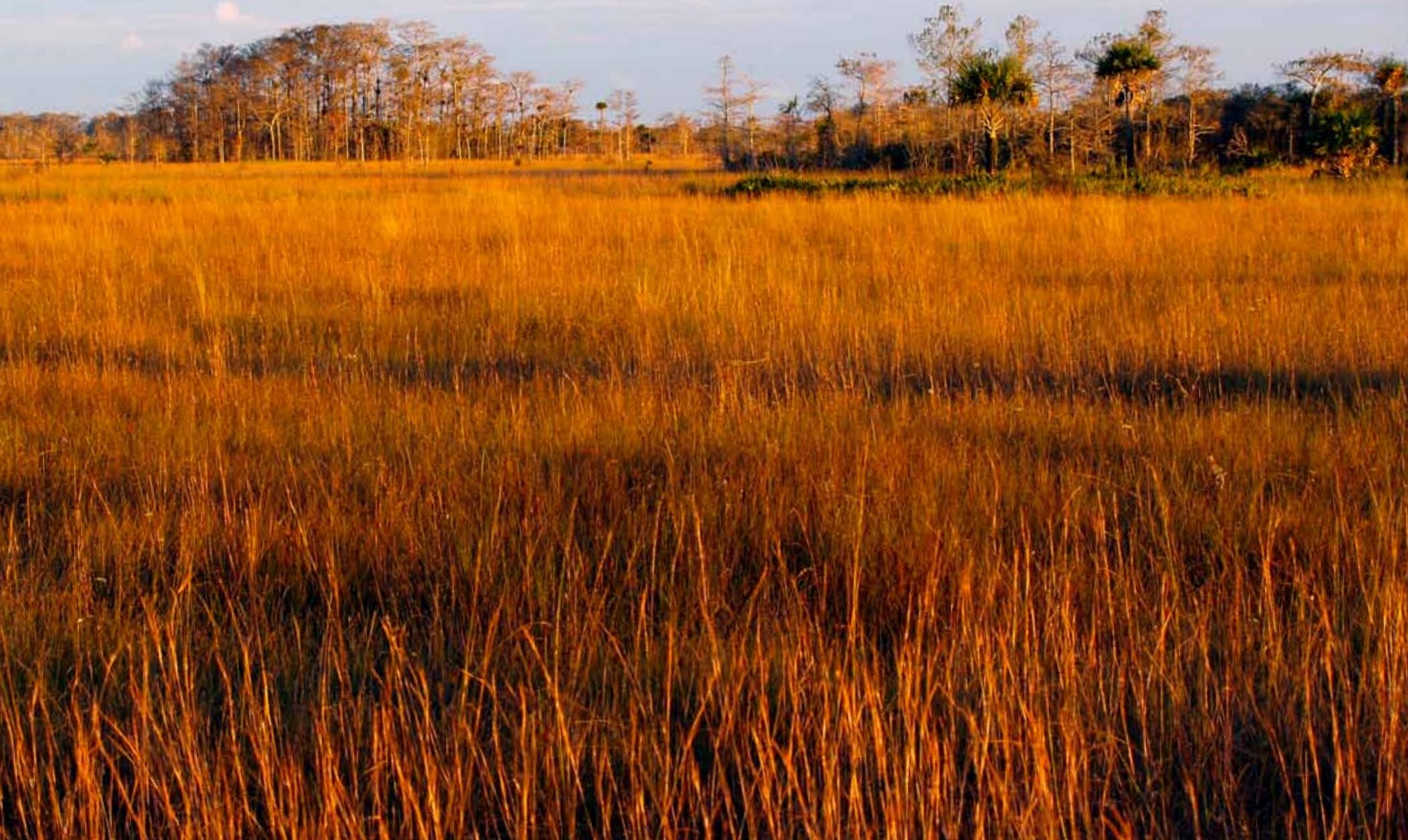




# Big Cypress National Preserve

## *2010 Business Plan*

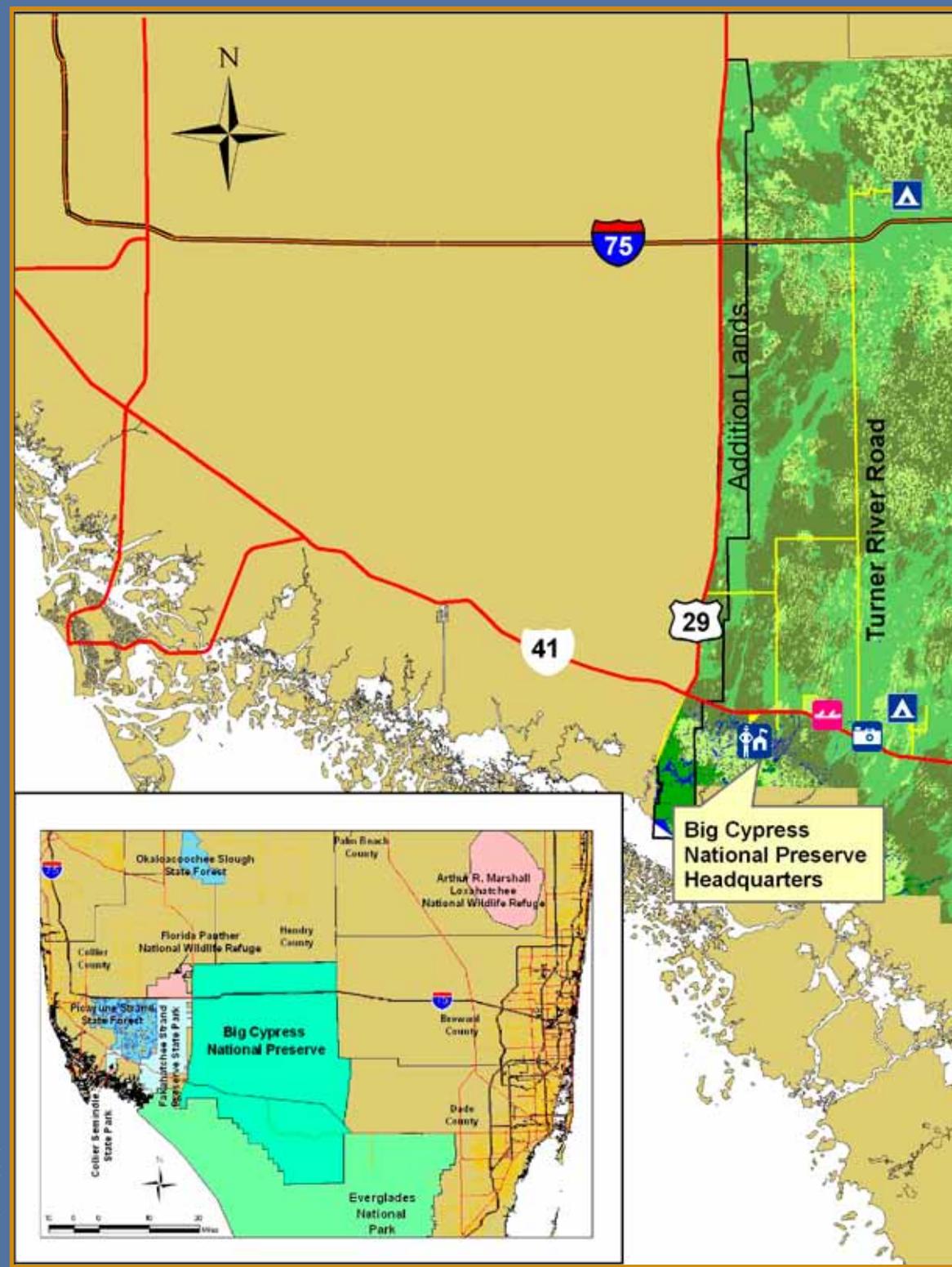


**Produced by**  
**Business Management Group**  
**National Park Service**  
**U.S. Department of the Interior**  
**Washington, D.C.**

**Spring 2011**

**National Park Service Mission**

The National Park Service preserves unimpaired the natural and cultural resources and intrinsic values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.



MAP BY STEVE SCHULZE

# Big Cypress National Preserve 2010 Business Plan



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# Staff Forward

The purpose of business planning in the National Park Service is to help parks improve their operations and to more clearly communicate their operations and financial status to stakeholders. The Big Cypress National Preserve business plan process accomplishes three main tasks. First, it provides a detailed picture of the Preserve's mission and overall operations. Second, it outlines priorities going forward. Finally, it presents a clear and detailed picture of the preserve's operational and project funding, and highlights ways local stakeholders and partners can support the Preserve.

## **A Message from the Staff**

This business plan is the result of our hard work, and we hope that it will be valuable and interesting to you. Here is what you can expect to get from taking the time to read this document.

- You will gain an in-depth understanding of Big Cypress National Preserve. You will learn about our history, our plans,

and our financial situation. You will also learn about the Preserve's organizational structure and the work necessary to run this large and dynamic park unit. If you have ever wanted to know more about Big Cypress or about the National Park Service, we think that you will enjoy reading this document.

- You will find many opportunities to become involved with the Preserve. This plan describes many of the Preserve's challenges and goals. If you appreciate Big Cypress and the unique ecology of South Florida, this plan is a great starting point for finding ways that you can work with us to better protect and restore this incredible resource.
- You will get a chance to share in our passion for the Preserve. We work here because we care deeply about this resource. This document is full of photos we have taken of the Preserve, plans we have made to protect the, and accomplishments we have achieved in working to improve the Preserve and keep it a safe and enjoyable place for recreation and conservation. By creating this document, we hope, in part, that we can communicate some of our appreciation for this place.

Creating this plan has benefited us enormously. It gives us an opportunity to step back and analyze how we work and where we are going. It provides valuable financial and strategic analysis that will help us make important decisions. Thus, in creating this document we have aimed not only to communicate with you, our stakeholders and partners, but also to ensure that our own operations continue to improve, and that the Preserve continues to be a vital resource for us all.

Sincerely,  
*The Big Cypress National Preserve Staff*



*2007 Big Cypress Staff*

# Executive Summary

This business plan describes the financial and operational condition of Big Cypress National Preserve in budget fiscal year (BFY) 2010 and provides insight into the Preserve's direction over the next three years. It is the result of an objective, in-depth look at the Preserve's historical trends, current operations, projected financial outlook, and management priorities.

Big Cypress National Preserve protects a unique natural and cultural resource. The Preserve serves as a conduit for rainwater to the Everglades and the Ten Thousand Islands regions; if this flow was impeded or polluted, the entire south Florida ecological system could be put at risk. Thus, preserving the region's natural hydrology is absolutely central to the Preserve's mission. In addition, Big Cypress serves as a sanctuary for numerous protected plants and wildlife, including the ghost orchid and the Florida panther.

The Preserve has a dual mission: to preserve this resource and to provide for regulated use by the public, including hunters, anglers, off-road vehicle (ORV) users, and private property owners.

## **Organizational Structure**

To carry out its mission, the Preserve is organized into seven inter-dependent divisions: Resource Management, Interpretation, Facilities Management, Fire and Aviation, Visitor and Resource Protection, Administration, and the Superintendent's Office. Each division is responsible for a separate facet of operations, but the divisions routinely collaborate, and many Preserve projects cut across multiple divisions. That the Preserve has a separate Fire and Aviation Division is atypical and reflects two facts. The first is the Preserve's enormous prescribed burning program—the largest in the Park Service—which is necessary to keep the Preserve healthy. The second is the Preserve's dependence on aircraft for fire management, resource management, and visitor and resource protection. Given the size of the Preserve and its primarily roadless terrain, these functions can be best fulfilled with aircraft.



*Liguus tree snails are valued for their colorful shells*

PHOTO BY CHARLES LACKERMACHER



*Sweetbay blooms in Big Cypress*

PHOTO BY JAMES SNYDER

### **Financial Analysis**

The Preserve relies on funds from Congress, grants, partners, fees, and donations to carry out its operations. Three key findings highlight the financial climate of the Preserve:

*Uncertainty in Primary Operations Funding:* The amount of money the Preserve receives from Congress for its primary operations has increased steadily and consistently over the Preserve's lifetime, but the National Park Service's operating budget for 2012 may not be as favorable. The Preserve is planning for a flat operational budget and a possible decrease in funding;

*Increase in Special Projects Funding:* A surge in money allocated by Congress for special one-time projects boosted the Preserve's budget over the past five years. However, this funding is non-recurring, and special projects can create additional ongoing expenses that must be paid from the Preserve's primary operating budget. For example, the project funds the Preserve receives to upgrade its off-road vehicle (ORV) trails are accompanied by an obligation to provide greater oversight of ORV use in Big Cypress; and

*Consistently High Labor Expenses:* Historically, labor expenses have made up a large percentage of the Preserve's primary operating expenses. For some divisions, this percentage is much as 90 percent. As the Preserve's labor costs are relatively inflexible, having a large percentage of its budget consumed by labor limits the amount of money the Preserve has available for discretionary spending.

