

"...and perhaps the most remarkable part of their generosity was the raising of money to purchase the mile of land just north of the southern end of Jupiter Island for The Nature Conservancy and later to the Interior Department of five hundred acres on the north end of the island in 1976."

Permelia Reed

II. PLANNING ISSUES AND OPPORTUNITIES

Introduction

Creating a vision of the future for the Hobe Sound National Wildlife Refuge came easily for some and more cautiously for others. Although comprehensive conservation planning officially began in 1998, this was preceded by visioning in the implementing legislation and the establishment authority of the refuge in 1969. Honoring this legacy and early in the development of this plan, the pre-planning team, made up of Fish and Wildlife Service personnel, identified issues and opportunities that were likely to be associated with future management of the refuge. This list was derived from team knowledge, meetings with intergovernmental partners, a public scoping meeting, and written comments submitted by the public. This document allows all who participated in the process, as well as those who are newcomers to the process, to gaze once again into the future and glimpse what the refuge can and should be.

Identifying the Issues

The public scoping meeting, held on August 18, 1998, at the Hobe Sound Civic Center, provided the public with an opportunity to assist the refuge in identifying issues and concerns. Approximately 70 people were in attendance at the meeting. Following a 15-minute presentation concerning the refuge, attendees were divided into small groups, with the group discussions facilitated by a consultant and planning team members. The comments of each group, following a structured format, were recorded on flip charts. While some of the comments are significant to the future of the refuge, many are not within its sole jurisdiction and others are completely outside its jurisdiction.

Responses to comment sheets, distributed at the public scoping meeting and at the refuge, and handwritten letters on postcards provided information on issues and concerns of importance to the public. The comment packet and a summary of the comments can be found in Appendix V.

The excitement and enthusiasm of the participants cannot be easily imparted. In some cases, good suggestions have already been implemented. The alternatives considered for managing the refuge incorporate many of these issues and concerns and are outlined in the Environmental Assessment.

The issues of main concern to the public are categorized into wildlife habitat management, recreation, education and public awareness, partnerships, historical resources, and administration.

Wildlife Habitat Management

- Restore and manage species and the habitats they occupy so that the native biodiversity of the refuge is enhanced. Many citizens expressed a desire for biological surveys and inventories to monitor plant and animal species on the refuge, especially those listed as threatened and endangered. A few in attendance were particularly concerned with the management of the least tern nesting colonies on the Jupiter Island Tract.

- Reduce and/or eliminate exotic species from the refuge. Most of the participants wanted the Australian pines removed from the barrier island (to support sea turtle nesting) and from the shoreline. They were also concerned about Brazilian pepper and Old World climbing fern. Some present wanted to see the refuge staff consider alternative control methods for invasive species. A number of citizens wanted to see the areas of the refuge impacted with exotics restored to their natural states by physically removing the exotics and replanting with natives. A few expressed concern that only exotics be removed and the native plants be left alone, and that aesthetics should be considered and large strands of dead trees removed. Some also wanted to see an increased effort to remove exotic animals from the refuge.

- Address sea turtles by protecting, restoring and managing their habitat through means such as habitat acquisitions, limiting or eliminating lights (e.g., floodlights and street lights on North Beach Road) during hatchling season, and increasing law enforcement to prevent poaching. Many people felt the refuge should help educate the local community about lights on the beach during the sea turtle nesting season. A few disapproved of night-time turtle walks, stating the turtles should be left alone while laying their eggs. Others wanted to see the development of volunteer groups to protect hatchlings and help guide them to the water. Others were concerned about the mammalian predation of sea turtle nests, and wanted to see the predator population controlled. Still others wished to see an increased level of sea turtle monitoring, and also habitat restoration and acquisition of additional habitat.

- Consider the use of controlled burns to enhance habitat and manage fuel loads, especially the sand pine scrub area on the mainland. Many people stated that the refuge has not burned, either by controlled burn or wildfire, for a number of years and would like to see a controlled burn implemented in the sand pine scrub to provide optimal scrub jay habitat, and also to help the sand pines regenerate. Many citizens are concerned about the possibility of catastrophic wildfire if the refuge does not actively reduce the fuel load by controlled burns and/or mechanical treatments.

