitors would explore and experience a wide range of opportunities designed to provide an in-depth understanding of the natural and cultural history of eastern coastal Florida. When visitors enter the national seashore, they would be presented with a menu of choices for alternative modes of access to land- and water-based natural and cultural features, recreational opportunities, and educational pursuits.

## **ALTERNATIVE D**

Under alternative D, Canaveral National Seashore would be managed to focus on enhancing the existing investment in lands, resources, and facilities. The national seashore would be managed to promote outdoor recreational and interpretive educational opportunities that are consistent with preservation of the natural and cultural resources. A limited level of facility development would improve efficiencies in NPS administration and operations and enhance visitor amenities. Coordination with land-managing partners would be increased to provide additional educational opportunities and programs for visitors and enhanced monitoring of Mosquito Lagoon resources.

## **BASIS FOR DECISION**

This record of decision for alternative B, the selected alternative, has been developed in accordance with the policies and purposes of the National Environmental Policy Act of 1969, as amended (42 USC 4371 et seq.), which requires relevant environmental documents, comments, and responses be part of the record in making decisions. Furthermore, the act requires that the alternatives considered by the decision-maker are encompassed by the range of alternatives discussed in the relevant environmental documents and that the decision maker consider the alternatives described in the environmental impact statement.

As described earlier, a full range of alternatives was developed as part of the environmental impact statement. Alternative visions for managing the seashore were developed by identifying different ways to address the planning issues in context with the seashore's purpose and significance. In developing this range of alternatives, the National Park Service adhered to the requirements of the National Environmental Policy Act, while giving careful consideration to the seashore's enabling legislation.

Alternative B has been selected by the regional director as the agency's preferred alternative because it provides the best combination of strategies to protect the national seashore's unique resources and diversity of visitor experiences while improving the national seashore's operational effectiveness and efficiencies. Ultimately, alternative B's significant advantage to natural resource protection was one of the largest determining factors in identifying it as the agency's preferred management alternative. Key advantages for resource protection include the following:

- The largest portion of the national seashore will be zoned as backcountry, which is designed to preserve and maintain intact ecosystems.
- There will be increases in protection of oyster beds, fish spawning grounds, and seagrass habitat through the use of slow-speed and pole/troll boating areas.
- Habitat for threatened and endangered species will be improved, including scrub-jay habitat at Bill's Hill and the Stuckey property (if acquired).
- The national seashore's pristine environment will be improved by moving utility lines underground.
- Collaboration on resource projects with the U.S. Fish and Wildlife Service will increase.
- Viewsheds will improve through screening facilities.
- Inventory, monitoring, and protection opportunities for archeological resources will increase.

- A broader range of research opportunities will be provided.

The advantages of alternative B for maximizing the diversity of visitor experiences include enhanced opportunities for information, education, and interpretation at Apollo Beach, Eldora State House, Seminole Rest, and Bill's Hill. The availability of sales, services, and supplies will also be enhanced at Apollo Beach. Improvements in hiking trail access and parking will occur in the Bill's Hill area. A greater number of visitors will be allowed throughout the national seashore when parking lots are full because of a proposed shuttle service. Furthermore, alternative B provides more consistent security at the northern entrance near Apollo Beach.

The advantages of alternative B for improving the operational effectiveness and efficiencies of the national seashore include more conveniently located facilities that provide quick access for visitors to beach and lagoon areas. Select national seashore facilities will also be strategically located to increase efficiencies in managing critical beach and lagoon resources, as well as to separate public and administrative/maintenance traffic for an enhanced visitor experience. In comparison to the other alternatives, alternative B will also require the least amount of additional maintenance work because it proposes the least number of new structures. Facilities will also be in areas of the national seashore that better withstand storms, lessening the potential for repairs due to storm damage.

The decision to select the preferred alternative is also based on extensive NPS analysis of the beneficial and adverse impacts of all alternatives. The results of this analysis, found in chapter 4 of the *Final General Management Plan / Environmental Impact Statement*, demonstrate that the preferred alternative has the greatest beneficial effect across a range of seashore resources and values, including: natural and cultural resources, visitor use and experience, park operations, and socioeconomics.

