

Appendix C: Basics for Wilderness Stewardship

This wilderness character narrative qualitatively describes what is unique and special about the Marjory Stoneman Douglas Wilderness in terms of the five qualities of wilderness character. It is a foundational document intended to convey the current and foreseeable future condition of the wilderness, identify fundamental wilderness resources, and acknowledge important intangible values associated with the wilderness.

Introduction

A wilderness character narrative is intended to be a qualitative description and positive affirmation of the unique attributes of a wilderness area. Representatives from each of the four wilderness managing agencies developed a national framework to monitor wilderness character using five qualities: untrammeled, natural, undeveloped, opportunities for solitude or primitive and unconfined recreation, and other features of value. These qualities are defined in brief as follows:

- **Untrammeled.** Wilderness is essentially unhindered and free from modern human control or manipulation.
- **Natural.** Wilderness maintains ecological systems that are substantially free from the effects of modern civilization.
- **Undeveloped.** Wilderness retains its primeval character and influence, and is essentially without permanent improvements or modern human occupation.
- **Solitude or Primitive and Unconfined Recreation.** Wilderness provides outstanding opportunities for solitude or a primitive and unconfined type of recreation.
- **Other Features of Value.** Other tangible features of scientific, educational, scenic, or historical value.

The following wilderness character narrative is intended to familiarize readers with the tangible and intangible resources and values that combine to create the Marjory Stoneman Douglas Wilderness at Everglades National Park. The document was created through collaboration among NPS staff and is a record of the shared understanding of wilderness character exemplified by the Marjory Stoneman Douglas Wilderness.

This narrative serves as a framework for a wilderness stewardship plan, fosters integration among different staff and program areas that need to function together to effectively preserve wilderness character, and serves as a starting point for discussion with the public about the current and future state of the wilderness. Other more analytical documents, such as wilderness character baseline and wilderness character monitoring measures, may be derived from the qualitative description and threats to wilderness character identified by this wilderness character narrative.



Overview Of The Marjory Stoneman Douglas Wilderness

At the southern tip of the peninsula that is the State of Florida lies the Marjory Stoneman Douglas Wilderness. Fully encompassed within Everglades National Park, this area was considered wilderness long before the Wilderness Act was signed into law. As stated in the enabling legislation for the park, this area “shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area” (16 USC 410c). Though signed 30 years prior to the Wilderness Act, the park’s enabling legislation is analogous in its fundamental aims.

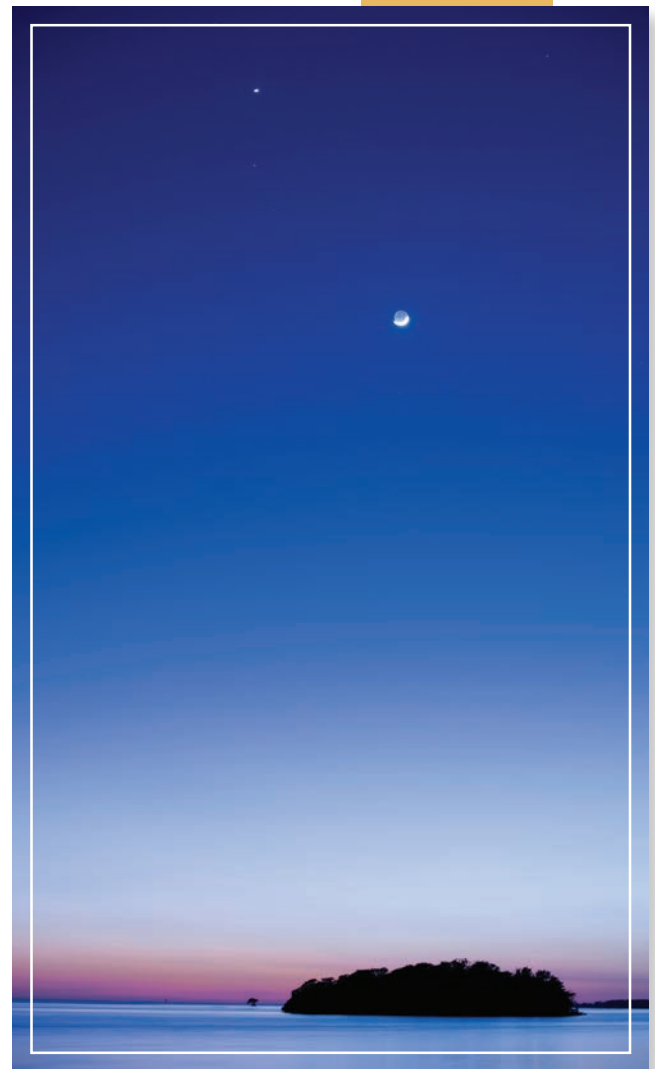
The Marjory Stoneman Douglas Wilderness is the largest unit of the National Wilderness Preservation System east of the Rocky Mountains. In character, it harks back to a primordial time full of mystery and intrigue. It is a wet, hot, and humid environment teeming with mosquitoes, hazardous wildlife, and poisonous plants and is both unforgiving and inhospitable. There is no debating these facts; however, if given the chance, visitors will find that this area is also wondrous, enchanting, and beautiful.