- Expand refuge resources by acquiring adjacent land and the management authority of offshore resources, possibly in conjunction

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with St. Lucie Inlet Preserve State Park. Some of the citizens would like to see the refuge obtain the U.S. Coast Guard property near the refuge boundary on the island and actively manage it for sea turtle habitat, control of exotics, and to conduct other needed habitat management activities. A few suggested refuge management should try to acquire management authority of offshore resources, possibly in conjunction with St. Lucie Inlet Preserve State Park. Others would like to see the Service enforce boating use and speeds and provide more manatee protection.

Public Use: Recreation

- Enhance the public's use of the beach by providing more public access and more amenities and by maintaining boat access to Peck Lake. Many people requested more public access to the refuge beach, in particular, the Peck Lake area. These citizens would like the Peck Lake access to remain open to boaters and beach users, and the trails maintained leading from the lake to the ocean. A wildlife observation platform at Peck Lake was requested. A few wanted a section of the beach designated for surfers, while others asked that a section be allotted for clothing-optional sunbathing. The crowd seemed to be split on the issue of personal watercraft—some requested that it be outlawed, while others did not want restrictions on any vessel. Several citizens requested upgrades to the beach facilities. Many would like a permanent, state-of-the-art bathroom facility and outside showers. A few asked for picnic pavilions and still others expressed concern about impacts of increasing public use at the beach. The latter group expressed that they like the remoteness of the beach, and do not want to see the parking lot expanded. One group requested that attaining a beach pass be made easier.



*Scrub trail
USFWS Photo*

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- Allow boating, surf fishing, and more fishing access on the mainland and consider installing a dock and inlets at Peck Lake. Many in attendance requested more fishing access to the Indian River Lagoon along the mainland. Some requested a dock at Peck Lake, while others opposed such additions and any plans for a future walkway constructed from the Jupiter narrows to the refuge. A few asked that no anchoring restrictions be imposed.
- Keep the refuge cleaner and expand the ways the public could assist in trash removal efforts. A number of citizens expressed concern about litter on the refuge. Some suggested a volunteer task force, or perhaps the local boy scout troop perform regular clean-ups. Others asked that more trash receptacles be placed on the refuge. Several suggested posting "TRASH IN - TRASH OUT" signs, while others mentioned providing trash bags so people could pick up trash as they enjoy the refuge. Some think the refuge should provide plastic bags and scoops for pet owners. A few mentioned that the Center for Marine Conservation is performing a 5-year litter survey, and think that the refuge should be added to this survey.
- Support recreational and educational uses, as long as commercial recreation is not allowed. Hunting and fishing must have a minimal impact on the environment. Many of those present did not want to see commercialization on the refuge. Some were also concerned about what possible negative impacts hunting and fishing would have on the refuge and would like to see such activities kept to an absolute minimum. (Because of the proximity of refuge lands to people, hunting is not allowed.)
- Make the refuge accessible for only those human uses that are compatible with the refuge's native wildlife. Some stated concerns about overuse of the refuge. They enjoy the quietness of the refuge and do not want to see it spoiled. They do not want to see night access or camping on the refuge. They want refuge management to quantify visitor impacts and determine the refuge's human carrying capacity. Many feel dogs should be leashed at all times, while others feel dogs need only be under control but not necessarily leashed. Other citizens requested that more of the refuge be open to visitors in appropriate areas.
- Support hiking by lengthening existing nature trails, installing more trails in other parts of the refuge, and installing more signs that identify plants and describe the natural area.
- Many stated the need for more than one nature trail. They would also like the trails to be longer and to have more interpretive signs identifying significant plants and facts about the surroundings. Some stated that the nature trails are excellent as they are now.

- Preserve current uses like shelling and expand to include a permanent restroom facility, high water markers to record storm surges, and better access for canoes. A few people stated a request for better canoe and kayak access to the island. Some would like high water markers to record past, present, and future storm surges.

- Maintain the refuge's beach tract and renourish the beach. Some stated the need for beach renourishment in order to stabilize the refuge beach and prevent erosion caused in large part by the St. Lucie Inlet. In kind, prevent "break through" caused by storm surges at the Peck Lake area. A few opposed beach renourishment. Others asked that the mosquito impoundments and spoil sites be restored.