The decision for the *Final General Management Plan / Environmental Impact Statement* is also based on comments made during public meetings or official comments submitted by the public or partner agencies. No significant concerns were raised that could not be addressed by minor modifications to the plan. Most of these comments offered suggestions on ways to improve or strengthen the NPS preferred alternative. Where appropriate, recommended changes were made to alternative B to provide more clarity, expand on proposed management strategies, or provide factual corrections and were reflected in the *Final General Management Plan / Environmental Impact Statement*.

The revised preferred alternative included in the final general management plan meets the enabling legislative requirements to preserve, conserve, and protect natural and cultural resources while providing for public enjoyment. Also, the selected alternative best balances the need of the National Park Service to provide high-quality visitor experience and protect resources. The selected alternative also addresses public comments and concerns received, as summarized in the section entitled, "Public and Agency Involvement" in this record of decision.

## **ENVIRONMENTALLY PREFERABLE ALTERNATIVE**

The National Park Service is required to identify the environmentally preferable alternative in its environmental impact analysis documents for public review and comment. The National Park Service, in accordance with the Department of the Interior policies contained in the *Department Manual* (516 DM 4.10) and the *Council on Environmental Quality's Forty Questions*, defines the

environmentally preferable alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in the National Environmental Policy Act (section 101[b]). Section 101 states that “it is the continuing responsibility of the federal government to

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources” (NPS Director’s Order 12 Handbook, section 2.7D).

The alternatives do not differ much with respect to criteria 1 and 6; therefore, the evaluation focuses on criteria 2, 3, 4, and 5.

Alternative A, the no-action alternative, represents “business as usual” and was included to provide a baseline against which to compare the effects of the other (action) alternatives. Alternative A partially meets criterion 2; the current imbalance between visitor amenities and facilities is not fully addressed. Alternative A partially realizes criterion 3 because it does not comprehensively address challenges in the areas of resource protection and visitor use that confront the national seashore now and in the future. Alternative A also does not fully realize criterion 4 because it does not provide improved protections for and visitor access to historic, cultural, and natural resources. Alternative A only partially realizes criterion 5 because it does not address changes in visitation patterns at the national seashore.

Alternative B, the NPS preferred alternative, fully realizes criterion 2 by enhancing facilities and protecting resources in a safe and aesthetically pleasing manner such as the enhancement proposed for the Apollo Beach entrance station. Alternative B fully realizes criterion 3 by providing the highest degree of protection for natural resources and reducing human intrusion into the environment. Alternative B fully meets criterion 4 by enhancing preservation of cultural and historic resources and improving related natural heritage resources such as restoration of several historic features. Alternative B fully realizes criterion 5 because it emphasizes improvements in facilities that will enhance visitor experience in a variety of settings.

Alternative C realizes criteria 2 and 3 to a lesser degree than alternative B because of a greater emphasis on visitor services and less emphasis on environmental protection. Alternative C only partially meets criterion 4 because the focus of this alternative is to provide more visitor opportunities and access to resources. Alternative C fully realizes criterion 5 because of the emphasis on a wide range of visitor experiences and educational opportunities that will accommodate changing visitor use patterns. This includes new visitor amenities at Apollo Beach and Turtle Mound (including commercial services and increasing parking capacity in several areas).

Alternative D fully realizes criterion 2 by providing continued safe and pleasing surroundings. Alternative D only partially realizes criterion 3 by emphasizing restoration while still allowing visitor use in many areas. Alternative D partially realizes criterion 4 with some emphasis on resource protection and enhancement of existing facilities. Alternative D realizes criterion 5 by greatly enhancing visitor education and substantially improving visitor contact areas and interpretation opportunities. However, it does not provide the widest range of recreational opportunities as in alternative C.

After considering the environmental consequences of the four management alternatives, including consequences to the human environment, the National Park Service has concluded that alternative B, the NPS preferred alternative, is also the environmentally preferable alternative. This alternative best realizes the full range of national environmental policy goals as stated in section 101 of the National Environmental Policy Act.

