

The Disney Wilderness Preserve Story



Conservation Learning Center
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The Nature Conservancy's Disney Wilderness Preserve, located just south of Orlando, is a 12,000-acre sanctuary of natural communities. It is one of the earliest and largest off-site wetland mitigation projects ever undertaken in the United States. Owned and managed by The Nature Conservancy, the preserve was established in 1992 through an agreement with the Walt Disney Company and several public agencies. At The Disney Wilderness Preserve, mitigation has been taken to a large scale, allowing The Nature Conservancy to restore functions at an ecosystem level. The preserve's wetlands and uplands contain more than 750 native plants and 300 animal species, many of which are listed as threatened or endangered.

Headwaters of the Everglades

The preserve is bordered on the east by Lake Russell, one of the last remaining undeveloped lakes in central Florida. The 540-acre lake is surrounded by cypress floodplain swamps and is fed by Reedy Creek which flows in from the north. The cypress trees located at the south end of the creek provide an excellent nesting habitat for wood storks because this area is sheltered from frequent recreational use.

Large tracts of protected public lands, all part of the Reedy Creek-Lake Marion Creek watershed, are contiguous with the preserve's east and west boundaries. The water flowing through the preserve feeds the Kissimmee River, Lake Okeechobee and the Everglades ecosystem 200 miles to the south. Since the preserve is part of the headwaters of the Everglades, restoration of its ecological health is a vital link in protecting one of Florida's most valuable resources.

Early Inhabitants

The earliest record of humans on The Disney Wilderness Preserve can be traced to 500 B.C. when some of the first residents of central Florida lived on the shores of Lake Tohopekaliga. By 500 A.D., aboriginal Americans had settled on the rich shores of Lake Hatchineha, which borders the southwest portion of The Disney Wilderness Preserve. The remains of an early village settlement and four other sites on the preserve indicate several different ages of development. These original inhabitants were primarily hunters and gatherers. They used fire to facilitate hunting, signal

distant travelers and discourage others. They also used fire to stimulate certain native vegetation, making them the first in the area to use prescribed fire to benefit themselves and the natural habitat.

In the early 1800s, the Seminole Indians had a stronghold near Lake Tohopekaliga. There are indications that they captured and kept some of the wild cattle that roamed free in those days. During the Seminole Indian Wars, General Thomas S. Jessup drove them into the Great Cypress Swamp. His soldiers blazed "Jessup's Trail" across what is now the southern boundary of The Disney Wilderness Preserve.

Seven archaeological and historically significant sites are present today, including the unexcavated Walker Mound. Scientists speculate that Walker Mound may be related to the earliest residents of the area.

Change in the Land and Waters

In 1880 only 50 people lived in the town of Kissimmee. In 1881, large-scale drainage projects began when Hamilton Diston bought 4 million acres and attempted to drain it for development. Though Diston's plans were only partially successful, his activities drew attention to the area. Other developers moved in; and by the beginning of the 20th century, 50,000 acres of historic wetlands in the upper Kissimmee valley had been drained.

In 1925, the Everglades Cypress and Candler Lumber Co. began logging the area. Many of the wetlands on the preserve's property were drained and the cypress trees were cut for timber. Remnants of logging trams built to move lumber from swamps to lakes for transport can still be found in the preserve's swamp forest.

During this same time, turpentine operations began on the property and continued well into 1940s. Remains of a turpentine camp, estimated built in 1926, are located on site. The resin extracted from trees like longleaf pines was used in many products such as soap, varnish and paint thinner. It was also sold as naval stores to repair wooden ships. The isolated forest environment created harsh working and living conditions for those employed in the turpentine camps, and the production methods would eventually destroy many pine trees.

In the 1940s and 1950s, cattle ranching triggered a major change for the preserve's natural habitats. In order to increase and improve pasture for grazing cattle, many major drainage ditches were dug to lower the local water table and native vegetation was cleared and replaced with non-native grass. In the 1980s intensive logging continued on the site. To support both ranching and logging, a wide-ranging system of unimproved roads was developed. Though now many of these roads have been closed, and their habitat restored, some still remain today and are used by preserve staff for management activities.

The Final Threat

From the late 1960s until the 1980s, the property was touted by developers as a prime investment for future real estate development. In the 1980s, a proposal was set forth to build 9,000 homes, a marina and six golf courses on the property. In the evaluation, Walker Ranch came to the attention of conservation organizations who considered the property worth preserving because, despite environmental damage

caused by years of human use, its land and waters still provided a significant habitat for threatened and endangered species and were remarkable for their diverse natural communities.