The wilderness is a vast complex of seasonally or permanently flooded ecosystems interspersed with isolated patches of dry ground that one may explore with few signs of modern human presence. It is a unique, subtropical wetland that connects central Florida’s freshwater ecosystem with the marine systems of Florida Bay and the Gulf of Mexico. The Everglades is an outstanding and subtle landscape, one that seems both bountiful in resources and spectacular in its never-ending waterways, diverse wildlife, and sprawling scenic views. Visitors to the wilderness have the opportunity to enjoy a relatively undeveloped and wild landscape, where they can view numerous threatened and endangered species, slog through backcountry sloughs, and sleep under starlit skies, all within a stone’s throw of a major metropolitan area.

Besides affording outstanding recreational benefits, the Marjory Stoneman Douglas Wilderness serves as an essential recharge for South Florida’s water supply, a natural line of defense against the impacts of tropical storms and a vital nursing ground for numerous aquatic and avian species. It also harbors an extensive array of cultural resources. Many have been documented and determined eligible for listing in the National Register of Historic Places, whereas others are still to be identified and evaluated for significance. These include archaeological and ethnographic resources, historic and prehistoric structures, and cultural landscapes.

The importance of the Marjory Stoneman Douglas Wilderness is reflected in its designations as an International Biosphere Reserve, a World Heritage Site, and a Ramsar Wetland of International Importance. This combination of distinctions is unmatched anywhere else in the United States.

The following narrative describes in more detail what is unique and special about the Marjory Stoneman Douglas Wilderness, while noting some of the major threats to the area’s wilderness character. It is organized by the five tangible and measurable qualities of wilderness character, namely, the untrammeled, natural, and undeveloped qualities, opportunities for solitude or primitive and unconfined recreation, and other features of value.



Untrammeled

Definition: Wilderness is essentially unhindered and free from modern human control or manipulation. This quality represents the “wild,” in “wilderness.” Any intentional or unintentional, authorized or unauthorized treatment or action that manipulates the wilderness degrades this quality. Perpetuating the untrammeled quality requires managers to restrain themselves, rather than restraining the wilderness. Often, upholding the untrammeled quality can detract from another wilderness quality, such as “naturalness,” or vice-versa. For example, nonnative species may be removed in order to attain natural species composition, which would in turn be a manipulation of the current wilderness.

As anyone venturing into the heart of the wilderness can attest, this vast wetland “appears to have been affected primarily by the forces of nature” and to the average visitor seems to be an area where the “earth and its community of life are untrammeled by man.” However, the story of the Everglades cannot be told without also taking note of the attempts of humans to manipulate and cultivate its landscape. In the decades leading up to the dedication of Everglades National Park, numerous attempts were made to exploit the region’s resources. Canals intended to expedite drainage were constructed both within and outside of the modern wilderness boundary. These changes caused widespread damage to the land and its ecological systems. Inflow patterns from the upper watershed were altered dramatically, as were hydrologic flow within the wilderness itself. These flows must now be intentionally manipulated to perpetuate the natural conditions for which Everglades National Park was established. The result is long-term degradation of the untrammeled quality of wilderness character, even as the natural quality is maintained or enhanced.