## **PUBLIC AND AGENCY INVOLVEMENT**

This *Canaveral National Seashore Final General Management Plan / Environmental Impact Statement* was based on input from the National Park Service, other agencies, American Indian tribes, and the public. Consultation and coordination among these groups was vitally important throughout the planning process. The public had several avenues available to provide comments during development of the plan, including public meetings, postal mail, e-mail, and the Internet. More detailed information on these alternatives can be found in chapter 5 of the *Final General Management Plan / Environmental Impact Statement*.

### **PUBLIC MEETINGS AND NEWSLETTERS**

To obtain public input during the course of the project, three newsletters were distributed and six public meetings held. Public comments included those received from local officials, national seashore staff, and various other stakeholders. In addition, two land management partnering agencies (NASA and the U.S. Fish and Wildlife Service) were consulted throughout the process and participated in planning workshops.

During the fall of 2002 and again in the fall of 2003, the National Park Service published a newsletter and hosted public meetings with national seashore users and neighbors to be aware of their ideas and concerns for Canaveral National Seashore.

A third newsletter was distributed during the spring of 2007, and three public meetings were held to gain input on the preliminary alternatives. The first meeting was held at the NPS headquarters office in Titusville on June 12, 2007. The meeting was attended by about 16 people. The second meeting was held in the visitor information center in New Smyrna Beach on June 13, 2007. The meeting was attended by about 20 people. The third meeting was held on June 14, 2007, at the Seminole Rest main house. About 14 people came to the meeting.

A complete summary of the public comments shared during these public comment periods and public meetings can be found in chapter 5 of the *Final General Management Plan / Environmental Impact Statement*. Public comments were considered when selecting the preferred alternative.

## **RELEASE OF THE DRAFT GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT**

The Draft General Management Plan / Environmental Impact Statement was released to the public on August 18, 2011. Two public meetings were held along the east coast of Florida near the National Seashore to review the draft plan and receive public input: September 19, 2011, in Titusville, Florida; and September 20, 2011, in New Smyrna Beach, Florida. About 90 individuals attended the two public meetings. The public comment period closed on October 31, 2011.

Approximately 800 copies of the draft document were distributed to the public and stakeholders, including federal, state, and nongovernmental agencies and organizations. During the official comment period, a total of 26 correspondences were received. Most comments from the public were supportive of the plan. Questions from the public were largely related to public access for boating and fishing. Changes were made to the plan to clarify guided vs. commercial fishing, clarify management zones, and provide commitments to improved wayfinding and public access.

## **AGENCY AND AMERICAN INDIAN CONSULTATION AND COORDINATION**

### **FEDERAL AGENCIES**

The National Park Service contacted the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The letter advised these agencies of the NPS planning process for this General Management Plan / Environmental Impact Statement and requested a current list of federally listed threatened, endangered, or candidate species within the national seashore. The National Marine Fisheries Service responded in a letter dated June 8, 2005; the response letter included a list of such species found within the state of Florida.

In subsequent communications, NPS staff sought advice from the U.S. Fish and Wildlife Service and National Marine Fisheries Service regarding how to fulfill NPS responsibilities for complying with section 7 of the Endangered Species Act. The National Park Service prepared a determination of effect, which is included in the final plan as appendix C. The U.S. Fish and Wildlife Service responded with concurrence on the NPS determinations of effect for upland species under their jurisdiction, and the National Marine Fisheries Service was not required to respond because of the determination of “no effect” for the marine species under their jurisdiction.

To fulfill the U.S. Environmental Protection Agency’s Clean Air Act (8 309) and National Environmental Policy Act responsibilities, the U.S. Environmental Protection Agency reviewed the draft plan and gave the plan a “Lack of Objections” rating in a letter dated October 17, 2011.

The National Park Service contacted the Advisory Council on Historic Preservation on September 12, 2003. The letter advised the advisory council about the start of the planning effort, asked for their involvement in the planning process, and solicited input on issues and concerns to be addressed by the plan. The advisory council had an opportunity to review and comment on the draft plan. No reply from the Advisory Council on Historic Preservation was received.