### **Challenges and Goals**

Working together, the Preserve's divisions have identified five key areas on which they will focus in the coming three years: preservation and restoration, internal operations, volunteers, visitor experience, and ORV management. Current challenges faced by the Preserve include the problem of invasive plants and wildlife, the rising cost of fuel and the pressure this places on the Preserve's ability to conduct aerial operations, and the

complexity of balancing differing stakeholder views on the role of ORVs in the Preserve. In addition, the Preserve must find creative ways to work with a base budget that has declined (adjusted for inflation) over the past five years. This decline has in a sense been masked, because the Preserve is often the recipient of special funds targeted to specific projects such as the new Welcome Center. However, each new project creates an additional need for recurring base funding.

To meet these challenges the Preserve will change many of its practices over the next three years. It will streamline its administrative processes, encourage greater collaboration with outside partners, and encourage divisions to share resources more efficiently. The role of partners in this process will be especially important. While the Preserve already works closely with many stakeholder groups and local agencies, opportunities exist to substantially broaden the community's role in maintaining and managing the Preserve. Going forward, Big Cypress will reach out to local universities, to ORV riders, to environmental groups, to out-of-state volunteers, and to other parks around the country to learn new skills and broaden its resource base.

# Preserve Overview

## The People

For hundreds of years, rainwater has flowed through the flat lands of South Florida, creating a unique ecosystem known as the Big Cypress Swamp within the greater Everglades. This area was first occupied by the Calusa Indians, who built an extensive network of fishing camps. About 150 years ago, the Seminole Indians and precursors to the Miccosukee Indians settled the territory as they moved away from conflicts with European settlers. Then, as Florida continued to be colonized, and the areas around Big Cypress developed, other humans became involved in the life of the swamp. Escaped slaves, land speculators, timber harvesters, hunters, fishermen, guides, farmers, cattlemen, and recreationists all left their mark on Big Cypress.

Over time, humans affected all aspects of the swamp. Settlers logged in the area, built homesteads, cleared areas to farm, and

introduced exotic plants and wildlife. Residents fell in love with the region and laid a network of trails that allowed generations of people to enjoy camping, hunting, fishing, hiking, and off-roading in Big Cypress. Environmentalists became aware of the keystone importance of Big Cypress to the species that lived within its borders, to the people who used it, and to the entire South Florida ecosystem. In 1974, planned construction of a jetport threatened the swamp. In response, Congress intervened and recognized the value of Big Cypress by establishing the Big Cypress National Preserve. Since the Preserve's establishment, its story has been one of cooperation and conflict among these stakeholders as they all work to maintain and manage a commonly treasured place.

## The Place

Big Cypress National Preserve is a region as variable as the people who enjoy it. Though the weather is relatively dry from December



PHOTO BY RALPH ARWOOD

*“There are few places left where a panther can live its entire life without crossing a highway. Big Cypress is one of them. The wetlands of Big Cypress provide food; the uplands provide cover. As privately-owned lands are developed and become unsuitable for panthers to use, the public lands will remain their only refuge. I have been privileged to get a few glimpses into this secretive animal’s life. It is a blessing that the American public wants this large cat to survive, even though most will only see it in their imaginations, walking along a sun-dappled trail in Big Cypress.”*

—Deborah Jansen, *Wildlife Biologist, Resource Management Division*

through May, a rainy season that lasts from June through November transforms the Preserve into a lush, liquid environment. When the rains come, water flows slowly through prairies and marshes, pooling in the center of cypress domes and threading among hardwood hammocks and pine lands. This water arrives at the tidal estuaries that open onto the Ten Thousand Islands and the Everglades National Park on Florida's southwest coast. There, it forms the basis for an entire ecosystem where the young of many marine animals are born and grow.

The mixture of land and water that makes up Big Cypress provides a habitat for a multitude of land animals and birds. The Preserve serves as a protected environment for the endangered Florida panther, which teeters on the brink of extinction. Its trees provide nesting grounds for such threatened birds as the red-cockaded woodpecker and bald eagle, while the endangered Cape Sable seaside sparrow maintains a fragile presence in its prairies. The Preserve's abundance of plant life supports white-tailed deer and feral hogs. Black bears take advantage of the Preserve's varied habitats to forage for a wide range of foods, while the endangered snail kite subsists entirely on a diet of apple snails. Herons, egrets, and roseate spoonbills wade at the edge of the Preserve's murky ponds, which provide a perfect home for alligators and other aquatic life during the dry season.

The Preserve is dense with plant life. Despite its name, large cypresses are not generally found here, as most were logged in the mid-1900s. "Big" refers instead to the vast area the preserve covers. Cypress are found throughout the Preserve—sometimes a few small specimens dot a lonely prairie; other times, cypress grow in profusion around a pool of water, forming a distinctive dome shape with a small dimple in its center. Airplants—including bromeliads such as the fuzzy-wuzzy, yellow catopsis, and guzmania—and orchids like the mule ear and the rare ghost grow on the cypress and pond apple trees that populate these domes. Meanwhile, ferns, aquatic plants, and grasses grow on the ground. The density of the vegetation can make the Preserve difficult to penetrate.



PHOTO BY JERRY MEGENTY

### *Why is Big Cypress named a National Preserve and not a National Park?*

*A Preserve is a place that allows a broader range of activities than a park. While the primary mission of Big Cypress is conservation, activities such as oil and gas operations, hunting, ORV use, and cultural use are allowed under tightly regulated conditions. These activities would normally be banned within a National Park. By naming Big Cypress a Preserve, Congress respected the broad range of traditional uses to which the area had been put in the past.*



PHOTO BY RALPH ARWOOD

### **The Preserve**

Still, Big Cypress is very easy to reach. It is transected by an interstate and by other major highways and abuts the popular Everglades National Park to the south. This leads to some questions: How easy should it be to access the Preserve? Who is the Preserve for? What are its conservation needs? Where in the Preserve should limited resources be allotted? When it was established, Congress mandated that limited oil and gas rights, hunting, trapping, fishing, and traditional Indian use be permitted in the Preserve, but also be controlled to protect the resource. It is up to the Preserve—in cooperation with partners such as the Florida Fish and Wildlife Conservation Commission, user groups, and environmentalists—to determine what these controls should be.

In some cases, those decisions have already been made. For example, the Preserve mandates that all oil wells within it must use the best available technology to minimize impact on the swamp. However, new questions constantly arise. In 1988, the Preserve expanded its boundary to encompass 146,000 new acres; now it must decide to what extent and by what means the new lands will be made accessible to the public. Balancing citizens' expectations of access to the Preserve against the potential effects such access will have on the Preserve's natural and cultural resources remains the defining challenge facing Big Cypress' management team.

*In the Preserve still pools reflect the big Florida sky (left). Roseate Spoonbill (opposite right).*

*"...in order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed in the State of Florida and to provide for the enhancement and public enjoyment thereof, the Big Cypress National Preserve is hereby established."*

*—An Act to establish the Big Cypress Preserve in the State of Florida*



*At 729,000 acres, Big Cypress National Preserve is the biggest National Park Service landmass east of the Mississippi River.*

PHOTO BY JAN SHIREY

# Visitation

Big Cypress attracts people from the heart of Florida and around the world. In 2009, the Preserve saw visitation rates surge past 810,000. This number contrasts with the earlier half of the decade when visitation declined due to national and regional disasters, as well as man-made obstructions that hampered public access to the Preserve.

Events like the terrorist attacks of 9/11, Hurricane Wilma, and major road construction on Highway 41 (which crosses the Preserve) reduced visitation rates by nearly 25% between 2000 and 2005, but the chances of a similar string of events recurring are extremely low. Seasonal fluctuations, on the other hand, predictably and dramatically influence Preserve visitation and operations. Between December and March, pristine weather brings throngs of tourists to South Florida, and local residents pursue opportunities to enjoy the outdoors. Fifty percent of visits take place during this time; shoulder periods in November and April account for an additional 18 percent. During the balance of the year, weather is rainy and humid, and biting insects deter all but the heartiest visitors.

The recent increase in overall visitation indicates growth in the Preserve's popularity, but rising fuel prices may lead to decreased willingness and ability of the public to travel to the Preserve. The Preserve's 2007 visitor survey revealed some reasons why people choose to visit Big Cypress and some challenges the Preserve faces in attracting visitors.

## **Why Do People Visit Big Cypress?**

The Preserve offers the public an opportunity to experience unique resources and a portion of natural Florida. Most visitors experience Big Cypress through roadside wildlife viewing areas (65%), scenic drives (64%), and the Oasis Visitor Center (55%). These visitors stay in the Preserve two hours on average. Six campgrounds enable tent campers, hunters, and recreational vehicle users to extend their stays in the backcountry.

The quality of facilities and programs at Big Cypress has improved over time and has had a positive impact on visitors' impression of the Preserve. Most recently, 98% of visitors ranked the overall quality of their experience as very good or good, a vast improvement from a decade ago. Continued strong performance will likely encourage more visitation, since 48% of visitors relied on word-of-mouth for information and recommendations.

## **What are the Challenges to Visitation at Big Cypress?**

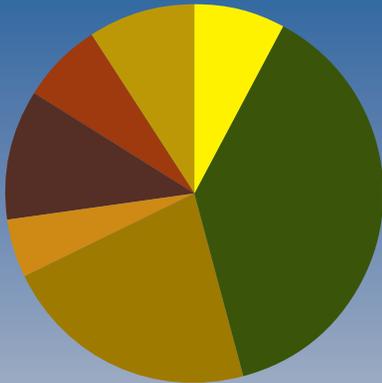
The Preserve sometimes gets lost amid the checkerboard of public lands that characterizes the area. Unlike nearby Everglades National Park, Big Cypress does not enjoy widespread name recognition and popularity. Of all the Preserve's visitors, 78% did not consider Big Cypress their primary destination in South Florida; and only 6% were traveling with an organized group.

The Preserve has only one visitor center and a handful of roadside observation areas, which fail to adequately capture the millions of commuters who traverse the swamp on highways. The only two highways connecting southern Florida's east and west coasts traverse Big Cypress, but visitor services such as Oasis Visitor Center are located on Highway 41 along the Preserve's southern corridor; commuters to the north, or those unwilling to make the drive south, are not well served as a result. In fact, 52% percent of visitors identify commuting on these highways as their primary reason for being in the Preserve, and 39% are not even aware they are in a unit of the National Park system.

Seasonal weather patterns run counter to many visitors' vacation schedules. Many American, Canadian, and European travelers—and families with children in school—use summer as a time for exploring; but summer is the least desirable time to see Big Cypress.

# Preserve Operations

## Big Cypress Average Spending by Division



- Administration, 8%
- Fire and Aviation, 38%
- Facilities Management, 11%
- Interpretation, 5%
- Resource Management, 11%
- Superintendent's Office, 7%
- Visitor and Resource Protection, 9%

While all divisional activities are important to the management of the Preserve, some divisions require a greater share of the budget to perform their roles. The Fire and Aviation Division and the Facility Management Division spend the largest percentage of base funds at approximately 40% and 20%, respectively. These figures are due primarily to the nature of the work performed by

these divisions and the equipment and supplies necessary to do those jobs. Facilities Management, for example, maintains a fleet of vehicles, including trucks, cars, and airboats, that it uses for work throughout the Preserve. The Fire and Aviation Division often confronts major wildland fires, which can require the use of multiple aircraft, vehicles, additional personnel, and supplies.

### Resource Management

This division performs all activities related to the management, preservation, and protection of the Preserve's cultural and natural resources. These include restoration efforts, species-specific management programs, exotic species management, archives and collections management, cultural resource preservation, hydrologic monitoring, and the regulation of oil and gas extraction.

### Interpretation

This division performs all activities directly related to providing visitors an enjoyable, safe, and educational experience while at the Preserve. These include interpretation, visitor center management, interpretive media, and educational activities.

### Facilities Management

This division performs all activities required to manage, maintain, improve, and operate the Preserve's infrastructure. Buildings, roads, trails, utilities, and campgrounds require a range of operational activities from basic sanitation to water testing. New assets such as buildings and trails must also be constructed.

### Fire and Aviation

This division performs all activities required to ensure that the Preserve is burned at a rate approximating the natural fire

cycle. These include setting and managing fires and combating wildfires. In addition, this division oversees all of the Preserve's aviation activities.