Despite efforts to tame the land, biophysical processes remain the predominant features of the landscape. The cycle of life here continues mostly unfettered. The fascinating and diverse wildlife, including fish, birds, and all other forms, are free to roam and forage unimpeded by human-caused restrictions. Likewise, most natural creeks and rivers openly flow through estuarine areas to the sea without impedance from artificial plugs or dams. Wildfires, which clear and rejuvenate the landscape, are generally allowed to burn unsuppressed and contribute to the natural cycle of succession. Perennial dynamic forces—violent storms, flood and drought, fire, and coastal wave action—continue to shape the region, and do so freely.



As wild as this wilderness appears, there are a variety of threats to the untrammeled quality. Most trammeling actions that threaten the wilderness center around three activities—environmental restoration, fire, and exotic species control— all of which are typically undertaken to preserve the natural quality of wilderness character. Water control structures on the periphery of the wilderness boundary are manually operated to counteract the effects of past actions. Additionally, smaller-scale active manipulation to restore natural conditions (e.g., restoring disturbed sites such as former agricultural fields or residential sites, or repairing seagrass beds damaged by motor boat groundings or propeller scarring in Florida Bay and other shallow-water areas) impact this quality. Even though naturally ignited fires generally burn unimpeded within the wilderness, the application of prescribed fire to the landscape results in trammeling; however, trammeling in the near-term enhances the long-term opportunity for future wildfires to go unsuppressed as more natural habitat regimes are established. Similarly, unauthorized ignitions enacted with the intent to alter the earth and its community of life also degrade the untrammeled quality. Finally, the removal of exotic plant and animal species, whether by mechanical or chemical means, qualifies as a trammeling of the wilderness even when conducted using nonmechanized means.

Natural

Definition: Wilderness maintains ecological systems that are substantially free from the effects of modern civilization.

The amazing abundance of unique natural features was the primary reason the area of the Marjory Stoneman Douglas Wilderness was established as a national park. As President Truman stated during his dedication speech (1947), “Here are no lofty peaks seeking the sky, no mighty glaciers or rushing streams wearing away the uplifted land. Here is land, tranquil in its quiet beauty, serving not as the source of water but as the last receiver of it.” The headwaters of the Everglades, originating in central Florida, are generally considered to lie in Shingle Creek, some 170 miles north of the northernmost boundary of the wilderness. From this point, water, the lifeblood of the Everglades, flows ever so slowly southward, gradually expanding laterally across much of the state and permeating the natural features traditionally associated with this iconic landscape. It is a subtle place where earth, water, and sky blend in a low green landscape, where mere inches of elevation produce substantial changes in vegetation, and where a great wealth of birds and other wildlife find refuge.

This wilderness is at the interface between temperate and subtropical America, sheltering a rich juxtaposition of species, many at the limit of their ranges. The interdependent mosaic of habitats supports an incomparable level of richness, ranging from microscopic organisms to matchless megafauna. Thirty-seven federally listed species have been recorded from within the wilderness, including the American alligator (*Alligator mississippiensis*) and crocodile (*Crocodylus acutus*), Florida panther (*Felis concolor coryi*), West Indian manatee (*Trichechus manatus*), smalltooth sawfish (*Pristis pectinata*), and Cape Sable seaside sparrow (*Ammodramus maritima mirabilis*). Historically, the Marjory Stoneman Douglas Wilderness was part of the most significant breeding ground for wading birds in North America. More than 300 species of birds have been recorded here, seven of them rare or endangered.

Perhaps the Everglades’ best known feature, the one for which it was dubbed the “River of Grass,” is a horizon-wide expanse of sawgrass prairie punctuated by hundreds of scattered “islands.” This, the largest continuous stand of sawgrass prairie in North America, characterizes the landscape over much of the interior of the wilderness. Within this area, the vegetation of the deeper ponds and drainage-courses includes a profusion of aquatic plants surrounded by a dense growth of willows and pond-apple trees. The small “islands” exhibit dense, low, tangled forest groves composed of the relatively few tree species that are adapted to low, swampy sites overlying deep deposits of peat. In contrast, hardwood hammocks contain a greater variety of trees that form a dense, subtropical “jungle” of tall trees and a profusion of ferns, vines, epiphytic orchids, and bromeliads. More than 750 native plant species have been found within the wilderness area, including an astonishing 39 orchid and 120 tree species. Fifty-nine of the plant species within the wilderness are considered to be critically imperiled in South Florida.