## **STATE AGENCIES**

The National Park Service contacted the Florida state historic preservation office (SHPO) on September 12, 2003. The letter advised the state historic preservation office about the start of the planning effort, asked for their involvement in the planning process, and solicited input on issues and concerns to be addressed by the plan. The SHPO responded in a letter dated September 14, 2011, that cultural resources were adequately addressed in the draft plan.

The National Park Service contacted the Florida Fish and Wildlife Conservation Commission in a letter dated May 20, 2005. The letter advised the commission of the NPS planning process for this General Management Plan / Environmental Impact Statement. Suggestions from the Florida Fish and Wildlife Conservation Commission, compiled by the Florida Department of Environmental Protection, were incorporated in the plan.

The National Park Service requested a consistency determination for the federal Coastal Zone Management Act via the Florida State Clearinghouse program of the Florida Department of Environmental Protection. The National Park Service proposes no development in any area of the national seashore that would conflict with the coastal management program. Conditional concurrence with the Coastal Zone Management Act was granted by the Florida Department of Environmental Protection in a letter dated January 17, 2012. The National Park Service coordinated with the Florida Department of Environmental Protection and Florida Fish and Wildlife Conservation Commission to update the plan. The National Park Service responded in a letter dated December 19, 2013, with proposed changes to the plan as agreed to by the commission and the National Park Service. In letters dated January 22, 2014, and February 4, 2014, the commission and the Florida Department of Environmental Protection recognized that the conditions for the state's concurrence were met.

## **AMERICAN INDIANS**

The National Park Service recognizes that indigenous peoples may have traditional interests and rights in lands now under NPS management. Related American Indian concerns are sought through Native American Consultation. The need for government-to-government consultation stems from the historic power of Congress to make treaties with American Indian tribes as sovereign nations. Consultation with American Indian tribes is required by various federal laws, executive orders, regulations, and policies. They are needed, for example, to comply with section 106 of the National Historic Preservation Act of 1966, as amended. Implementing regulations of the Council on Environmental Quality for the National Environmental Policy Act of 1969 also require Native American Consultation.

The National Park Service contacted the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, and the Seminole Nation of Oklahoma by letter on September 12, 2003. The NPS letter advised the tribes of the planning process, invited them to participate in planning, and inquired about the tribes' potential interests and concerns as they relate to the planning effort.

The tribal historic preservation officer of the Seminole Tribe of Florida responded with a letter requesting any information that the National Park Service may have regarding the identification and protection of cultural resources within the updated plan. The Miccosukee Tribe of Indians of Florida agreed to enter into government-to-government consultation. None of the tribes requested to participate in the planning process, but they reserved their right to comment.

No comments were received on the draft plan from any of the three federally recognized tribes culturally affiliated with the national seashore.

## ATTACHMENT

### DETERMINATION OF NONIMPAIRMENT FOR SEASHORE RESOURCES AND VALUES

A determination of nonimpairment is made for each of the resource impact topics carried forward and analyzed in chapter 4 of the *Final General Management Plan / Environmental Impact Statement* for the NPS preferred alternative. The description of park significance in chapter 1 was used as a basis for determining if a resource is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the national seashore, or
- key to the natural or cultural integrity of the national seashore or to opportunities for enjoyment of the national seashore, or
- identified in the national seashore's general management plan or other relevant NPS planning documents as being of significance.

A determination of impairment is not required for the impact topics of visitor use and experience, social and economic environment, and NPS operations because impairment findings relate back to national seashore resources and values. These impact areas are not generally considered to be resources or values according to the Organic Act, and cannot be impaired the same way that an action can impair resources and values.

### CULTURAL RESOURCE TOPICS

#### Archeological Resources

Canaveral National Seashore contains more than 100 archeological sites dating from the transitional and St. Johns periods (ca. 3000 BC to AD 1565). Most of these sites are associated with shell middens or burial mounds. Various archeological surveys have been conducted in the Cape Canaveral area since the 1870s, including areas in the present-day national seashore. Lands around Mosquito Lagoon, Seminole Rest, near State Highway 3, at Castle Windy, and at Ross Hammock have received additional investigation. In addition to the shell midden sites, a French shipwreck and shipwreck survivors' camp are two notable archeological sites in the national seashore. Many archeological sites have not yet been systematically surveyed, but the sites remain preserved through administration and protection by the National Park Service.