### Visitor and Resource Protection

This division performs all activities required to ensure both visitor and resource protection. These include law enforcement, search and rescue, emergency medical service, special use permitting, and fee collection. To carry out these functions, the Preserve collaborates with county, state, and other federal agencies on a routine basis.

### Administration

This division performs Preserve-wide management and support activities, including human resource management and training, information technology and telecommunications, procurement and property management, budget and financial management, and oversight of Preserve-wide performance management.

### Superintendent's Office

The Superintendent's Office performs all activities relating to general planning, priority setting, daily operations management, and community relations.

# Resource Management



PHOTO BY JERRY MEGENITY

*Big Cypress (above). Preserve staff monitor panther kittens to help ensure the future of this rare animal (opposite page).*

Big Cypress contains endangered species, popular hunting grounds, historic structures, important Native American cultural sites, unique plant life, and rich oil and gas deposits. It is the responsibility of the Resource Management Division to balance the preservation of these valuable natural and cultural resources with appropriate access and use. Species such as the Florida panther must be monitored and protected, while others such as white-tailed deer may be hunted under carefully regulated conditions. The Preserve's original hydrology, vegetation, and supporting ecosystem must be preserved, balanced with the traditional practice of Preserve visitors using ORVs. And the oil and gas beneath the Preserve may be properly extracted, but only in ways that minimize the impact on Big Cypress. Resource Management staff members must weigh all these factors and more in determining the proper combination of public access and resource protection.

## Wildlife

The preservation of Big Cypress' wildlife is at the heart of the Preserve's mission. Yet the Resource Management Division also works to provide well-regulated access to the Preserve for visitors wishing to hunt game species there.

The Preserve is home to 10 federally endangered and/or threatened species. Of these, two species in particular are both extremely rare and heavily dependent on the Preserve for habitat: the Florida panther and the red-cockaded woodpecker. Because the Preserve provides such a significant habitat for these two species, the Resource Management Division focuses much of its activities on their preservation.

Monitoring the Florida panther presents a special challenge due to its large territorial range. The division equips some adult panthers with radio transmitters and then monitors their location by conducting flights over the Preserve three times per week. This monitoring allows the division to determine panther numbers, detect when panthers have died, and assess the habitat in which

the panthers live. One discovery revealed by this close observation is that a large number of panthers travel habitually through certain corridors that intersect with the three highways that cut across and border the Preserve. Since this discovery, improvements in the form of wildlife underpasses and fencing along two of these roads have increased the likelihood of the panthers' safe passage. Further improvements along these lines are currently in the planning phase.

The panther's main prey is white-tailed deer. A sample of the deer population is surveyed annually using the Preserve's helicopter to detect trends in the population's health and abundance. The division then partners with the Florida Fish and Wildlife Conservation Commission to use this information to regulate hunting in the Preserve.

The red-cockaded woodpecker nests only in living old-growth pine trees, a habitat that is now almost non-existent in southern Florida outside of the Preserve. The Preserve contains 87 known woodpecker nest clusters and monitors the health of these populations by banding and tracking individual birds and visiting nest clusters by helicopter. The division also collaborates with the Fire and Aviation Division to periodically burn away the underbrush near woodpecker nest clusters. If the brush grows too high there, wildfires can burn out of control and kill the trees on which the woodpeckers depend. Because of the health of the Preserve's woodpecker population, the Preserve is being assessed as a potential donor of woodpeckers to other parks and preserves that are attempting to increase their woodpecker populations.

## Botanical Resources

One of the most pressing threats to the Preserve's natural resources, and especially to its native plant life, is invasion by exotic plant species. These species crowd out native plants and can alter the terrain and biological make-up of the Preserve. Thus, the Resource Management Division's primary effort at



PHOTO BY RALPH ARWOOD

*“I began volunteering at the Preserve five years ago. After the third year of volunteering, I accepted a couple of seasonal positions in resource management. I am now working full-time for the Resource Management Division. I feel very fortunate because I have terrific coworkers, and I think that I have the best job in the Preserve. I’m a nurse by training, and a lot of my medical skills transfer over to wildlife work. I’m responsible for maintaining the medical side of our panther capture season, and really enjoy working with the veterinarians who are on the team. My job also includes locating all of the collared panthers in the Preserve by plane several times a week using telemetry equipment. I inventory red-cockaded woodpecker nest trees to determine if there are nestlings in them, and if the tree stands need prescribed fire to enhance their habitat. And I teach volunteers and staff how to use telemetry equipment. I think this is the best place in Florida to live and work. It has great wildlife and beauty... it’s just a wonderfully diverse habitat.”*

—Annette Johnson, *Wildlife Technician, Resource Management Division*

botanical resource conservation involves locating and destroying invasive plants such as melaleuca and Brazilian pepper. Once invasive plants are destroyed, native plants naturally re-colonize the cleared land.

The majority of the funds used by the division for invasive species eradication come from special grants. While the Preserve is responsible for obtaining these grants and for creating and overseeing a Preserve-wide eradication plan, the actual physical removal of the invasive species is done by contractors who specialize in this work. These contractors are paid by the job, as time and effort required to clear invasive species varies both by the species and by location of the species within the Preserve. The Preserve has made great progress in its eradication efforts: melaleuca, once pervasive, is now under control. However, the eradication process is essentially never-ending—new invasive species continually appear, and old species must be carefully monitored to prevent new outbreaks.

Aside from overseeing removal efforts, the Resource Management Division works in three ways to eliminate invasive species:

- they work with the public to enlist their help in preventing invasive species from entering the Preserve. These efforts include creating educational materials; collaborating with off-roaders, who report new infestations to the division; and working with landholders within and adjacent to the Preserve boundary to eliminate invasive species that might cross over into Preserve land;
- they collaborate with the Preserve’s Facilities Management Division to determine where to place ORV trails to avoid damaging native plant life; and
- they collaborate with the Preserve’s Fire and Aviation Division, since planned burning can eliminate invasive species while promoting the growth of native species that require periodic burning.

### Hydrologic Resources

The flow of water through Big Cypress affects every aspect of the Preserve. The Resource Management Division is responsible for monitoring both the quantity and quality of this water flow.

To accomplish this, the Preserve has partnered with the South Florida Water Management District. The district provides the Preserve with water monitoring stations that record real-time information on water levels throughout the Preserve. The Preserve can then use this information to make decisions regarding when to open and close trails and to determine where hunting limits should be set on game species, since high water levels can reduce the living space for land species such as deer and cause their population to shrink. The district also evaluates the Preserve's water quality periodically using water samples from throughout Big Cypress. The Preserve collects and processes the samples before sending them to the district, and the district informs the Preserve of any water quality problems, such as contamination by pesticides. This process allows the Preserve to take quick and appropriate action to mitigate the contamination.

### Oil and Gas

The rights to the oil and gas deposits beneath Big Cypress are owned by private companies and individuals. These companies have the legal right to access their holdings, subject to regulation by the Preserve. The Resource Management Division reviews new plans to exploit oil and gas holdings in the Preserve and regulates ongoing exploration, drilling, and production efforts. Its mission in doing so is to ensure that all oil and gas operations have the minimum possible impact on the Preserve's natural and cultural resources.

When a company wants to explore for, drill for, or begin extracting oil or gas from the Preserve, it must go through an extensive approval process. The process includes a detailed proposal that complies with state and federal regulations, and proof that the best possible technology available is being utilized to minimize impacts

on the Preserve's resources. Lastly, a thorough environmental assessment is required to ensure that the proposed or amended operations will have no significant impact on the Preserve's natural and cultural resources. Once this process is completed and approved, the company may begin its operations.

The Preserve ensures continued operator compliance through quarterly inspections and surprise spot inspections. Any deviations by the operator from the approved plan found during these inspections must be corrected.

### Cultural Resources

Big Cypress contains over 400 archeological sites and has in its collections over one million artifacts stemming from its time as a site of Native American encampments and its role in the settlement of Florida. The Preserve is also a living cultural resource that is still used by the Seminole and Miccosukee.

Resource Management works to safeguard the Preserve's cultural resources. The staff accomplishes this work in three ways:

- they liaise with the Seminole and Miccosukee, National Park Service archeologists, and the State Historic Preservation Officer to make certain that activities occurring within the Preserve result do not impact any cultural resource;
- they work to record the condition of all known archeological sites within the Preserve to monitor and prevent degradation of these sites; and
- they cooperate with the Southeast Archeological Center and the South Florida Collections Management Center to catalogue all artifacts found in the Preserve.



PHOTO BY RALPH ARWOOD

*Oil facilities at Raccoon Point.*



*American Alligators in Big Cypress  
National Preserve. PHOTO BY JAN SHIREY*

# Interpretation

The Interpretation Division creates opportunities for visitors to learn about Big Cypress' cultural and natural history and to experience the Preserve's unique resources. Division staff members are called interpretive rangers, and they wear many hats. Interpretive rangers explain the Preserve's cultural and natural resources to visitors and the public. The job requires interpretive rangers to serve as teachers and ambassadors. They create a presence within Big Cypress and provide a voice for the Preserve to external audiences. Through a variety of services, interpretive rangers cultivate the public's appreciation for the Preserve. They also help maintain Big Cypress' mission: enabling access to the Preserve while informing the public of its importance and fragility to ensure its sustained protection.

The division's influence on visitor experience and impact in surrounding communities has grown considerably in recent years. Prior to 2004, Interpretation was a branch of the Preserve managed by the Visitor and Resource Protection Division. This arrangement tended to align interpretive staff roles more closely with visitor safety than with education and outreach. Since becoming autonomous, the division has taken a more proactive and focused approach to planning and implementing a menu of diverse services, as well as to building partnerships.

The division's staff tailors its approach to meet the needs of a wide variety of audiences. These vary from backcountry campers to internet surfers, from families with young children to elderly vacationers. Generally, interpretive rangers focus on reaching these demographics in three ways: connecting with visitors personally in the Preserve, liaising with members of surrounding communities, and communicating through a variety of media, such as printed material, exhibits, and the internet.

The division also coordinates the volunteer and grant writing programs for use internally by other divisions at the Preserve. The Volunteer in Park (VIP) program is managed by division staff,

*The Kirby Storter boardwalk takes visitors into the swamp.*

PHOTO BY PAUL MURPHY





*“Every day is an opportunity to do our part of preserving the resources here and educating people. On more than one occasion, I’ve guided tours where visitors are really apprehensive about going into the swamp. I orient them to what we’re going to do, what they can expect once we get there. I try to make them comfortable about what’s coming, but sometimes they still hold onto my arm when we get there. It’s fun to see that by the end of the program, when we’re wrapping up and getting ready to head back, these are the people who don’t want to leave. They’re touching the plants and examining the trees. Their faces are two inches from the water. It’s neat to be along for the ride when people make those connections.”*

*—Jill Wilson, Park Ranger, Interpretation Division*



*Visitors on a swamp walk through Big Cypress.*

PHOTO BY CHARLES LACKERMACHER

but benefits of the service are visible and tangible throughout Big Cypress. Similarly, division staff seeks and drafts grants to support programs and activities in all divisions.

### **Educational Services**

Interpretive rangers establish personal connections with visitors via curriculum-based educational programming, formal activities, and informal encounters.

Big Cypress' flagship educational initiative is the "Swamp Water and Me Program" (S.W.A.M.P.), which is the product of a joint effort between division staff and the Collier County Public School District. Conceived as a way to engender the value of environmental stewardship and to expand awareness of Big Cypress, the goal of the program is to include every 6<sup>th</sup> grader within the district, as well as a handful of students in regional private and special-needs schools; more than 3,000 students participate annually. During fall and winter, staff members responsible for educational programs alternate between leading programs in the swamp and visiting schools to orient students and teachers to the S.W.A.M.P. curriculum. Following orientation, each class integrates information about the Preserve's ecosystem and history into its regular instruction. Studies culminate with a day trip to the Preserve, where interpretive rangers guide an exploration of cypress domes, pinelands, and prairies, and

students conduct science experiments, practice observational skills, and simulate panther tracking.

General visitors interested in experiencing Big Cypress firsthand can take advantage of educational activities or exhibits at the Preserve's Oasis Visitor Center. Here, division staff responsible for visitor operations schedule regular swamp walks, backcountry hiking and biking tours, and canoe trips. To maximize educational impact, division staff members personally guide these activities and arrange for supplies such as canoes.

During the peak winter season, these activities occur frequently throughout the week, a schedule that stretches the division's ability to cover all events. To fill gaps, the division relies heavily on trained volunteers. Because volunteers play such a critical role, the division works diligently to ensure that they are trained and supported. Staff monitors volunteers' progress, makes sure that volunteers are well-versed in knowledge of the swamp, and ensures that they represent Big Cypress appropriately to visitors.