The sawgrass prairie dominates the landscape, but it encompasses only one of the many diverse ecosystems within this wilderness. Centrally located within the wilderness is a relatively small and increasingly rare ecosystem composed of pine vegetation. This area, known as Long Pine Key, preserves the chief surviving example in southern Florida of pine rockland and its slash-pine vegetation type. Most other examples outside of the wilderness have been destroyed and replaced as a result of human dominance over the landscape. The importance of fire in the preservation of this vegetation type is critical.

Along the western and southern fringes of the South Florida coastline, where the fresh water becomes brackish, is the largest mangrove ecosystem in the Western Hemisphere. The coastline is cut by islands and estuaries where, in the words of President Truman, “deep rivers, giant groves of colorful mangrove trees, prairie marshes and innumerable lakes and streams” can be found. This area supports a variety of fish and wildlife, including the endangered small tooth sawfish, which is totally dependent on the aquatic medium of these fresh to brackish waters.

To the west, beyond the mangroves are the open waters of the Gulf of Mexico. To the south is the broad expanse of Florida Bay, with its numerous and scattered keys, extensive seagrass meadows, mud banks, and basins. The bay is a shallow depression from less than one to no more than 10 feet in depth. Given the shallow waters and the profusion of motorboat use above the submerged marine land wilderness, seagrass scarring from vessel groundings is a persistent threat to this resource. Although not included in the wilderness designation, the water column, in combination with the submerged vegetation in this warm, favorable environment, produces food for a large and diverse population of fish and birds. The shallow grass-and-mud banks are submerged at high tide to a depth of about 2 feet; however, during low tide, some are partially exposed, providing a primary feeding ground for certain wading birds, as well as pelicans, eagles, and ospreys. The keys of Florida Bay are low islands, usually ringed with mangrove trees and supporting a variety of tropical hardwoods, shrubs, and grasses within their interior. Many species of birds utilize the various keys for roosting and nesting.

Though unique and diverse, the Marjory Stoneman Douglas Wilderness faces a number of threats, both internal and external, that diminish the natural quality of wilderness character. The composition of natural communities within the wilderness is threatened by a long-term disruption of the natural fire regime, as well as an abundant variety of nonnative plants and animals. The continued presence of such invasive species as the Burmese python and melaleuca (Australian paperbark tree) severely alters the structure and function of the ecosystem. Major changes to the hydrologic regime of the park, beginning more than 100 years ago, are the result of the construction of a vast and effective system of canals, levees, weirs, and pumps located outside park boundaries. This water management system provides flood protection and water supply to the agricultural and urban areas of South Florida; however, disruption of the quality, quantity, timing, and duration of water within the wilderness has had dramatic and lasting effects on the landscape’s form, function, and species composition, on both small and large scales. Some of these changes have resulted in the risk of losing valuable species such as the Cape Sable seaside sparrow. Vegetation loss has occurred in Florida Bay and other shallow-water backcountry areas, where many motorboat grounding and propeller-scarring incidents occur annually and increased salinity from diminished freshwater flows has damaged seagrass beds in submerged marine land wilderness. In the coming decades, the large-scale threats imposed by climate change and sea-level rise also have the potential to reshape the wilderness as we know it.

The importance of this environment cannot be denied, but it is extremely dynamic by nature and not intended to be frozen as a static landscape. However, this dynamism, including the striking contrasts of land and sea, fresh water and salt water, excess rainfall and drought, fire and the absence of fire, stormy weather and calm weather, has created an environment both fascinating and beautiful.

Undeveloped

Definition: Wilderness retains its primeval character and influence, and is essentially without permanent improvements or modern human occupation.