Public Use: Education and Public Awareness

- Enhance environmental education by increasing the amount of programs that target population niches such as: children and their families, schools, senior citizens, youth camps, and adult education classes. Many would like to see enhanced public education. They suggested conservation summits for children and families to help children learn about the environment. Others would like to see public education trails developed specifically for children. Some suggested special programs in middle schools for students who might be interested in volunteering at the refuge and given the rank of "Junior Ranger." Some citizens requested more education to address problems rather than levy fines (e.g., a kiosk about what litter does to the environment instead of fining offenders). A few stated that the current Nature Center is doing an excellent job.

- Increase the number of interpreters, provide more printed interpretive information, increase the number of trails used for interpretation events, and expand to provide more events during the evenings and on weekends. Many citizens requested more interpretive signs on the nature trail and headquarters area. Several in attendance requested evening and weekend programs to accommodate those who work during the weekdays. Some also wanted an interpretive trail through the mangroves near the beach parking lot. Many also stated the need for additional turtle walks to accommodate more people.

- Increase publicity by creating a management plan which advertises the refuge through all media formats. Create more refuge pamphlets and add directional signs to the refuge. Some stated that the refuge needs to be more visible in the community by adding links to its Internet web page, and the interpretive programs should be more heavily advertised. Others expressed maintenance and restoration work should be advertised so the public would be aware of and support such activities. Also, many feel the public should be made aware of the various passes available to the refuge.

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Partnerships

- Create cooperative relationships with other agencies and the community for joint projects.
- A few at the meeting stated local environmental organizations need continuity of management plans. Some want to see the restriction of jet skis by a joint agency coordination, while others say there should be no restriction of any vessel. A few citizens suggested the refuge cultivate partnerships with volunteers, inmates, and local civic groups.

Historical Resources

- Conduct archaeological surveys prior to beach renourishment, preserve the shell mounds on the mainland, and devote a section of the local library to historical information about the refuge. Some at the meeting suggested that the ancient shell mounds on the refuge need to be preserved. Others requested a library devoted to local history be started at the refuge. A few people expressed a desire for archaeological surveys on the refuge, especially prior to beach renourishment projects. Still others requested the restoration of the sand mine on the mainland section of the refuge (near the intersection of U.S. Highway 1 and Dixie Highway).

Administration

- Increase the number of staff (all classifications) and volunteers to provide more recreational opportunities, wildlife habitat management, educational programs, and eradication of exotics. Some stated concerns that the refuge needed a larger staff to efficiently care for all the needs of the refuge and its visitors. Others requested "proactive" refuge management, while others felt that the refuge manager should keep accurate written records to provide continuity for successive managers to address the unique characteristics of the refuge.
- Improve refuge headquarters' accessibility by improving existing ramps, providing more signs at refuge headquarters, and providing directional signs on Interstate 95 and the Florida Turnpike. Many requested that more signs be posted on local roadways to make locating the refuge easier. Others asked that the refuge be maintained as accessible as possible, and requested that the existing handicap ramps be improved. Some present would like the fire lanes posted as access to the Intracoastal Waterway for fisherman. Still others requested that the parking lots not be expanded, but the refuge should supply transportation from remote areas as needed. Several people stated that the refuge should create partnerships with other local agencies and provide connecting sidewalks/bike paths/roller blade paths to get to the refuge.
- Maintain safety of refuge users and the environment by implementing measures such as lighting at the headquarters parking lot,

installing an emergency phone at headquarters, developing a plan for an oil spill or hazardous waste response, and developing an action plan to remove safety hazards (e.g., abandoned wells and structures). Many citizens expressed safety concerns such as increased lighting at the headquarters area and an emergency phone at the fee booth and the headquarters. Others were concerned about the safety hazard posed by derelict wells and other abandoned structures on the refuge. Still others requested that the refuge implement a hazardous waste emergency response plan.

- Restrict any land swaps of refuge lands because the land was provided for the refuge and not for other uses. Consider purchasing land adjacent to the refuge to create green ways. Many people felt strongly about the issue of the refuge considering land swaps with local landowners. Most felt the current refuge property needs to remain undeveloped and managed for its original purpose of wildlife habitat. Others would like to see the refuge acquire more land surrounding its boundary to create buffer zones and green ways between it and developed lands.
- Upgrade the refuge's public facilities, including the headquarters building and visitor center. The new building must be constructed in a manner that maintains the look of the refuge. If new buildings are constructed, they should be an integral part of the land. Many people commented on the need to upgrade the refuge's facilities, but they also urged caution about overbuilding. They stressed that a new headquarters building should blend well with the surroundings and be landscaped with aesthetics in mind. A few citizens stated that the only necessary development needed on the refuge is to expand the beach parking lot.