The Oasis Visitor Center functions primarily as a hub for information and exhibits, but drivers commuting across the state on Highway 41 also use the center as a rest stop. Division staff keeps the center open every day except Christmas, and at least one interpretive ranger is always available to answer questions or direct

visitors to Oasis' exhibits and the Preserve's main attractions. Within Oasis, visitors can see a host of exhibits, including animal specimens, maps, photographs, and a short film.

When unoccupied with other primary duties, interpretive rangers make themselves available to visitors throughout Big Cypress, especially at popular destinations like the Kirby Storter Boardwalk and the HP Williams and Oasis Wildlife Viewing Platforms. These informal conversations allow rangers to provide meaningful information to visitors in an impromptu setting. Overall, feedback on educational programming and activities has proved resoundingly positive—a testament to the division's successful efforts to simultaneously expand and improve.

### **Community Relations**

Division staff partner with a number of public organizations and civic groups in an effort to strengthen relationships with stakeholders in local communities. Recent events included a Labor Day Swamp Walk and a field trip with the South Florida Community Partners for inner-city families. Artist Clyde Butcher hosted the swamp walk on his property, located within Big Cypress, and donations from the event benefited the Interpretation Division. The field trip brought families from surrounding communities to the Preserve free of charge for a day in nature. Friends of the Big Cypress Swamp and surrounding parks such as Everglades National Park contributed financial and human resources to broaden the base of participants at these and other events.

Interpretive rangers further engage the community through outreach programs. The division sets up booths at events like The Southwest Florida Birding & Wildlife Festival, hosted by the Rookery Bay National Estuarine Research Reserve. Division staff also guides a bike tour through Big Cypress as part of the Panther Week festivities organized by the Florida Panther National Wildlife Refuge. Most recently, the division partnered with the Florida Fish and Wildlife Conservation Commission to launch a seminar series that teaches neighbors of the Preserve how to live

harmoniously with wildlife. The program responds to the potential threat that loss of habitat and growing development pose to native wildlife within the region. Interpretive rangers conduct seminars with residents to discuss best practices for avoiding incidents and to help ensure the safety of people and wildlife. Altogether, Big Cypress hosts or participates in 80 to 90 outreach programs per year, reaching more than 3,000 people.

### **Interpretative Media**

When interpretive rangers cannot reach visitors directly, they rely on a variety of interpretive media to disseminate information. The division offers publications and audio/visual services and produces exhibits so every visitor may connect meaningfully with Big Cypress.

Division staff publishes and distributes printed materials such as brochures, maps, and pamphlets, and maintain wayside exhibits at campgrounds and popular entrance points throughout Big Cypress. The vastness of the terrain and the number of facilities makes stocking materials time-consuming, and vandalism or deterioration of interpretive media at remote sites requires time and funds to repair. However, these accurate, attractive publications allow the division to communicate its messages to visitors, even when it is impossible for interpretive rangers to be present.

Finally, the division is developing new media to give visitors an interactive Big Cypress experience without requiring them to venture into the Preserve. Web-based content in particular has potential to spread information about Big Cypress worldwide without disturbing the Preserve's natural resources. Development of online educational tools and portals so visitors can investigate various aspects of the Preserve also augments existing programs and reduces workloads on staff.

### **Coordinating Internal Programs**

Division staff dedicate significant resources toward managing the Preserve's VIP and grant-writing programs. Volunteers impact nearly every facet of the Preserve's operation. The VIP manager

## *Big Cypress' New Welcome Center*

*"The new Welcome Center is going to provide visitors a one-stop opportunity to get information about recreation in the public lands of the Big Cypress Swamp. It's going to increase visitor understanding and opportunities to explore the wilderness of southwest Florida. The goal of the Welcome Center is to create understanding and appreciation of the land, the management challenges, and the recreational opportunities available. The center will have exhibits that are both static and interactive, including a film. Staff will also be available, so there is a mix of non-personal and personal visitor services. The South Florida National Parks Trust is going to contribute half of the funds necessary for the fabrication and installation of these exhibits. Another group, Friends of Big Cypress, is contributing money to pay for the solar panel array and environmentally friendly LED lighting in the building. We're making every effort to use recycled material and alternative energy to minimize the facility's overall environmental impact locally and globally. Ultimately, the new Welcome Center will capture travelers heading west to east and help them get more information about Big Cypress as soon as they enter the Preserve."*

*—Bob DeGross, Chief, Interpretation Division*



PHOTO BY CHARLES LACKERMACHER

coordinates with all Preserve divisions to identify needs and opportunities for volunteers. Combined, the Preserve receives the equivalent benefits of 10 to 12 full-time employees from roughly 50 VIPs. But rising fuel prices are a concern: commuting to and from the Preserve will become more expensive and less attractive for volunteers, especially those who live locally and must make a long round trip each visit.

Money from grants helps fund programs and activities across all Preserve divisions, but a member of the interpretive staff takes the lead in finding and applying for funds. The position arose out of necessity: the Preserve may have been missing opportunities to capture additional grant funding due to lack of time or knowledge among existing staff. The grant specialist position ameliorates this problem by compiling a list of projects across divisions and searching for matching fund sources. If appropriate grants are available, the staff member drafts a proposal and monitors progress of the grant process.

# Facilities Management

The Facilities Management Division is responsible for both the day-to-day activities required to keep the Preserve's assets safe for visitors and staff, and the maintenance activities that prolong the overall life of the current Preserve infrastructure. Every time a visitor follows a trail deep into the Preserve or stops to use the Visitors' Center, he or she is taking advantage of the infrastructure the division maintains. The same goes for a Preserve staff member who uses an ORV trail to identify invasive plants, or for a staff pilot who parks his helicopter in a Preserve hangar.

In addition to all the normal challenges in managing a large and complex infrastructure, the Facilities Management Division at Big Cypress faces some special challenges. Chief among them are the Preserve's massive size and difficult terrain. Also important, however, are the people still living within the Preserve who in some cases require the provision of water utilities. Finally, because of its remote location and the lack of affordable housing in the surrounding area, Big Cypress has chosen to maintain its own living quarters for some Preserve employees. While this decision has increased the Preserve's ability to attract high-quality workers, it has also added to the workload of the division.

## Buildings and Structures

Buildings and structures within the Preserve include office buildings, boardwalks, restrooms, camps, and amphitheatres, as well as the Oasis Visitor Center. In addition, Preserve grounds are considered structures and must be regularly landscaped; grounds include campgrounds, waysides, and the Preserve's housing area. The maintenance of all these facilities is vital not only because they are essential to internal operations and visitor access, but also because any lapse in maintenance can lead to serious health and safety concerns for both the public and staff. All facilities in use by the public or staff are checked and cleaned daily. Division staff also performs routine maintenance, such as painting and minor repairs. This ensures that facilities do not deteriorate to the point that costly repairs are required. Because many facilities are used by the public every day of the year, staff members of the Facilities

Management Division must be available on weekends and holidays, in addition to traditional workweek hours.

## Roads and Trails

Big Cypress is traversed or bounded by three major highways, as well as a network of paved, gravel, and dirt roads. Many of these roads, including the highways, are under state and county jurisdiction. However, the Preserve maintains secondary roads that lead away from the highways and deep into the swamp, where visitors can find campsites, experience wildlife, and gain a deeper sense of Big Cypress. Without the road system maintained by the Preserve, visitor access would be severely limited.

The division inspects each Preserve road at least once per year for potholes, ruts, washboarding and other wear. Repairs are made promptly upon discovery of wear. These efforts are often costly, due to the expense of bringing equipment and materials into remote regions of the Preserve.

In the case of Big Cypress, "trails" most often refers to ORV trails. For the most part, these trails already exist within the Preserve, carved out by decades of use, and are maintained by regular ORV traffic. In the past, ORV were allowed to use any of these trails. Recently, however, the Preserve has begun to designate "official" trails within the Preserve that will be the only trails used by ORVs in the future. By limiting ORVs to these designated trails, the Preserve will be able to maintain off-road access while ensuring that the Preserve's natural and cultural resources are protected. The designation process consists of mapping and marking the trails and is done in consultation with the Resource Management Division and the Superintendent's Office. The question of off-road access to the Preserve is controversial, sometimes pitting off-roaders against environmental groups that are concerned about the impact of off-road use on the Preserve's vegetation and wildlife. The Preserve ensures that it meets regularly with both constituencies to communicate its plans and to hear their concerns.



PHOTO BY CHARLES LACKERMACHER

*The Preserve contains beautiful canoe trails, captured by this photo from the 1970s (opposite page). ORVs provide a way for both visitors and staff to explore the interior of the Preserve (above).*

### **Heavy Equipment**

The Facilities Management Division is responsible for the extensive fleet of heavy machinery operated by the Preserve—both using the equipment and maintaining and repairing it. This equipment is often used in collaboration with other divisions; for example, Facilities Management works with Resource Management to use heavy equipment to clear out patches of invasive plants. Other uses for heavy equipment in the Preserve include earthmoving and excavating, grading roads, paving, and construction. The equipment is also used to produce raw materials from previously disturbed sites such as gravel and soil that can then be used in construction and landscaping projects. By producing such raw materials on its own, the Preserve generates substantial cost savings.

Because of the Preserve’s size, the division spends a significant amount of time hauling equipment from one work site to another. This size and remoteness has also resulted in the Preserve building up the largest fleet of heavy equipment among the area’s parks. For this reason, the Preserve often lends its equipment and expertise to neighboring parks, such as the Florida Panther National Wildlife Refuge and Everglades National Park.

### **Utilities**

The Facilities Management Division provides water services to nine Preserve buildings, two commercial operations within the Preserve, and several inholders. The Preserve is obligated to provide these services and must comply with federal and state regulations for drinking water safety and wastewater disposal. To provide water service, the division maintains a water processing plant and pumping system and regularly conducts tests of its drinking water. The Preserve must also ensure that staff hold the proper certifications to conduct water testing.

### **Housing**

The Preserve provides housing only to certain categories of employees.

Some employees must be housed in the Preserve because their jobs require rapid response time to emergencies. These employees—made up of rangers and firefighters—work in jobs called “Required Occupancy Positions.”

Because the Preserve is remote, and the housing market in surrounding communities is expensive, the Preserve has chosen to offer housing for seasonal and temporary workers, volunteers, and interns. Without Preserve housing, many of these employees would be unable to work in the Preserve because they could not find appropriate short-term housing within a reasonable distance.

The Facilities Management Division is responsible both for maintaining the physical state of all Preserve housing and for managing that housing—assigning housing to various employees, collecting rent, responding to renter complaints, ensuring housing safety, etc.

### **Data Management**

It is vital that the Facilities Management Division maintain an accurate record of two data sets:

- the assets that make up the Preserve’s physical infrastructure, including the condition of each asset and the cost of replacing it; and
- the projects initiated by the division to repair current assets or construct new ones.

By tracking these data, the division can accomplish several different goals. First, this information allows the division to plan strategically for the future, instead of only reacting to repair needs as they arise. Maintaining an accurate record also provides the division with a complete picture of its diverse assets and lets the Preserve track which assets may need additional repairs, as well as the cost of providing those repairs. Finally, the data collected allow the division to prioritize its work according to how vital each asset is to the Preserve’s mission. For example, a road that is used every day by visitors and staff can be assigned a higher priority than a road that is almost never used.



NPS PHOTO



NPS PHOTO



PHOTO BY JERRY MEGENITY

Monument Lake campground as acquired by the Preserve (top). Monument Lake campground after being improved by the Facilities Management staff (bottom). Great Blue Heron in Big Cypress National Preserve (top right).

*“My work consists of everything to do with earthmoving and excavating: grading roads, wetland restoration, exotic plant removal, installing culverts and underground utilities, and site improvements....I grew up in a small farm community in the Midwest operating large farm equipment as a youngster. When I started with the National Park Service in 1980, I began operating light construction equipment and over time, have learned to operate larger industrial heavy equipment. I enjoy the diversity of activities I perform in the Preserve, and the opportunity I have to work with other divisions. We work together to protect the natural resource for future generations, and to enhance the facilities to provide a better experience to visitors. Recently, the Preserve had a 65,000-acre wildland fire, and I worked with the firefighters cutting fire lines with a bulldozer. To me, it’s a privilege to come to work in the Preserve each day.”*

—Peter Roth, *Engineering Equipment Operator, Facilities Management Division*

## Fire and Aviation

Fire plays an integral role in the health of Big Cypress' ecosystem, but it also can threaten private property and the safety of humans and wildlife. The Fire and Aviation Division maintains balance between the Preserve's natural ecologic cycles and the welfare of its inhabitants by starting prescribed fires, fighting wildland fires, and facilitating Preserve activities that require flight, such as panther monitoring and visitor and resource protection activities.