The preservation of archeological resources is key to maintaining the cultural integrity of the national seashore. Also, Congress specifically added the lands known as Seminole Rest to Canaveral National Seashore "for the primary purpose of protecting and interpreting their archaeological and historic resources" (Public Law 100-564, 1988). The actions in the preferred alternative will result in no adverse impacts on archeological resources; some positive effects of this alternative include continued survey, inventory, and possible listing in the National Register of Historic Places. Any development of bike trails, wayside exhibits, or other disturbance will be implemented to avoid or mitigate any associated impacts. Water or sewerline placement, such as that proposed at Seminole Rest, will be sited on top of the mound to avoid disturbance of possible

archeological resources. Increased patrols and an emphasis on education may discourage vandalism or inadvertent disturbance of archeological resources. Because there will be no adverse impacts on archeological resources, the preferred alternative will not result in impairment.

## **Ethnographic Resources**

Ethnographic resources are an important component of human history at Canaveral National Seashore. Although an ethnographic study has not been undertaken, the national seashore contains historic resources related to ethnic communities. Clifton and Allenhurst are former African American enclaves to the north and south of the New Haulover Canal, respectively, that thrived on the edge of Mosquito Lagoon during the late 19th and early 20th centuries. A small schoolhouse was found near Clifton in the 1960s, and it contained personal items from the daughter of a former slave who homesteaded in the area in the 1870s. Shiloh, a white enclave north of the Haulover area, was also settled in the post-Civil War era.

The preservation of ethnographic resources is key to maintaining the cultural integrity of the national seashore. The impacts from the preferred alternative will be long term and will benefit these resources through better investigation, preservation, and interpretation. The National Park Service will collaborate with tribes and other ethnic groups to identify and develop strategies for managing ethnographic resources and carrying out anthropological research in the national seashore. Because there will be no adverse impacts on ethnographic resources, the preferred alternative will not result in impairment.

## **Historic Structures**

Historic resources at Canaveral National Seashore include 15 structures that have been listed in the List of Classified Structures. These include several burial mounds (Turtle, Max Hoeck, Ross Hammock, and Bill's Hill), the Old Haulover Canal, Castle Windy, Seminole Rest main house and caretaker's house, the Schultz House, Allenhurst Cemetery headstones, and several other resources. A historic resource study has been initiated for Canaveral National Seashore, but it remains incomplete. Several of the structures above are listed in the National Register of Historic Places, are eligible for listing, or are contributing sites or districts. These resources are key to the cultural integrity of the national seashore and are integral components of the historic values for which the national seashore was established (Public Law 93-626, 1975).

Under the preferred alternative, historic structures that are listed or eligible for listing in the national register will continue to be protected and preserved. Historic structures will continue to be surveyed, inventoried, and evaluated. Stabilization, preservation, and rehabilitation of some structures will be carried out in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). All activities will be carried out in such a way as to have no adverse impacts on historic structures. Therefore, there will be no impairment of historic structures under the preferred alternative.

## **Cultural Landscapes**

Three landscapes (Indian River Citrus Landscape, Seminole Rest, and the Eldora historic area) and one component landscape (Haulover Canal) in Canaveral National Seashore have been identified

as cultural landscapes that have potential for listing in the national register. These are key to the cultural integrity of the national seashore and also integrate important natural resources as well.

Under the preferred alternative, cultural landscapes at the national seashore will continue to be surveyed, inventoried, and evaluated to determine their eligibility for listing in the national register. All preservation, stabilization, and rehabilitation efforts will be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). These activities will have no adverse impacts on cultural landscapes. New or expanded facilities in the national seashore will be designed to minimally affect the scale and visual relationships among landscape features. Additionally, the removal and burial of overhead power and telephone lines in the Apollo Beach and Eldora Hammock areas, and the proposed protection and preservation at the Eldora State House, will have long-term beneficial impacts on cultural landscapes in the national seashore. Because there will be no adverse impacts on cultural landscapes, the preferred alternative will not result in impairment.