As the largest designated wilderness area east of the Rocky Mountains, the Marjory Stoneman Douglas Wilderness has the appearance and feel of an undeveloped wilderness landscape, a place “where man himself is a visitor who does not remain.” Sweeping views across the Everglades are mostly unobstructed by human development and allow spectacular sights of the region’s unique flora and fauna. The southern part of the park is dotted with remote keys, few of which have experienced modern development. The interior reaches of the wilderness are mostly inaccessible, deterring the desire and feasibility of any form of modern improvement.

When compared to adjacent lands to the east, there is a stark contrast between the wilderness boundary and the sprawling urbanization and development that saturates the area. This contrast makes the undeveloped landscape that much more apparent to the casual observer. Historic development within the modern wilderness boundary was largely prevented by the vast shallow waters and extreme weather characteristic of the region. However, some pre-designation developmental traces do exist, including hunting camps within the East Everglades Addition, areas of past agricultural activity, and canals constructed in the early 20th century. The canals, particularly those on Cape Sable, pose difficult management issues with regard to preserving wilderness character and have resulted in the construction of artificial plugs designed to assist in the preservation of the natural quality.



For the most part, agency-authorized development within the wilderness takes one of two forms—installations and mechanical transport. The use of these measures, although generally prohibited by section 4c of the Wilderness Act, is largely owing to a paradox inherent in the preservation of wilderness character. Installations that support scientific inquiry or park communication degrade the undeveloped quality of wilderness but also provide information essential for protecting and enhancing the natural quality. The data gained from many scientific installations are often the best available indicator of the condition of the natural quality. This is particularly true of data collected in connection with ongoing environmental restoration efforts in South Florida. Data collected for this purpose are crucial for park management when negotiating with stakeholders at the landscape level, many of whom have priorities that differ from the park’s goal of enhancing the natural quality. Furthermore, due to the expansive nature of the wilderness, combined with its extreme environmental conditions, much of the wilderness is inaccessible by traditional means within the requisite constraints of most data collection efforts. As a result, the large scale use and landing of helicopters within the wilderness is permitted. Airboats are extensively used primarily along existing trails, but off-trail use is permitted in some circumstances and leads to the creation and perpetuation of features that could be considered equivalent to temporary roads. Other forms of temporary roads can be found in the Long Pine Key area where fire breaks form a network of paths throughout the area.

Limited infrastructure can also be found within the marine environs of the wilderness. Through the special designation of submerged marine wilderness, Congress authorized the continued use of motorboats within the waters that overlie these lands. Natural and dredged channels and various aids to navigation facilitate safe boating operations and resource protection of shallow-water flats within these areas and reduce the occurrence and spread of resource damage from grounding impacts in Florida Bay, Ten Thousand Islands, and mangrove backcountry areas inland from the Gulf of Mexico. Similarly, hiking and canoe trails in other parts of the wilderness are periodically cleared and utilize small markers to accomplish similar goals.

On balance, the individual installations within this wilderness are generally small and mostly unnoticeable. Although helicopter use often pervades the wilderness, its effects are typically isolated and short-lived. As long as restoration efforts are ongoing in South Florida, impacts on the undeveloped quality can be expected. These impacts are generally acceptable in the short term so long as managers strive to minimize the threat imposed by cumulative impacts.

Solitude Or Primitive And Unconfined Recreation

Definition: Wilderness provides outstanding opportunities for solitude or a primitive and unconfined type of recreation. This quality is primarily about the opportunity for people to experience wilderness, and is influenced by settings that affect these opportunities.

The ecological diversity of the Marjory Stoneman Douglas Wilderness provides an equally diverse array of recreational opportunities. Visitors to this wilderness can experience solitude, a deep connection with nature, discovery, revitalization, freedom from the pressures of society, and personal challenge and self-reliance. When delivering the invocation at the dedication ceremony for the park, Deaconess Harriett Beadell referred to this area as “a haven not only for the wildlife, but where [visitors] may find the beauties and peace of nature—where they may go apart from the hurry and anxieties of this life.” More than one million visitors visit Everglades National Park annually, but the vast majority never leaves the few access roads or developed trails within the park to enter the wilderness.