The Federal Clean Water Act (section 404) and State of Florida Henderson Act require mitigation actions to compensate for removal of wetlands. This was usually done by creating small artificial wetlands near to where the original wetlands were removed. This type of mitigation often resulted in failure of the wetland. Conservation advocates envisioned a large, unified off-site mitigation project that would have a positive and visible impact on the natural environment. They recommended Walker Ranch be purchased as mitigation land to compensate for environmental impacts.

Pioneers in Mitigation

During the 1980s the Walt Disney World Company began developing a 20-year buildout plan for the remaining 11,000 acres of uplands within the company's 30,500 acre central Florida land holdings. Since 448 acres of wetlands were scattered throughout the uplands, Disney's full proposal would result in unavoidable impacts to those wetlands and require a mitigation plan. Don Killoren, who was Walt Disney World's vice president for community development, believed Disney should take into consideration the great expense of creating artificial wetlands and heed questions being raised about the success of such projects. He and Disney colleagues recognized that a new way of handling the environmental strains of growth was needed.

In order to achieve this new vision, Disney approached Carol Browner and Charles Lee. At that time Browner was director of the Florida Department of Environmental Regulation, and Lee was vice president of the Florida Audubon Society. With these and other environmental leaders, Disney officials adopted a strategy to establish trust with the environmental community and develop a consensus among a diverse group of interested parties. They wanted to gain support for their vision to obtain a 20-year permit to build out their remaining property and to mitigate their environmental impacts by creating one large, ecologically significant project.

Once a plan was formulated to implement the vision, the environmental regulatory agencies that issue wetland impact permits were added to the dialogue. On the federal level this included the Environmental Protection Agency, the Fish and Wildlife Service, and the Army Corps of Engineers; while on the state level it included the Department of Environmental Protection, the Fish and Wildlife Conservation Commission, and the South Florida Water Management District.

Through all the discussions that ensued, there was progress and setbacks as all parties were forced to make hard decisions and overcome their initial distrust in each other. One major concern was the question, who would own and manage the Walker Ranch property after the land was protected?

Due to its extensive and worldwide experience in natural areas acquisition and management, The Nature Conservancy was asked to join the negotiating team. The Conservancy was asked to develop a concept plan for the long-term management of Walker Ranch. The Conservancy was also heavily involved in discussions about the proposed mitigation site's true biological importance. While the regulatory agencies

focused on the development permits and whether it was feasible to effectively mitigate Disney's proposed wetland impacts with the project, The Nature Conservancy facilitated a planning process that brought together many individual scientists, managers and educators to determine the ecological value and potential of the proposed mitigation lands. The Walt Disney World Company committed approximately \$45 million to the project for land acquisition and management over a 20-year period and agreed to work with the Conservancy through 2012 to restore the property, build an education and research center and provide an endowment for operation expenses after 2012.

The Disney Wilderness Preserve

In December 1992, the necessary permits were issued to Disney, and all agreements were signed. Eighty-five hundred acres of the former Walker Ranch now became The Disney Wilderness Preserve under the perpetual ownership of The Nature Conservancy. In addition, Disney agreed to additional conservation easements and wetlands restoration on their own property. An additional 3,000 acres were added to the preserve for mitigation projects associated with the expansion of Orlando International Airport for the Greater Orlando Aviation Authority. More management funds were transferred to The Nature Conservancy and restoration activities were permitted under agreements similar to the one reached with Disney. In both cases the Conservancy has been responsible for fulfilling the permit requirement on behalf of the permittees.

Model of Restoration

The Nature Conservancy began massive restoration of the land when it took ownership of The Disney Wilderness Preserve in 1992. Centuries of human activity had affected more than 2,500 acres of wetlands, along with surrounding uplands on the preserve. Activities such as ditching, cattle grazing, logging, turpentine extraction, and out-of-season burning greatly altered the preserve's hydrology, and with it, the native plants and animals. In addition, invasive and non-native species altered the preserve's native habitats.

Land management efforts at Disney Wilderness Preserve are directed toward restoring the Pine Flatwoods Ecosystem, which is composed of many different natural communities. The various habitats include wetlands such as cypress domes, bayheads, floodplain swamps and wet prairies, and uplands such as pine forests, scrubby pine, and dry prairies.

Pine Flatwoods Ecosystem

- In 1880, ninety million acres of Pine Flatwoods covered the Southeast United States. Today less than 3 million acres exist.
- Pine Flatwoods is Florida's most extensive ecosystem, occupying about 30-50% of the state's uplands.
- Fire is an essential ingredient if a Pine Flatwoods is to survive.
- Few stands of native, old-growth longleaf pine exist today because of habitat mismanagement and agricultural or residential development.
- The Pine Flatwoods ecosystem can contain 50-75 different plant species per acre.