Throughout the year, firefighters start prescribed fires to eradicate invasive species, reduce fuel load (brush, grasses, and vegetation build-up), and simulate natural burn conditions. These planned ignitions promote healthy vegetation and restore Big Cypress' fire-dependent ecosystem. Firefighters also battle large wildland fires, which may require the assistance of other firefighting units around the country. The division's aviation staff pilot and maintain two aircraft that transport both fire crews and staff from other divisions to remote locations or across vast expanses of the Preserve.

Though the Fire and Aviation Division works closely with other divisions in Big Cypress, it is funded primarily through the National Park Service Fire Management Program Center (FMPC) based in Boise, Idaho. Under this arrangement, money from FMPC (called FIREPRO) flows through the Southeast Regional Office to the Preserve, where it directly funds the fire activities that benefit Big Cypress. The Preserve reciprocates by providing a full range of administrative support. The bulk of interaction occurs, however, between the Fire and Aviation and Resource Management divisions, which work in concert to formulate burn plans and implement programs ranging from land surveying to wildlife monitoring.

Three primary activities constitute the bulk of the Fire and Aviation Division's work: flying aircraft, lighting prescribed fires, and suppressing wildland fires. Flight operations facilitate these activities and are used by staff throughout Big Cypress for a variety of purposes.

### **Aviation**

In a space as expansive as Big Cypress, the ability to fly is critical to the success of the Fire, Visitor and Resource Protection and Resource Management divisions. Preserve staff depend on an airplane and a helicopter to meet two distinct needs: long range reconnaissance and flexible transportation to locations that are remote or difficult to access. Resource Management staff monitor animals such as the panther and white-tailed deer, whose habitats cover many square miles. Resource Management staff in charge of the panther program fly three flights per week as they log data on the species. The airplane enables staff to take longer flights at a lower cost than would be possible with the helicopter and with greater efficiency than a swamp buggy. The Visitor and Resource Protection Division utilizes the airplane to patrol for illegal ORV travel, trespass camps, hunting violations, and marijuana plots.

Firefighters, Resource and Visitor Protection and Resource Management staff also need close range maneuverability and ground access. The helicopter's unique operating capabilities allow it to hover while staff observe habitats from the air or to deploy and extract staff quickly at sites closed to vehicle access. The helicopter enables firefighters to follow the contours of a fire for mapping purposes or to pinpoint ignition sites for controlled burns. Law enforcement rangers use the helicopter for search and rescue missions. And Resource Management staff studying species such as the red-cockaded woodpecker fly the helicopter to nesting sites in a fraction of the time it would take to reach them by foot or buggy. This allows Preserve staff to maximize time spent in the field and eliminates the pitfalls associated with traversing the Preserve by land, such as vehicle breakdowns.

As important as flight operations are, rising prices for fuel and parts, as well as a shortage of regional vendors, make them enormously expensive. These cost increases forced aviation staff to renegotiate its contracts, which cut flight availability dramatically and caused repercussions throughout the Preserve. Visitor and Resource Protection reduced its number of air patrols. Resource



*The Preserve's ecosystem depends on fire.*

*“Fire fighting demands making correct decisions in a complex, high-risk environment. Hard work and teamwork is expected, at times in an atmosphere of towering clouds of thick smoke, boiling, rolling flame, heat, dirt, ash, and sweat. The key is being able to adapt to changes in fire behavior. I look forward to the challenge that this type of flying demands. It also has been rewarding to transport personnel into the field for project work. The helicopter flight is the ticket to a front row seat to participate with those who engage in scientific work. I’ve had the opportunity to observe and learn. It is intellectually stimulating, an adventure and a discovery process. I am part of a team of law enforcement rangers, interpreters, maintenance staff, and administrators. I have worked with them and admire their professional skills. We all play a role in accomplishing the National Park Service mission. I would like to think that I have the best job of them all.”*

—Bill Evans, Helicopter Pilot/COR, *Fire and Aviation Division*



*Helicopter bringing water to combat a wildfire.*

PHOTO BY RALPH ARWOOD

Management reallocated funds to pay for its annual deer survey. Firefighters lost exclusive use of their helicopter for much of the year. Operationally, this delays response times and increases costs for activities such as responding to fires, which may arise during non-contracted periods.

But the constraints also spurred efficiency improvements, and both Fire and Aviation and Resource Management now cross-train to fulfill dual roles without incurring additional flight costs. Fire and Aviation staff train their counterparts in Resource Management to spot and report fires. Likewise, firefighters learn techniques for recording wildlife features, such as woodpecker nesting sites.

### **Prescribed Burning**

Firefighters burn a certain number of acres each year to reduce the amount of fuel available to ignite wildfires and to maintain the natural ecosystem. Prescribed burning has the effect of simulating natural conditions necessary for plant reproduction while thinning invasive species. The process is called prescribed burning because it requires diagnosis of conditions and a plan of action. All told, the division burns roughly 10% of the Preserve's 729,000 acres annually—more than any other National Park Service unit. Fire and Aviation staff, along with the Resource Management team, create burn plans to map out the location and timing of these fires. The joint effort is designed to generate burn scenarios that avoid disturbing critical animal habitats, target certain species, and maneuver around private property. The Fire and Aviation Division uses geographic information systems (GIS) to map camps and structures, but the map information is verified by firefighters, who check each location personally. This process consumes time but reduces the chance for serious error.

The presence of so many obstacles like camps and habitats, coupled with the Preserve's location (which encompasses two major highways), requires firefighters to approach prescribed burning from the ground and the air. When possible, firefighters ignite large land areas via aerial ignition using natural barriers and roads to contain the fire perimeter. To prevent the fire from sweeping into unintended areas, fire crews on the ground secure holding lines using hand ignition techniques. A three-person crew can burn several thousand acres of land in only a few hours using the helicopter, but only if the area is first staged by ground crews and weather conditions indicate low likelihood of smoke posing a hazard to drivers. Due to such tight constraints, the firefighters try to seize opportunities whenever possible.

### **Wildfire Suppression**

Wildfires burn on average an additional 10,000 acres of the Preserve each year, but unpredictable conditions can result in much larger outbreaks, despite the division's best efforts to



PHOTO BY RALPH ARWOOD

*“This isn’t a glamorous job, but everyone enjoys what they do, being outside, traveling, and fighting fires. It’s definitely a job where you use everything you’re taught and trained in, and there are so many different things you can do, whether it’s planning or going in with an engine crew. Most important, no matter what you do, it’s a challenge. The challenge is motivating. You’re dealing with a natural occurrence that puts values at risk, whether those are people’s homes or roads or aesthetics. And you’re constantly dealing with different conditions that require different responses.*”

—Mike O’Leary, Forestry Technician, Fire and Aviation Division

*I remember my first large fire at Big Cypress was the ‘Six Pack’ fire in 2006. Everyone did a great job getting up to the heart of the Preserve to make lines, but at the end of the day, the fire was still a lot bigger than it started. We worked all night on its west side, and the helicopter pilot, Bill Evans, had made three or four water drops. But then we got a report that the fire had broken over the road on the east side. Fire is reactionary, never a given, and at that point, the decision was made to call for support. We worked for two straight days and got it under control.”*

minimize fuels and regulate fire conditions. In 2007, for instance, wildland fires burned over 65,000 acres.

Wildfires can spring at any time, but are particularly likely during the transition from dry to wet seasons, when fuels readily ignite on contact with lightning; therefore, firefighters and pilots must remain on call. If a fire is detected, the division can respond in three ways: allow the fire to safely burn under monitoring, deploy firefighters to contain the fire, or fight the fire aggressively by combining air and land tactics. Frequently, firefighters employ a

containment strategy that allows a wildland fire to be monitored within a secured perimeter defined by hand-lit lines and solid barriers, such as canals, roads, trails, and fire-resistant vegetation.

To assess the situation, fire crews survey conditions by helicopter and buggy. In these situations, firefighters navigate Big Cypress' ORV trails through the backcountry. If the division determines that the fire needs containment or aggressive action, these trails become lifelines: not only do they serve as conduits through the otherwise unnavigable brush, but they also work as natural firebreaks that help stall the flames. During wildfire response, an aerial ignition prescribed burning may also be done to safely and efficiently control fires where access is difficult or prohibited due to resource concerns.

In most instances, firefighters based in Big Cypress can contain a blaze, but if a fire becomes unmanageable or unsafe, the division can request assistance from neighboring federal land management partners like Everglades National Park and Florida Panther National Wildlife Refuge. The most serious incidents are termed Type 1 complexities. Though rare, two such complex fires have occurred at Big Cypress in the past two years. When this happens, activity swarms, and the division swells. The National Interagency Coordination Center (NICC) can allocate nationally available funds, personnel, and equipment to the site. In these situations, a National Incident Management team responds to the location of the fire, and NICC typically draws at least \$1 million from a national fund to support operations with hundreds of firefighters and equipment, including engines and aircraft. Likewise, the number of firefighters on the Preserve ebbs if they are called to another location.



*Sunset in the Preserve.*

PHOTO BY RALPH ARWOOD

# Visitor and Resource Protection

Big Cypress National Preserve's Visitor and Resource Protection Division provides for the safety and protection of the Preserve's visitors and of its natural and cultural resources. The division also fulfills an important role by issuing and managing the Preserve's special use permits, which is especially relevant in Big Cypress due to the use of the Preserve by ORVs, which must be licensed. Finally, the division also oversees the collection of fees from users of the Preserve's campgrounds and RV platforms.

## Visitor and Resource Protection

The huge size of the Preserve, its difficult terrain, unpredictable weather, and wide variety of visitor uses can make protecting both visitors and resources a challenge.

From a law-enforcement standpoint, the Preserve can be thought of as consisting of a small front-country—the Preserve's various public amenities, such as the boardwalks and the Oasis Visitor Center—and a much larger and more remote backcountry. Because visitors concentrate in the front-country, the majority of the Preserve's visitor and resource protection incidents occur there. For this reason, routine patrols of the front-country by law-enforcement rangers are required.

At the same time, the Preserve's vast backcountry must be monitored. Visitors can become lost or injured there while driving the extensive trail network, and some ORV users do occasionally go off of the backcountry's designated trails and can harm Preserve plant life and damage the soil. To cover the rugged terrain, rangers patrol in cars, swamp buggies, kayaks, johnboats, helicopters, airboats, and ATVs/UTVs.

The Preserve's size and diversity has led to a wide variety of law-enforcement challenges. In the front-country, rangers often deal with vehicle collisions, theft, alligator poaching, harassment of wildlife, and disorderly conduct. In the backcountry, they confront poaching, weapons, hunting, and ORV violations. To meet these challenges, rangers collaborate extensively with county and state



PHOTO BY RALPH ARWOOD

*Rangers help protect the Preserve's natural resources, such as the rare ghost orchid.*

police, who have jurisdiction over the highways and some of the roads passing through the Preserve, and with agents of the Florida Fish and Wildlife Conservation Commission, with whom the Preserve collaborates to manage hunting and other access issues. These collaborations are especially important given the fact that many inholders still own private land within the Preserve, land over which state and county authorities have jurisdiction but the Preserve does not.

When it comes to resource protection, the Preserve has chosen to take a collaborative approach with its users. The Preserve has established an ORV Advisory Committee consisting of ORV users, environmentalists, academics, and other community members



*Whitetailed deer are a popular hunting species within the Preserve.*

to help them in their efforts to guide ORV use in the Preserve. Preserve staff also meet regularly with ORV and hiking groups, and hold town meetings where they can receive feedback from community members.

#### **Search and Rescue and Emergency Medical Services**

Rangers are often the first responders to medical emergencies suffered by visitors. They also assist visitors whose vehicles break down or who require directions. In extreme situations, rangers conduct search and rescue operations for visitors who become lost or injured in the backcountry. On average, the division will conduct eight search and rescue missions each year, and will respond to 31 emergency medical cases.

When visitors become lost or injured in the backcountry, the division uses Preserve aircraft to retrieve them. Aircraft are necessary because of the Preserve's size, rugged and dense terrain, and dispersed trail system. When time is of the essence, these factors often preclude a lengthy journey into the backcountry by land, and if the lost/injured party's location is not known, an aerial view is most effective in locating them. Because of the extensive manpower and aircraft usage required by these emergencies, they are extremely resource intensive for the division. Emergencies occurring after-

hours can be especially challenging, because the division does not have the staff to routinely cover the Preserve at night, and so on these occasions must call rangers in from their homes.