## **NATURAL RESOURCE TOPICS**

### **Geologic Resources and Soils**

The barrier islands of Canaveral National Seashore are the longest undeveloped beach on Florida's east coast. The 24-mile barrier island that separates Mosquito Lagoon from the Atlantic Ocean is a sandy beach on the ocean side and is backed by a single sand dune ridge. These formations are representative of the complex geologic history that formed the landscape during periods of glaciation and glacial retreat. Barrier islands and their component sands and soils are strongly influenced by geologic processes such as erosion, storm deposition, tidal action, and shoreline retreat. Although sand makes up about 35 of the soils in the national seashore, other more organic sediments are present in the upland areas.

Soils, sand dunes, beaches, and barrier islands are a key component of the natural integrity of the national seashore and represent some of the natural resources cited in the national seashore's enabling legislation. The preferred alternative would result in some short-term impacts of small consequence such as soil disturbance during boardwalk relocation at Playalinda Beach or extension of the Castle Windy Trail. Long-term soil-disturbing activities, such as the construction of a bike path, will affect only a small percentage of the soils of the national seashore. Whenever possible, soils that are disturbed will be revegetated for a long-term reduction of soil erosion. The establishment of a slow-speed area and a pole/troll area will result in long-term benefits by reducing shoreline erosion due to wave action of passing boats. Overall, the impacts of the preferred alternative will be slight, short term, and highly localized and will not result in impairment of geologic resources and soils.

### **Floodplains**

Much of Canaveral National Seashore is in a 100-year floodplain, as classified by the Federal Emergency Management Agency. These floodplains are along low-lying coastal waters and associated stream channels. Floodplains naturally moderate floods by temporarily spreading out floodwaters, reducing erosion. Floodplains support high levels of nutrient cycling and a great diversity of plants and animals.

Floodplains are a key component of the natural integrity of the national seashore and represent some of the natural resources cited in the national seashore's enabling legislation. Some short- and long-term adverse impacts are expected under the preferred alternative. Construction activities in the Apollo Beach area will result in small short-term impacts on floodplains. Trail construction in several areas may increase the area of impervious surface, causing localized, long-term changes to the floodplain. Mitigation of construction impacts and use of gravel rather than paved surfaces will greatly reduce the detrimental impacts of these activities. Additionally, floodplains will be managed in compliance with Executive Order 11988, "Floodplain Management." Overall, impacts on floodplains under the preferred alternative will be slight and adverse, with some mitigation resulting in beneficial effects. However, all impacts on floodplains will be highly localized, and some impacts will be short term in duration. Therefore, the preferred alternative will not result in impairment of floodplains at Canaveral National Seashore.

## **Wetlands**

Canaveral National Seashore has two types of wetlands—mangroves and salt marshes. The national seashore is in a transition zone between these vegetation types, with mangroves in the southern part of the national seashore and salt marshes farther north. Salt marshes occur in both low- and high-tide areas, while mangrove swamps are found in less saline waters. Red mangroves have been planted along Mosquito Lagoon to reduce shoreline erosion. Overall, the wetlands of the Mosquito Lagoon basin cover about 42% of the terrestrial area of the national seashore.

Wetlands are an important component of the natural integrity of the national seashore and represent some of the natural resources cited in the national seashore's enabling legislation. Under the preferred alternative, impacts on wetlands will largely be negligible to minor and adverse because of construction activities, but these impacts will not last long into the future. Activities such as trail development or facility construction may have short-term impacts on runoff or siltation into wetland areas. Long-term benefits to wetlands may be realized with the establishment of a slow-speed area or pole/troll area in several locations. In all cases, wetlands will be managed in compliance with Executive Order 11990, "Wetland Management" and NPS policy that directs managers to minimize adverse impacts on wetlands from new development or facilities, or to compensate for unavoidable impacts via restoration of degraded wetlands. Therefore, while some adverse impacts on wetlands may occur, they will be highly localized, short term, and slight in nature, and mitigation activities will be applied. As a result, impairment of wetlands will not occur under the preferred alternative.