Restoring the water

At the Preserve, natural land management techniques have been used to restore the natural water levels and fluctuations of the damaged wetlands on the preserve by filling in and disabling ditches and removing woody species that had invaded wetlands. Artificial canals were dug in the past to drain the land for logging, turpentine and ranching purposes. Today, hydrology has been restored to more than 4,000 acres, and wells are monitored regularly to collect and store data concerning, among other statistics, the natural rise and fall of the preserve's wetlands.

Benefits of Wetlands

- Help in times of both flood and drought by absorbing excess water but also retaining it.
- Filters nutrients and mixes oxygen into the water.
- Strains sand, mud, debris and litter from the water.
- Filters impurities from the water and neutralizes toxic substances.
- 50% of endangered wildlife and 30% of endangered plants are found in wetlands.

Healthy Fire

Fire has always been part of Florida's environment. At one time the fires ignited by numerous lightening storms would race across the preserve's pine flatwoods. Rather than a destructive force, fire is a life-preserving element and a pruning tool to burn away vegetation that has become too dense. The flora and fauna of Florida have adapted to regular fires so well that many species have become dependent on fire. Longleaf pinecones, for example, will only germinate on bare, mineralized soil. Many native grasses will produce seed only after a fire event in spring and summer. The endangered Florida scrub-jay needs its oak scrub habitat regularly burned in order to successfully breed and forage. For the same reasons, the endangered red-cockaded woodpecker depends on frequently-burned pine flatwoods. A keystone species, the gopher tortoise, needs vegetation to be burned low by fire so they can feed and dig their life-saving burrows in which they and up to 600 species can take refuge from fire, heat and predators.

At The Disney Wilderness Preserve fires started by lightening cannot be left to do their natural job. The preserve is surrounded by residential areas and other private property. Lightening produced fire would threaten our neighbors. Also, because the landscape outside the preserve is so fragmented, lightening strikes which would

normally affect the environment seldom occur there at all. The historic fires that should sweep into the preserve from a distance are missing.

As nature's caretakers, the preserve's stewards introduce prescribed fire within the property. Each year, the goal is to burn 1/3 of the preserve. Every burn plan during that time is carefully orchestrated and follows the National Wildfire Coordinating Group's standards of training, equipment, qualifications and other operational functions.

Benefits of prescribed burns:

- Improves habitat for native wildlife species.
- Keeps insect pest populations in check.
- Eradicates some species of invasive (non-native) plants.
- Adds of nutrients for trees and other vegetation provided by ashes that remain after a fire and as a medium for seed germination.
- Removes of undergrowth, thereby allowing sunlight to reach the ground to encourage growth of native species.
- Clears of congested vegetation to facilitate planting or natural seed germination.
- Many Florida plants and animals have adapted to regular fires and require them to propagate.
- Reduces the amount of ground fuels such as dead vegetation and lowers the potential for large, unmanageable wildland fires.
- The small numbers of trees that do perish in fires become homes for insects and woodpeckers.
- Decaying wood and vegetation releases nutrients into the soil and enhances the growth of surrounding plants.

Upland Restoration

The Disney Wilderness Preserve is at the forefront of uplands restoration. Projects to restore longleaf pine flatwoods and dry prairie at the preserve begin with the removal of non-native grass, such as bahiagrass. Seeds of native plants are hand and machine collected from other parts of the preserve. The seed mix is then spread on the bare ground that has been prepared by removal of non-native vegetation. Bluestem is the first to emerge, then wiregrass, cutthroatgrass and toothachegrass — attracting birds like bobolinks who migrate through the preserve twice a year. After additional wiregrass and flatwoods seeds are harvested from other parts of the preserve and sowed in the upland restoration sites the stage is set for a future pine savanna.

Managers Needed

A question is often asked by visitors, "Why manage the land?" They wonder why The Nature Conservancy does not buy a site and then leave it to fend for itself. Unfortunately, habitats impacted by society do not restore themselves easily; and even when restored do not continue in their native state automatically. The reason is that more than 30 percent of Florida's flora has been introduced and is not native. At the preserve, numerous non-native plant species have been identified and many of

them are aggressively invasive. Management of the land maintains the native vegetation and as a result preserves Florida's wildlife.

Hope for the Future



Disney Wilderness Preserve©
Ericia La Spada

The success of the restoration program at The Disney Wilderness Preserve gives hope that it is never too late to set aside Florida landscape and take on the task of restoring its land and waters to a historically natural state. At The Disney Wilderness Preserve the staff and an army of valuable volunteers, have worked together to repair drained wetlands, reintroduce natural fire cycles, replace non-native pest plants with native vegetation, and monitor threatened and endangered species. They will continue to work together into the future to maintain the land and water in its rehabilitated condition and

preserve it as a place where visitors of all walks of life can experience the beauty of natural Florida.

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.