Significant Refuge Issues

Utilizing the issues identified by the public and by Service staff, the core planning team identified those issues most significant to the refuge over the 15-year life of the comprehensive conservation plan. These issues include visitor use, resource protection, and administration.

Visitor Use

As with so many other refuges in the system, Hobe Sound Refuge is faced with a growing demand for visitor use. Historically, the refuge has maintained a "favorable" balance between wildlife protection and visitor use. However, as the human population in south Florida increases, so does the demand for outdoor recreation; further stressing its natural communities. During the public scoping meeting, many people identified a desire for improved facilities, better access, and additional recreational activities on the refuge. Some individuals would like to see a "clothing optional" area of the beach. The refuge is currently identified on some Internet sites as a

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nude beach. Many areas that could serve as new trails require access along North Beach Road on Jupiter Island. This will present difficulty for some private property owners who are concerned about the traffic flow along this narrow access road which serves as the only vehicular access for the refuge to its 735 acres on Jupiter Island.

The educational program facilities at the refuge's headquarters have reached carrying capacity, with many schools and organizations being turned away. The parking lot at the refuge beach is frequently full with long lines of cars awaiting spaces to park. Facilities are extremely outdated, have long since served their intended purposes, and in some cases may be hazardous to the public. Visitor-use data over the past 2 years suggest that we have no further ability to accommodate the public without improved facilities. Although the refuge will not compromise the protection of the ecosystem, numerous opportunities exist to enhance the visitor experience without impacting the resources.

Efforts must be made to accommodate the growing needs of the public by achieving a better balance between wildlife and people.

Resource Protection

Invasive Species

Many hazards threaten the integrity of the delicate South Florida Ecosystem, and perhaps none are as ominous as those imposed by invasive exotic plants. Within the refuge, these invaders threaten to displace two of three natural communities. The Atlantic Coastal Dune, which supports some of the most productive sea turtle nesting areas in the nation, is under constant threat of colonization by Australian pines. This

species is very salt tolerant and can rapidly overtake the foredune. The tall bushy trees shade the dune eliminating conditions favorable for plants that stabilize the dune. Without a vigorous control effort by refuge staff and/or contractors, the coastal dune community would certainly be over-run by this and other aggressive species such as Brazilian pepper, beach naupaka, mahoe, periwinkle, rosary pea, and snake plant are a few of the identified bio-invaders threatening this ever-shrinking scrub community.

The unique hammock communities are very susceptible to being overrun by invasive plants because of their locations, moist microclimate, relatively small sizes, and history of little attention.



*Red mangrove
USFWS Photo*

Speed Boats and Wakes

A third refuge plant community is also at risk of severe degradation. The mangrove wetland community found lining the shores of the Indian River Lagoon is receding along much of its range on the refuge. High energy wakes spawned from increased boat traffic continually bombard the eroding shoreline. These waves prevent red mangrove propagules from establishing in the soil. Erosion is compounded by the increasing boat traffic in the Intracoastal Waterway, personal watercraft intrusion into shallow waters, the absence of slow speed zones along the refuge, and a lack of enforcement of slow speed zones outside main channels.

The refuge contains a significant acreage of coastal strand and tidal swamp habitats. These habitats will be, are probably already are, affected by ongoing sea-level rise. Predicted rises, based on the research of the Intergovernmental Panel on Climate Change, suggest that a 5 cm sea-level rise in 50 years would exact consequences for the resources, purposes, and objectives of this refuge that would elevate issues such as boat wakes to even greater significance.

Although Florida manatees are found at the shores of the refuge property, they live in state jurisdictional waters. However, protection of this species is considered a mandate of the Fish and Wildlife Service. Threats of population declines stem from degraded habitat, specifically seagrass beds, vessel collisions, and natural causes such as red tide. Although the state has implemented the majority of protective measures to address watercraft-related mortality, the enforcement of "speed zones" is addressed at all levels—federal, state, and local. Service law enforcement officers who either work at refuges or are assigned to special details also enforce the manatee protection zones. Any attempts to minimize effects of boat traffic in the Indian River Lagoon would assist both the recovery of mangrove wetlands and manatee populations.