## **Water Resources**

Surface waters comprise about two-thirds of the total national seashore area, including waters of the Atlantic Ocean out to 0.5 mile offshore; Mosquito Lagoon; and numerous sloughs, wetlands, and marshes. In addition to marine waters and subsurface aquifers, the national seashore receives 48–56 inches of rainfall each year. Ocean waters are a primary focus for visitors and provide habitat for numerous marine plants and wildlife. Mosquito Lagoon is one of the most species-rich estuaries in North America. Species composition changes on a seasonal basis, with tropical and subtropical species dominating the waters during the summer, and temperate species dominating during the winter. Mosquito Lagoon is considered pristine habitat, and it has been designated an Estuary of National Significance and an Outstanding Florida Water by the U.S. Environmental Protection Agency and the State of Florida, respectively.

These diverse and high-quality water resources contribute to the natural integrity of Canaveral National Seashore and represent some of the natural resources cited in the national seashore's enabling legislation. These resources also are key components of visitor enjoyment of the national seashore. Under the preferred alternative, adverse impacts on water resources may occur in several locations where temporary disturbance of vegetation and soils for construction may result in short-term, small increases in runoff to nearby water bodies. Some of these areas might include a new parking lot at Bill's Hill, possible future restoration work at the Stuckey property, and construction of a bike path near Playalinda Beach. Beneficial impacts will be realized in the long term by revegetation of disturbed areas. Turbidity and disturbance of bottom sediments is expected to diminish in the long term in areas where a slow-speed area or a pole/troll area is instituted (in northern Mosquito Lagoon). Overall, implementation of the preferred alternative will result in short- and long-term, negligible to moderate, adverse impacts and some long-term beneficial impacts. Because the small adverse impacts will be localized in nature, and will be mitigated where possible with revegetation, there will be no impairment of water resources at Canaveral National Seashore.

## **Vegetation**

Canaveral National Seashore supports a unique convergence of temperate and subtropical vegetation. Two examples of this convergence are hammocks, which contain an overstory of temperate species and an understory of subtropical plants, and the shift in vegetation from salt marsh cordgrass in the north to mangrove species in the southern part of the national seashore. A number of different vegetation communities, such as the beach dune community, the coastal strand community, the coastal shrub community, and the slash pine flatwood community, in addition to hammocks and estuarine areas, are found in the national seashore. Vegetation species range from seagrasses to live oak to sea oats. These species provide food and habitat for a wide diversity of wildlife.

Healthy and diverse vegetation communities comprise an important component of the natural integrity of Canaveral National Seashore, and they represent some of the natural resources cited in the national seashore's enabling legislation. In addition, the unique composition of the vegetation adds to the experience and enjoyment of national seashore visitors. Under the preferred alternative, there will be short- and long-term, negligible to moderate, adverse impacts and short- and long-term beneficial impacts on vegetation. Direct removal of vegetation because of construction activities for infrastructure, facilities, or biking or hiking paths will cause adverse impacts. In many locations, revegetation will follow this disturbance, offsetting much of the disturbance and leading to overall negligible impacts. Beneficial impacts will also be realized through relocation of the administrative boardwalk, relocating the entrance area at northern Mosquito Lagoon, and possible future restoration of the Stuckey property. Because adverse impacts on vegetation will be largely short term, localized, and slight in nature, there will be no impairment of vegetation at Canaveral National Seashore.

## **Wildlife**

The unique convergence of vegetation types in the national seashore supports a similarly diverse set of wildlife species. More than 300 species of birds are found in the national seashore, including many that find important winter habitat there. At least 20 mammals find a home in the national seashore, as well as 50 reptile species and more than 400 fish species. Canaveral National Seashore also protects essential fish habitat for penaeid shrimp, red drum, coastal pelagic fish, coastal sharks, and reef fish. Other important wildlife species include clams, oysters, wading birds, herons,

muskrats, eastern woodrats, skunks, and about a dozen snake species. A subset of the wildlife species at Canaveral National Seashore are listed by federal and state agencies as threatened, endangered, or species of special concern. Some of these of particular importance are gopher tortoise, West Indian manatee (Florida stock), southeastern beach mouse, eastern indigo snake, roseate spoonbill, and five species of sea turtle.