#### **Permitting**

The Preserve issues special use permits for visitors wishing to film, hold events, or use ORVs in the Preserve. Of these, ORV permits are by far the most frequently requested. The division issues these permits at the Oasis Visitor Center. Applicants must watch a brief instructional video, and their vehicle must be inspected by division staff. Both vehicles and users are issued permits. Vehicle permits are free and unlimited, while user permits cost \$50, and up to 2,000 are issued each year. If more than 2,000 permits are requested within a year, the Preserve will use a lottery system to determine which applicants receive permits. As with its visitor and resource protection duties, the Preserve takes a cooperative approach to licensing ORVs. It seeks to provide fast and respectful service to all applicants, and it regularly meets with ORV users to ensure that the application process serves them effectively.

#### **Fee Collection**

In addition to six free campgrounds, the Preserve contains four campgrounds for which it collects a small fee. Users pay for camping on the honor system, depositing fees in iron lockboxes and taking tickets to display on their vehicle windshields. Rangers collect these fees and audit vehicles at the campgrounds to ensure that they display tickets. During the Preserve's busy season in the winter, these rangers may also be assisted by volunteers who monitor the campsites. The fees collected serve to help improve the campgrounds for future visitors.

Despite the routine nature of this task, it can prove resource intensive, since the campgrounds are spread out over the Preserve. In addition, the federal government has stringent regulations for employees who handle cash fees, requiring extensive auditing systems and a security check that can take over a year to complete.

# Administration

As this plan demonstrates, the Preserve's various divisions undertake a huge range of activities—everything from tracking panthers to fighting fires to building boardwalks so visitors can enjoy views of the swamp. Supporting all these core activities is the Administration Division. Like any large organization, Big Cypress's foundation rests on solid business management. Employees must be recruited, hired, and trained, bills must be paid, equipment and services purchased, computers and telecommunications systems maintained, and budgets formulated and tracked. Strategic plans for the Preserve's future must be made that involve financial projections and cost/benefit analyses. Throughout these activities, collaborative links must be established and maintained between the Preserve and the rest of the National Park Service.

Compounding these complexities, the division must provide services for logistical and human resources that are spread out over a vast physical territory that is rugged and often off the communications grid. In recent years, the division has also provided business services to South Florida parks other than Big Cypress, such as De Soto National Memorial and Cape Canaveral National Seashore. While this collaboration helps smaller parks in the region maintain their operations, it also stretches division resources and reduces the team's ability to focus on Preserve operations and maintain an appropriate level of customer service.

## **Budget and Finance**

The Preserve's total budget is greater than \$12 million. This figure includes many funds and grants that are earmarked for special purposes and can not be spent on other projects. It is the job of the division to accurately track all money received and spent by the Preserve, and to ensure that all funds are spent in accordance with federal financial audit regulations. The division guides management in the development of budget projections, as well as overseeing execution of financial plans and allocations. These activities are vital, since the Preserve often engages in long-term projects that may require years to carry out.

## **Procurement and Property**

The division is responsible for procuring all new property, equipment, labor, or services as needed for the Preserve. Any time a visitor picks up a brochure or stops to read a sign, he or she is using a resource that has been acquired through the Preserve's procurement system. The federal procurement system can be quite complex. Laws, policies, and regulations governing procurement by government agencies are comprehensive and ever-changing. Because the training and certification necessary to actually make substantial purchases on behalf of the government is lengthy and difficult, only one person at the Preserve has completed it. His skill set is so valuable that he is often called upon to do procurement work for other parks in the region, including Biscayne National Park and Everglades National Park. And then there is the sheer diversity of the goods and services Big Cypress acquires each year: chickee huts, tractors, exotic plant management, helicopter fuel, and medical services for panthers, to name a few. Formal contracts—which require additional expertise and must be managed after they are signed—make up a significant portion of the division's procurement workload. As an illustration, in one year the division is often awarded over 130 contracts totaling over \$3.8 million.

Property also requires a significant degree of management post-procurement. The division often tracks over 640 major items (that is, items with a value of more than \$5,000) worth \$3.5 million. These items must be received, inspected, and regularly inventoried.

## **Human Resources**

The Preserve maintains a staff of more than 80 people with a broad mix of skill sets, including specialists such as hydrologists, botanists, law enforcement officers, large equipment operators, and wildlife experts. The division is responsible for recruiting staff for the entire Preserve, as well as providing staff with payroll, training, employee relations, benefits counseling, and other support services once they have been hired. In any given year, the

*"I track the budget and issue bills at Big Cypress. It's awesome to know that even though I'm involved in these administrative functions at the park, I am helping to ensure there will be resources for my children's children. Each one of us at Big Cypress, no matter what job we do, are all here working towards the bigger picture of the National Park Service to protect our future resources. My most memorable moment here has been going out in a helicopter with one of the hydrologists conducting a water survey. It afforded me the opportunity to see the greatness of the Preserve's 729,000 acres.... It took my breath away."*

—Lisa Jones, Budget Analyst, Administration Division

division can process 245 personnel actions, advertise 20 vacancy announcements, and hire 20 applicants. While the Preserve has been successful in attracting a talented and dedicated staff, the division faces the challenge of the Preserve's remote location, the high cost of fuel, and the lack of affordable housing nearby. The Preserve is fortunate to have some housing available for employees in critical response positions, such as law enforcement rangers and firefighters. But for most, the division must continue to explore and implement other non-financial incentives that might assist management in attracting and retaining top applicants.

#### **Information and Communication Technology**

Because of the Preserve's sprawling size and inaccessibility, its communications systems must be both creative and robust. The Division of Administration not only performs routine tasks such as computer installation and maintenance, but also supports the Preserve in emergency situations, such as during hurricanes or

the massive wildfire that the Preserve fought in 2007. Through the innovative work of the division in developing a radio connectivity plan, the Preserve has a prototype radio capability that eliminates dead zones in remote areas, thereby significantly increasing safety for firefighters, search and rescue efforts, trail activity, and employees and visitors undertaking backcountry activities. The division devises solutions that help Preserve staff work more effectively and better communicate with stakeholders.

Finally, the division provides management of De Soto National Memorial's information technology system. As a small office, De Soto benefits from having this work accomplished without having to devote a full-time staff member to the job.

#### **Travel Services**

Big Cypress employees travel a lot, partly because many of the Preserve's employees are firefighters who help combat fires in parks across the United States. The division is responsible for ensuring that all travel done by Preserve employees complies with federal regulations. While this may appear to be a routine duty, it often takes a large portion of division resources due to the high volume of travel requests, the large number of regulations guiding travel processes, and the wide variety of destinations requested by Preserve staff. The division is currently developing a plan to streamline the travel authorization process to focus scarce resources on a greater range of administrative duties.



*"I came to Big Cypress with a background in wetland ecology, so this was a natural fit. I remember my first or second day here, I had a chance to see the place from the air in a helicopter. Right away, you experience its vastness and beauty. I remember the pilot telling me that it might look like hill country, because of the cypress domes, but it's really flat as a pancake. It's an honor to be a part of the National Park Service. It's something I admired since I was a kid. And I can speak for everyone here in saying that we are all making a contribution to resolve the big issues affecting the Preserve."*

**—Damon Doumlele, Environmental Protection Specialist, Superintendent's Office**

# Superintendent's Office

The Superintendent's Office makes plans that set a course for Big Cypress to achieve long-term balance between visitor experience and resource protection. At times, this balance places stakeholders at odds with each other or with the Preserve. ORV enthusiasts may want more access to the land, or inholders may want to add onto a backcountry cabin. In these instances, the office functions as the primary point of contact to field questions and address grievances. It also takes a proactive stance to address these issues as a good neighbor might. By holding meetings and informing stakeholders of their rights and responsibilities, the office averts confusion and establishes trust.

Creating long-range, big-picture plans in a place as dynamic as Big Cypress requires deft maneuvering of complex issues. Within that framework, the Superintendent's Office focuses on three areas: general planning, community relations, and priority setting.

## General Planning

The Superintendent's Office plans large projects and drafts strategies that require a multi-faceted, long-term focus. The office

manages a broad range of projects, including acquisition of new property and ORV planning, ensuring environmental compliance, and regulating commercial services.

The scale and complexity of these issues are great. The Preserve's acquisition of the Addition is an ongoing process that exemplifies the Superintendent's Office planning function. In 1988, the Preserve acquired 146,000 acres of land north and south of Interstate 75 and along highway 29. These lands have since become known as the Addition. The Addition encompasses over 400 private properties, a number of access points and ORV trails, and disturbed habitats where cattle once grazed. The office has had an ongoing dialogue with the public, its partners, the National Park Service's Denver Service Center, and the Southeast Regional Office to prepare a general management plan, an ORV management plan, and a wilderness study for the Addition. Once complete, this comprehensive plan will provide guidance for 20 years in the management of the Addition lands.

When the Preserve plans a project or alters the landscape in any way, it must comply with stringent environmental standards, and the Superintendent's Office manages these affairs. Federal regulations require evaluation of the environmental effects of an action during the planning stage, and the office ensures that the proper procedure is followed and the required documentation is filed. Since most of the Preserve is wetlands, which are highly regulated, the office is responsible for securing any permits and authorizations from appropriate federal, state, and local regulatory agencies prior to construction. The office, along with the Resource Management Division, represents Preserve interests in the context of the Comprehensive Everglades Restoration Plan, an effort involving numerous state and federal agencies to restore the hydrology and natural resources in the Greater Everglades ecosystem.

Commercial services in Big Cypress consist of four vendors who either use the Preserve's natural resources or occupy land within its boundaries. The Turner River access serves as a staging point



*Tricolored heron flies within the Preserve*

PHOTO BY RALPH ARWOOD

for privately led canoe trips and group educational exercises, and a private campground operates in the Preserve's southern region off Highway 41. A photography studio and restaurant also furnish commercial services to visitors. Though some businesses continue to operate airboats in areas adjacent to the Preserve or on private property within its boundaries, no airboat vendors currently operate on Preserve land. This is a far cry from the 29 airboat tour operators who used the Preserve's southwestern territory until 1998, when a court decision and the Preserve's own environmental assessment revealed the environmental effects of such active use on the Preserve.

Pressure to reopen the Preserve to more commercial services comes from operators who see profit potential, but the Superintendent's Office is cautious about issuing additional permits without first assessing the effects of increased traffic on Big Cypress' natural resources. The Preserve also has an obligation to offer the Seminole and Miccosukee Tribes the first priority to furnish and benefit financially from revenue-producing visitor services offered in the Preserve.

### **Community Relations**

Maintaining positive relationships with Big Cypress' many stakeholders requires the office to adapt to a multitude of situations, ranging from negotiations with inholders to requests for information from outside sources. Throughout these activities, the Superintendent's Office engages the community to develop trust and support.

Big Cypress encompasses 161 developed properties in its original acreage, 400 properties in the Addition, and 22 Miccosukee and Seminole camps. These private properties exist anywhere on the spectrum from large roadside homes to small backcountry camps. Regardless, their owners take a keen interest in their right to use and improve property in the Preserve.

The Superintendent's Office works with these parties to foster a respectful dialogue and serves as a point of contact for requests,

questions, and grievances. Sometimes property owners want to create structures or access points to their property. If done without prior consent and inspection, activities like these can result in property condemnation or inholders being forced to restore it to the previous condition. In other instances, properties abandoned by their owners or purchased by the Park Service must be cleared and the lands they occupied restored. These clean-ups are important to the health of the environment and the safety of people using the Preserve. Clean-ups remove leftover fuels and oils and reduce the risk of hazardous materials from appliances and batteries leaching into the soil and contaminating the surface and ground water. The Superintendent's Office coordinates clean-up efforts and mitigates potential conflicts by holding annual informational meetings for inholders and by supervising volunteers, who inspect properties for compliance every five years.

Outside parties also frequently request information about the Preserve's environmental performance or petition to use the Preserve for special events, such as filming documentaries. Requests for information typically arrive under the auspices of the Freedom of Information Act (FOIA), which requires the Preserve to first organize and retain volumes of information but also to assemble and ship pertinent documents.

### **Priority Setting**

The Superintendent's Office holds ultimate responsibility for setting the agenda that influences Big Cypress' future operations and for monitoring progress as the Preserve works to achieve those goals. When setting priorities, the office factors in the current state of operations, the needs of the Preserve, projected financial obligations, and the Preserve's envisioned future. When deciding which priorities to pursue, the Superintendent's Office considers these factors and maintains appropriate balance between environmental preservation, safety, visitor enjoyment and education, and public relations.