Fire

Coastal sand pine scrub has evolved as a fire-dependent community over the last 100,000 years. Only in recent history have humans occupied the landscape and altered the natural fire regime by standardizing the practice of fire suppression. Though seemingly noble, these intentions have served to not only alter the natural composition of the community, but have also increased the likelihood of catastrophic wildfire. As the trees age, fallen debris (e.g., needles, leaves, and branches) accumulate on the forest floor. This thick carpet is an extremely combustible fuel that, when dry, ignites quickly and burns rapidly.

Attempts to undertake prescribed burning on this landscape have proven extremely difficult due to the very restrictive weather conditions associated with the refuge's proximity to a federal highway. Mechanical treatment of this sand pine scrub requires evaluation to determine whether it can serve as an adequate substitute for fire unless future prescription will allow closure of the federal highway.

Refuge Boundaries

Today, the refuge exists largely as a compilation of disjunct lots and blocks of land. Much of the property is contiguous, however, the north end of the island and the south end of the mainland appear as a mosaic of public and private lands. Many undeveloped private lots are dispersed throughout the refuge. These in-holdings, some greatly infested with exotic plants, act as seed sources that spread to neighboring natural communities. Consolidating the refuge would provide a contiguous wildlife corridor while preserving the integrity of the natural system. It would enable better and more efficient management activities. These lands have been identified and could be acquired through a variety of means including purchase at fair market value, cooperative agreements, or donations.

Beach Erosion

Since the completion of the St. Lucie Inlet in the late 19th Century, the shoreline south of it has been rapidly eroding. Without our intervention, the northern end of the barrier island could conceivably erode through to the Indian River Lagoon as it did in 1963. Among the more obvious problems associated with this scenario is the loss of one of the most productive sea turtle nesting beaches in Florida.

Beach renourishment and revegetation of the foredune have been used as temporary remedies. After many years of research, studies, and field investigation, and considering the environmental and economic factors involved, the town of Jupiter Island, in consultation with the Service, has concluded that a long-term program of artificial beach renourishment is the only viable means to combat the erosion of its shoreline. Over the years, refinements in beach renourishment techniques have resulted in improved grain size selection, sand borrow site locations, escarpment prevention, and improved placement to avoid and minimize impacts to hard bottom reef communities. Significant evaluation of beach renourishment on sea turtle nesting activities on Jupiter Island has shown thus far that beach renourishment is necessary to provide these turtles with the habitat necessary to sustain their populations, and has little effect on the ability of hatchlings to emerge from the nest. The biological factor that has the greatest effect on reproductive success is depredation by racoons and armadillos (Ecological Associates, Inc.).

Many municipalities and property owners have chosen to construct concrete walls along the dune's edge to protect their communities and homes from erosion. Although these walls (known as beach armourment) protect the properties, they exacerbate beach loss-habitat, which is required by nesting and feeding shorebirds and nesting sea turtles. While renourishment and replanting projects have helped slow the erosion rate, neither provides a long-term solution to the problem. A comprehensive study is needed to investigate possible alternatives that would protect the land and enhance wildlife habitat.

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Administration

When established in 1969, Hobe Sound National Wildlife Refuge was one of only a handful of south Florida refuges. A.R.M. Loxahatchee National Wildlife Refuge was given administration and oversight of Hobe Sound Refuge in the late 1970s. Hobe Sound was considered a "sleepy little refuge" with few issues and relatively little and localized public use. Ten individuals have served as its manager since its inception. However, this heavy turnover in management has contributed to loss of institutional memory, poor record keeping, lack of continuity in programs, and lack of biological and cultural surveys, as well as weak presence within the community where the refuge is located.

Over the past few years, substantial improvements have been made to increase funding and resources. Nevertheless, staffing remains unchanged; budgets still compete with higher priority Everglades Restoration issues; and the growing issues at Hobe Sound Refuge go inadequately addressed.

This is an appropriate time to reconsider the satellite status of the refuge. Over the next 15 years the Service will need to determine whether to continue the current management structure, to cluster it with another refuge that has similar resource issues, or to launch it as a separate refuge. Hobe Sound National Wildlife Refuge, as with many other satellite refuges, is in need of increased funding and staffing to enable it to reach its full wildlife and habitat management potential

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*Scrub trail stairs to Indian River Lagoon
USFWS Photo*