Protection of the wildlife of Canaveral National Seashore is key to maintaining the natural integrity of the national seashore, and it represents some of the natural resources cited in the national seashore's enabling legislation. In addition, the diversity of wildlife adds to the experience and enjoyment of national seashore visitors. Under the preferred alternative there will be short- and long-term, negligible to minor, adverse impacts and short- and long-term beneficial impacts on wildlife. Most of the potential disturbance to wildlife will be associated with construction activities and impacts on wildlife habitat for short durations. Because revegetation will replace some of this habitat, these impacts will be negligible in the long run in most locations. The establishment of a slow-speed area and a pole/troll area (in northern Mosquito Lagoon) will have beneficial impacts on wildlife by reducing disturbance from boating activity. Expansion of environmental education opportunities could have beneficial impacts on wildlife by increasing public awareness. Consultation with the appropriate federal or state agency will occur before disturbance of possible habitat for listed species. Because adverse impacts on wildlife will be largely short term, localized, and slight in nature, there will be no impairment of wildlife resources at Canaveral National Seashore.

## **Soundscapes and Noise**

The natural quiet of Canaveral National Seashore is an important resource that provides opportunities for visitor enjoyment. Natural sounds include surf on the beach, the calls of gulls and shorebirds, and wind through dune vegetation. Natural sounds are prevalent in the national seashore much of the time and in most locations. In some locations and at some times, noise (unwanted sound) can be heard. Currently, internal sources of noise in the national seashore include motor vehicles on roads, maintenance equipment such as mowers, visitors in heavily used areas, and motor boats in Mosquito Lagoon. External sources of noise are predominantly aircraft overflights and NASA shuttle and rocket operations. These external sources can be loud but are generally sporadic in occurrence. Under the preferred alternative, construction activities are expected to have short-term, small, adverse impacts on natural sound. Examples include construction in the Apollo Beach, northern Mosquito Lagoon, and Playalinda Beach areas. Some long-term beneficial impacts will be expected from establishing a pole/troll area or slow speed area (in northern Mosquito Lagoon) because of quieter boat activity. The preferred alternative is not expected to substantially increase any negative effects on the soundscape, especially because most impacts on sound are short term and highly localized due to construction activities. Therefore, there will be no impairment of the soundscape at Canaveral National Seashore under the preferred alternative.

## **Air Quality**

Air quality in Canaveral National Seashore is important for natural resource health and for visitor enjoyment. Air quality standards for the national seashore are established by the U.S. Environmental Protection Agency. Both Brevard and Volusia counties, in which the national seashore lies, have air quality that is better than the national standards for ozone, carbon monoxide, sulfur dioxide, respirable particulate matter, and lead. These counties are therefore

considered to be “in attainment” of these standards. National parks also have special legislation that specifically makes air quality management part of a national effort; Canaveral National Seashore is classified as a class II airshed because it is currently in attainment. The air pollutants of most concern in the national seashore are ozone, carbon monoxide, particulate matter, wet deposition, and dry deposition.

High air quality is key to the natural integrity of the national seashore and supports some of the purposes identified in its enabling legislation. High air quality is also important for visitor enjoyment of the national seashore. Under the preferred alternative, slight adverse impacts on air quality will be expected in some locations because of construction activities and possible increases in visitation. Some localized beneficial impacts will also be expected because of the availability of alternative transportation such as shuttle buses or bicycle paths. Short-term emissions due to construction activities will be highly localized and due in large part to demolition or construction vehicles. Increases in emissions will not be expected to result in exceedance of national air quality standards. Because impacts on air quality will be localized, short term, and slight in nature, there will be no impairment of air quality under the preferred alternative.