*"I'm interning in the Preserve because I want to prepare for a career in the Park Service. I enjoy being outdoors, working with animals, working for a bigger goal. Right now, I'm helping out with the Preserve's fox squirrel survey. The Big Cypress Fox Squirrel is a threatened species, and we don't know much about it. So we go out and collect data and track different animals, so that we can learn about its habits. This will help us protect it in the future. We can make sure to conserve its habitat, and the information we collect can help us work with the Fire and Aviation Division when they're doing their prescribed burning. I like this work because I like being independent, and I like getting the chance to get out into the Preserve, into places most people have never seen. Most people have never been inside a cypress dome."*

—Nick Tucker, *Volunteer, Resource Management Division*

PHOTO BY ISOBEL KALAFARSKI



*Volunteer Jan Shirey helps remove exotic plants from the Preserve.*

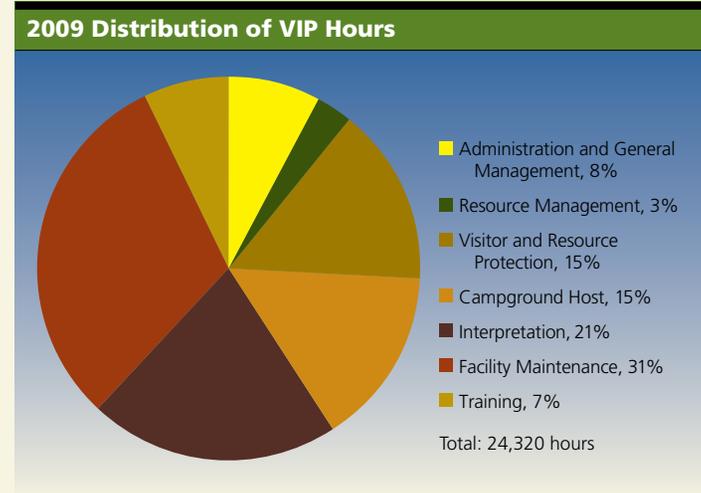
# Volunteers



Volunteers play an enormous role in maintaining and improving Big Cypress. Every year, volunteers come to Big Cypress from around the country and contribute valuable work that helps maintain the Preserve as a place of beauty and enjoyment for visitors. Some volunteers live locally and commute daily, but most travel from northern regions and stay in their recreational vehicles (RVs) throughout the winter season. In exchange for a place to park, a uniform, and training, these volunteers perform jobs ranging from guiding backcountry tours to monitoring campgrounds and cleaning Preserve headquarters—all jobs the Preserve would otherwise be unable to staff or afford.

Historically, volunteers do work amounting to the equivalent of roughly 10 full-time employees (FTE) per year. In 2009, 81 volunteers worked throughout Big Cypress, contributing 11½ FTE. The figure at right illustrates where these hours and their value to the Preserve tend to be distributed.

The Interpretation and Facility Management divisions typically receive the greatest amount of volunteer assistance. VIPs in both divisions assist with special projects and perform more regular jobs. VIPs help the Interpretive Division by talking with visitors at sites such as Kirby Storter or H.P. Williams or by leading group tours and assisting division staff during field trips. VIPs working with the Facilities Management Division help maintain the appearance of buildings and grounds around the Preserve by ensuring that campground and day-use areas have clean bathrooms and mowed grass. Recent Facilities Management VIP projects included constructing a fence and gate at Oasis Visitor Center, recording traffic statistics and performing as-needed maintenance on traffic counters, and assisting division staff with water quality testing. Finally, campground hosts are present to answer questions and check in visitors.



# Priorities

Over the next three to five years the Preserve plans to undertake a variety of projects to ensure continued management of the complex and valuable resources in the Big Cypress swamp. The Preserve staff has identified six major areas in which they wish to strengthen capacity:

**Preservation and Restoration:** This is vital, since the natural resources within the Preserve are at the center of its mission. Over the next five years, the Preserve will continue to face pressures from invasive species while at the same time confronting the reality of increasing costs, especially for fuel. New technologies and proactive strategies are necessary to preserve and restore the natural resources;

**Addition Lands GMP Completion and Implementation:** The plan will be completed and implementation will begin;

**ORV Management:** There has been a history of conflict among user groups surrounding the use of ORVs in the Preserve. The next three years will provide an opportunity for the Preserve to complete the establishment of an infrastructure of trails and regulations that will allow ORV users to fully enjoy the Preserve while still conserving the resource;

**Internal Operations:** Another way of adapting to increasing costs is to further enhance the efficiency and effectiveness of the Preserve's staff, procedures, and organization;

**Visitor Experience:** While surveys show that visitor satisfaction with the Preserve is already high, opportunities exist to better educate visitors about the Preserve's history, resources, and mission; and

**Volunteers:** The Preserve is well-placed to further leverage ties with both local communities and a national network of volunteers based on the importance of its resources, the ease of access to its front-country, and the natural beauty of its surroundings.

Preserve staff have identified specific priorities within each of these six areas, which are detailed in the following pages.



Off Road Vehicle Trail  
PHOTO BY RALPH ARWOOD

# 1

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## Preservation and Restoration

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### Control the spread of new exotic plant infestations in the Preserve

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#### *Opportunity*

The Preserve was once the site of many farms and other settlements. The land in and around these areas was often dug up, and water was redirected using ditches and dikes. This left these areas vulnerable to invasion by exotic plant species, and their improvement could greatly benefit the Preserve.

#### *Proposed Action*

The Preserve will use land-moving equipment to restore some disturbed areas to their natural state and facilitate re-colonization by native plants. In-house and contract labor could be used for this purpose. On occasion, low-cost or no-cost labor for this project could be acquired by offering the Preserve as a training area for heavy machinery operators from other parks, other agencies, and even private organizations.

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## Addition Lands GMP Completion and Implementation

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### Complete the General Management Plan

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#### *Opportunity*

After eleven years of civic engagement, the Preserve will complete the final GMP/Wilderness Study/ORV Management Plan for the addition lands.

#### *Proposed Action*

In partnership with local, state, tribal, and other federal agencies, the Preserve will begin to implement the plan so that the people of Florida as well as visitors from all over the country and the world can begin to fully enjoy these public lands. A hunting plan



*Panther capture team members inspect a panther kitten to make sure it is healthy.* PHOTO BY RALPH ARWOOD

will be developed with the FWC and access points constructed in partnership with FDOT. .

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## Improve monitoring of wildlife

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#### *Opportunity*

Current monitoring of wildlife within the Preserve is ongoing, but there remains room for improvement. The Preserve is particularly interested in monitoring endangered and threatened species, as well as species whose numbers are declining, who face special challenges (such as from invasive species), who are prey for endangered species, or who are simply not well known and require more research. If the Preserve were to improve its monitoring, it could better determine the impact of its actions on the species within its borders. This issue is particularly important in regard to the Florida panther, which is one of the most endangered animals in the United States.

#### *Proposed Action*

The Preserve will take two steps to improve its capacity to monitor these species:

- the Preserve will improve its monitoring of the Florida panther by increasing the amount of time devoted by staff to panther capture, and by fitting panthers with new GPS collars that can generate greater information about the panther's nighttime movement and habitat use than do the radio collars currently used; and



The Preserve relies on its hydrologic monitoring stations for vital information concerning water levels.

- the Preserve will establish the role of Research Coordinator, who will work proactively to attract partners wishing to do research within the Preserve on species of concern. Partners may provide equipment, manpower, expertise, or funding to division staff, and will be comprised of universities, state and local agencies, and non-governmental organizations.

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### **Institute real-time measurement of Preserve water levels**

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#### *Opportunity*

The Preserve's ability to collect and process data from its water monitoring stations is currently limited, to the extent that it can take up to a week to obtain a measurement of water levels in the Preserve. Up-to-date information on water levels is crucial in helping the Preserve make important decisions, such as when to open ORV trails or when to allow hunting.

#### *Proposed Action*

The Preserve will partner with the South Florida Water Management District to install more advanced telemetry (technology that allows information to be gathered remotely) at the water monitoring stations within Big Cypress and to enhance the Preserve's data processing capabilities.

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### **Manage invasive species to prevent major outbreaks**

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#### *Opportunity*

Invasive species—particularly snakes—continue to appear in the Preserve. By carefully monitoring and controlling these species, the Preserve can prevent them from crowding out and preying upon native species.

#### *Proposed Action*

The Preserve will develop expertise in invasive species management by partnering with universities, with a regional

task force on invasive species, and with other parks and agencies experiencing similar problems. This will lead to the Preserve acquiring more advanced techniques to monitor, trap, and eradicate invasive species. The Preserve will also hire seasonal employees to eradicate invasive species during the dry season, when the Preserve is most accessible.

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## **Internal Operations**

# 3

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### **Create a standardized training program for administrative staff**

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#### *Opportunity*

The Preserve's administrative staff must work with a wide variety of automated systems and within a complex and changing set of regulations. A more specific and rigorous training program would help new employees master these systems and regulations, and would allow current employees to expand their skill sets.

#### *Proposed Action*

The Division of Administration will survey staff to determine training needs and will construct a curriculum of courses to meet those needs. All staff will be expected to either complete the curriculum or demonstrate that they have already mastered the necessary skills.

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### **Position the Preserve as a leader in the National Park System's transition toward more effective systems**

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#### *Opportunity*

The National Park Service is currently replacing many of its older information technology systems and is making a major drive to increase efficiency by centralizing some administrative functions. This presents an opportunity for the Administration Division to place itself at the forefront of this change.

*Proposed Action*

The Division of Administration will attempt to help shape this transition by participating as much as possible in service-wide committees and meetings that will help decide how these changes are enacted.

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**Adopt a data-driven approach to setting Facilities Management priorities**

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*Opportunity*

Traditionally, the Preserve has not had a formal process for determining which assets are most important to improve or repair. By instituting such a process the Preserve will be better able to plan and account for its operations and maintenance activities.

*Proposed Action*

The Preserve has recently completed a 10-year Preserve Asset Management Plan. Under this plan, the Preserve has adopted a numeric rating system that classifies every asset in the Preserve according to both its importance to Preserve operations and its current condition. Going forward, the Preserve will schedule repairs and improvements each year by referring to this rating system. The Preserve will also track the costs associated with repairing or improving each asset. By using these data, the Preserve will be able to more effectively plan Facilities Management activities.

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**Increase efficiency of administrative functions within Preserve**

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*Opportunity*

The Preserve's administrative function has grown for many years, sometimes without the benefit of collaborative planning. Some administrative functions are currently located in other divisions besides Administration. The process of creating and implementing this business plan creates an opportunity for a comprehensive review of the division's organization, processes, and practices.

*Proposed Action*

The Division of Administration will partner with other National Park Service staff to undertake a review of Preserve-wide administrative activities, staffing, and processes. The results of this review will be used to determine the proper distribution of administrative tasks within the Preserve, to determine which positions might be considered for inclusion in the Division of Administration, to streamline standard processes, and to determine what cross-training is necessary to ensure that bottlenecks do not develop.

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**Increase Preserve energy efficiency**

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*Opportunity*

As fuel, electricity, and gas prices rise, increasing the cost of transportation and of maintaining Preserve structures, the Preserve has the opportunity to greatly reduce costs by operating more efficiently.

*Proposed Action*

The Preserve will create an Energy Management Plan aimed at identifying and adopting measures to reduce the Preserve's energy consumption. Measures already under consideration include increased use of solar power, installation of more efficient lighting, staff training in conservation techniques, and the purchase of water-conserving appliances.

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**Optimize efficiency of aircraft usage**

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*Opportunity*

The Preserve's two aircraft are expensive to fly but critical to operations at Big Cypress. Rising costs for parts and fuel, coupled with reduced competition among vendors, make it increasingly difficult for the Preserve to afford flight time. If aircraft use could be made more efficient, important programs such as deer population management and fire monitoring could be expanded.

*Proposed Action*

The Preserve will implement three strategies for cutting aviation costs while still maintaining critical programs:

- the Preserve will negotiate contracts that allocate most flight time to periods of peak demand but that allow flexibility to decrease flight hours during slower months. These negotiations may involve coordinating aviation contracts with multiple parks under supervision of the Southeast regional fire and aviation office;
- the Preserve will build stronger partnerships with neighboring parks, universities, and scientists who use the aircraft for their own work and who can help pay a greater percentage of the Preserve's aviation overhead; and the Preserve will grow its inter-divisional cross training, so that staff from divisions that use flight time may accomplish tasks performed by multiple divisions, such as fire spotting and animal tracking. This reduces the chance of redundancy in flight scheduling.

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**Improve safety of Fire and Aviation  
Division staff**

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*Opportunity*

The safety of Fire and Aviation staff could be increased by finding a way to increase the number of experienced employees, and by obtaining a full-time radio operator. Although the division funds and conducts training for its firefighters, high costs of living compel highly trained firefighters to seek positions elsewhere. The division also lacks a permanent radio operator who can safely direct activities in the field.

*Proposed Action*

Fire and Aviation will investigate options for attracting and retaining highly trained firefighters, including availability of government-funded housing and cost of living increases to compensation. The division has incorporated a radio operator into its organizational chart and will hire a staff member to fill the position soon.

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**Improve efficiency and coverage of prescribed  
burn program**

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*Opportunity*

Several conditions impede the efficiency and extent of Big Cypress' prescribed burning program:

- burn plans, which document geologic, hydrologic, and topographic features in the Preserve, have not been fully completed;
- GIS layers pinpointing locations of camps and structures are inaccurate; and
- inholders must be contacted individually and repeatedly when prescribed burns are scheduled near their property.

By dealing proactively with these obstacles, the Preserve can significantly expand this program.

*Proposed Action*

The Fire and Aviation Division proposes three steps to upgrade its prescribed burning program:

- first, staff will contract with private firms to complete burn plans for Preserve units that currently lack them;
- second, one of the division's forestry technicians will work with the Resource Management biological science technician to update and verify GIS map layers, so firefighters can feel assured they have information necessary to safely start and fight fires; and
- finally, division staff will work with inholders to develop an understanding that gives the division power to initiate prescribed burns in the best interest of the Preserve and property owners. This type of agreement makes clear that private land may be marginally affected by the burns, but that these effects ultimately benefit the landowner. The agreements further eliminate the need for division staff to brief each landholder before beginning a burn, greatly reducing time and cost requirements for such projects.



PHOTO BY RALPH ARWOOD

The Fire and Aviation burns a certain number of acres each year to reduce the amount of fuels available to ignite wildland fires.

# 4

## Volunteers

### Improve volunteer recruitment and project management

#### Opportunity

Currently, one staff member from the Interpretation and Education Division coordinates the VIP program as a collateral duty. If greater resources were devoted to this area, the Preserve would have an improved ability to recruit and manage volunteers.

#### Proposed Action

The Preserve will create a position dedicated to coordinating the VIP program and staff it with either a full-time employee or trained volunteer. By dedicating a position to this job, the division can devote more time to recruiting volunteers from surrounding communities; maintain better contact with recurring seasonal volunteers; prioritize and coordinate projects among divisions; and improve management of VIP operations, including data collection and entry and project oversight.

### Update facilities for seasonal volunteers

#### Opportunity

The facilities for seasonal VIPs who travel to Big Cypress using RVs for the winter season vary greatly in quality. Currently, Midway campground provides full electrical, sewage, and water hookups at each of its RV pads, while Monument Lake and Burns Lake have mixed availability for these utilities. By improving the consistency and quality of volunteer quarters the Preserve can attract and better motivate more volunteers.

#### Proposed Action

The Preserve will improve the quality of life for VIPs at the Preserve by upgrading existing RV pads, so that each includes full electrical, water, and waste disposal utilities.

Interpretation and Education will work with Facilities Maintenance and Operations to develop a plan for installing and operating these facilities.

### Reduce cost burden on volunteers commuting to the Preserve

#### Opportunity

Local VIPs who commute to Big Cypress on a day-to-day basis and seasonal VIPs who make longer trips and live in the Preserve face mounting pressures from rising fuel and energy prices. The Preserve's remoteness makes commuting by car expensive; and many seasonal VIPs must cover the cost of transportation to and from the Preserve and the cost of maintaining utilities in their regular homes. If the Preserve can find ways to mitigate these costs, it will be able to increase its number of volunteers.

#### Proposed Action

The VIP coordinator will seek subsidies to offset the cost of transportation and utilities for volunteers. The most likely source for these funds will be grant money from private companies or the government. The VIP coordinator will identify potential donors and work with the Preserve's grant writer to draft proposals.

# 5

## Visitor Experience

### Increase Ranger coverage of Preserve backcountry

#### Opportunity

Because the terrain in the Preserve is so difficult, it can take Rangers hours to reach certain areas in the backcountry. This leaves them no time to execute a patrol before having to head back to headquarters. If Rangers could spend more time in the backcountry, their ability to assist visitors and protect resources would be enhanced.

### *Proposed Action*

The Preserve will build (or, in some cases, use existing) staff-only campgrounds in the backcountry. Rangers can then use these campgrounds for overnight stays. This will allow them to make multi-day patrols of the backcountry, thoroughly monitoring the territory.

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### **Manage new Welcome Center**

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#### *Opportunity*

A new Welcome Center with state-of-the-art exhibits would help orient and inform visitors who are entering the Preserve from the south. It will also provide new opportunities to strengthen relationships with southwest communities and public landowners within the swamp.

#### *Proposed Action*

The new center will include exhibits that employ current technology to offer engaging, educational experiences to visitors, especially younger visitors. We will develop high-quality visitor-centered programs, including formal and informal interpretation activities and educational programs.



*An alligator strolls across the Preserve.*

PHOTO BY RALPH ARWOOD

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## **ORV Management**

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### **Ensure that ORVs can use the Preserve in a sustainable manner**

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#### *Opportunity*

In the past, ORVs were allowed unrestricted access to the Preserve, resulting in some damage to the Preserve's natural resources. This highlighted the need for a system of trails that the ORV community could use to access the Preserve while still maintaining the resource for future users.

#### *Proposed Action*

The Preserve is in the process of designating a system of trails for use by ORVs, and will stabilize and maintain those trails. Resources are also being devoted to monitoring these trails to ensure that ORVs stay on the trail system.

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### **Partner with ORV users to ensure proper trail use**

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#### *Opportunity*

Given the size of the Preserve, it is difficult to constantly monitor the entire ORV trail system to ensure that ORVs are not leaving the trails and damaging the Preserve. New ORV users in particular may not know the consequences of leaving the trail system. An opportunity exists to educate these new users in an engaging, friendly way.

#### *Proposed Action*

The Preserve is in the process of partnering with a group of experienced ORV users. These users will volunteer to monitor ORV trails and ensure that users are staying on the trails and observing all ORV regulations. These volunteers will either approach violators to remind them of regulations or, in extreme cases, contact Preserve Rangers for assistance.

# The Preserve's Budget

Over the next few years, there are three key trends to the Preserve's budget:

- **The central importance of appropriated base operating funding.** Base operational funding, appropriated by Congress for recurring operations, will continue to be vital to the Preserve's function. The basic operational funds are projected to make up an average of 70% of the Preserve's reliable funding.
- **A flat budget.** The Preserve received a base budget increased of \$505,000 in BYF 2010, and anticipates an additional increase of \$480,000 in BFY2011. However, the budget climate for BFY2012 is not optimistic and the park anticipates a flat, and possibly a decreasing, base budget. Another point of uncertainty is the level of grant support that the Preserve will receive from the state of Florida for exotic plant removal.
- **The continued relevance of project funds.** Project funds will remain enormously important to the Preserve's financial picture going forward, especially in regard to the Preserve's upkeep of its road and ORV trail system.

## Budget Explanation

The Preserve's budget is broken into two basic categories—Reliable Funds and Project Funds.

### Reliable Funds

Reliable Funds are essentially base funds appropriate by Congress, revenues, and grants combined into a single category. Due to the uncertainty of the fiscal climate of BFY 2012 and beyond, the Preserve is only able to predict the amount of funding that will be coming in over the next year with reasonable accuracy.

Reliable Fund sources for the Preserve include:

- funds appropriated by Congress for the operation of the National Park Service;
- funds contributed to the Preserve by the National Interagency Fire Center to assist with fire fighting and prescribed burning within the Preserve;
- grants and cash donations from partners and supporters;

Big Cypress National Preserve					
Reliable Funds	BFY 2010 Actuals			BFY 2011 Budgeted	
	BYF 2010 Available	Prior Year Carry Over	Expenditures	BFY 2011 Available	Prior Year Carry Over
Appropriated Base Funds	\$6,764	–	\$6,764	\$7,244	
Donations	\$180	\$53	\$203	\$60	\$30
Reimbursable Accounts & Grants	\$92	–	\$92	**	
Revenue	\$153	\$38	\$150	\$150	\$42
Fire Budget	\$1,583	–	\$1,492	\$1,500	
<b>Total</b>	<b>\$8,772</b>	<b>\$91</b>	<b>\$8,701</b>	<b>\$8,954</b>	<b>\$72</b>

• All amounts are in thousands of dollars

- income from the sale of recreation fees and passes; and
- income the Preserve earns by renting housing to staff.

While some of this funding is tied to specific uses (for example, some grants are specifically for exotic plant removal), the Preserve has some discretion in determining how the majority of Reliable Funds will be spent.

In Budget Fiscal Year 2010, the Preserve received a base increase from Congress of \$505,000. This funding allows the Preserve to implement and manage the ORV trail system network that was designed to protect the delicate wetland ecosystem of the area. The Preserve anticipates an additional base increase in BFY2011 of \$480,000 to fund six additional staff members. This staff will support the implementation of an ORV trail system and Wilderness Management Plan for the 146,000 acres of land added to the Preserve in 1988.

The Preserve does not anticipate a base increase in BFY2012 and is actually preparing for a possible \$280,000 reduction in funding. This decrease will most likely impact the Preserve's ability to hire seasonal staff and will require a critical analysis of how best to utilize permanent employees.

In addition to base funds, the Preserve also utilizes money from donations, revenue (rent for park housing and utilities), grants, and payment for work conducted for neighboring agencies (reimbursable funds). Since the Preserve is facing a flat and possible negative base budget in BFY2012, the Preserve will rely on these funds for operational flexibility.

### **Project Funds**

These are funds received for special one-time projects, such as the construction of the Preserve's new Welcome Center or the creation of upgraded ORV trails. Unlike Reliable Funds, Project Funds are unpredictable, for two reasons:

- while the Preserve has mapped out its planned special projects for the next several years, there is always the possibility that new situations—for example, a hurricane or fire emergency—might change these priorities. In addition, project needs vary from year to year, so past Project Funding may not be a good indication of future Project Funding; and
- once projects have been planned, they still must be approved for funding. This approval process is never certain, and adds an additional layer of uncertainty to the projection of Project Funds.

An additional difference between Reliable Funds and Project Funds is that all Project Funding must be spent *only on the project for which it has been approved*. Thus, Project Funding is much less flexible than much of the funds that go into Reliable Funding. A park unit with only Project Funds will be hard-pressed to respond to the surprises and changing circumstances that characterize working with a delicate natural resource.

In BFY 2010, the Preserve received over \$4.5 million in project funding that allowed the Preserve to continue work on exotic species removal, ORV trail system improvements, road improvements from past hurricane damage, and regular cyclic maintenance repair. The Preserve also began the planning stages of a five-year construction project aimed at creating/improving the ORV trail network.

In BFY 2011, the Preserve anticipates another successful year of project funding. The anticipated \$6.4 million will support continued road improvements, the creation of improved storage facilities, and cyclic maintenance projects. In addition, over \$3.5 million is anticipated for the second phase of the five-year ORV construction project.

# Glossary



*Planning the road ahead.*

PHOTO BY RALPH ARWOOD

**Prescribed Fire:** These are carefully planned fires lit by firefighters on the ground with drip torches or by air using specially equipped helicopters. These fires are used to approximate natural fire occurrence that maintains fire dependent ecosystems and restore ecosystems.

**National Park Service Fire Management Program Center (FMPC):** The FMPC provides technical support, formulates and executes budgets, develops policy and standards recommendations, and coordinates activities for the National Park Service wildland and structural fire management programs.

**FIREPRO:** Funds managed by FMPC and used to pay for fire-related activities such as preparedness, permanent staffing, training, monitoring, and equipment purchases for the FMPC.

**National Interagency Coordination Center (NICC):** NICC administers a three-tiered system of support for suppressing wildland fires—local area, geographic region, and national level. When a fire is reported, local agencies respond. If the fire continues to grow, the agency can ask for help from its geographic region. If the geographic region exhausts its resources, it can turn to NICC at the National Interagency Fire Center (NIFC) for help in locating what is needed, from air tankers to radios to firefighting crews to incident management teams.

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## **Photographs**

*Front cover: Grasslands in the Big Cypress Preserve.*  
PHOTO BY GUSTAVE PELLERIN

*Back cover: PHOTO BY RALPH ARWOOD*

*Inside back cover: Otter at Kirby Starter. PHOTO BY JAN SHIREY*





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