Located adjacent to the sprawling Miami metropolis and within two hours of many other municipalities, this wilderness is widely accessible, and experiences can vary as much as the visitors themselves. It is a particularly challenging environment for self-reliant recreation, and it provides a unique blend of risks and hazards that contribute to the wilderness experience. Hiking and “slogging” opportunities are boundless. Visitors can depart the road constrained only by the challenges of the wilderness environment itself, including jagged pinnacle rock, deep peat, dense vegetation, and perilous wildlife, all while being surrounded by and immersed in water. Likewise, there are almost endless opportunities for unconfined paddling. Marked canoe trails exist, but visitors are not restricted to their confines and may explore at their leisure. Paddling coastal areas among the mangroves can provide some of the richest experiences in this wilderness.

Although paddlers may choose to spend the night in their watercraft, primitive camping is generally limited to designated backcountry campsites in order to preserve the natural quality. Use of these sites requires a backcountry camping permit in order to resolve capacity issues. Primitive campsites include beach and other ground sites, but the most numerous sites come in the form of “chickees”—elevated camping platforms strategically placed throughout the submerged marine wilderness areas. Chickees constitute visitor use facilities in wilderness, but their use is justified by two considerations. First, this watery wilderness is expansive, and fully accessing it by primitive forms of transportation would not be possible without high and dry waypoints at which to stop for the night. Second, much of the coastline is dominated by mangroves. These areas are not suitable for ground camping and clearing them for that purpose would significantly impact both the natural and untrammeled qualities.

Backcountry camping provides opportunities to experience a side of the wilderness that cannot be encountered during daylight hours. In contrast to urbanized areas in which many visitors reside, the wilderness provides relatively clear viewing of the night sky with little haze and light pollution that plagues many cities. For those who rarely depart metropolitan confines, the enormity and stark contrast of the night sky can be striking. Furthermore, the nighttime soundscape provides an eclectic array of chirps, croaks, grunts, and bellows that can be both fascinating and eerie in the absence of light. With morning comes the sunrise and the dance of color low across the vast horizon, rejuvenating the day as well as any who observe it. These settings provide an opportunity for self-reflection and can lead to revelations regarding significance and self-worth.

Visitors will find ample opportunities to experience solitude when recreating in this wilderness. If they so wish, they can lose themselves in the vastness, avoiding contact with others for days at a time. Here visitors have the opportunity to commune with nature on a fundamental level unlike anywhere else. Whether secluded in a hardwood hammock as a flock of wading birds flies low overhead, every beat of their wings heard on the wind, or drifting along surrounded by a tangle of mangrove trees consumed by the tranquil sounds of nature, this wilderness provides settings that allow the burdens of everyday life to fade away. Visitors can return home with a refreshed spirit and a greater appreciation of the majesty and beauty of this wilderness.

Even so, visitors will almost certainly encounter some actions and practices that diminish this quality. Reminders of modern civilization (e.g., installations, structures, motorized equipment) affect the setting visitors associate with the wilderness, regardless of the utility these tools have for preserving other elements of wilderness character. The visual and auditory presence of motorboats, although allowed above the submerged marine land wilderness, influences the wilderness setting, as do routine aircraft overflights and specialized helicopter operations, which are typically authorized for research and monitoring. Airboat use for research, monitoring, law enforcement, and recreation (the latter limited to parts of the East Everglades Addition) also impacts opportunities for solitude. The impacts of these motorized activities can be difficult to ignore. Likewise, “chickees” affect both the natural setting and recreational experience, despite having become part of the Everglades culture and an expected part of the visitor experience. The very duality of this quality (i.e., solitude and primitive/unconfined recreation) can often be at odds. Backcountry permitting and designated campsites impose a confinement on recreation but help facilitate opportunities for solitude. Appropriate management of this quality, as with the other qualities, requires a delicate balance of action and restraint.

Other Features Of Value

Definition: This quality covers those values and features that are not fully covered in the other four qualities, including ecological, geological, scientific, educational, scenic, or historical value. This feature is unique to an individual wilderness based on the features that are inside that wilderness.

American Indians have interacted with and shaped this landscape for more than 5,000 years. The earliest known human occupation within this area took place on interior tree islands and hardwood hammocks. In the Ten Thousand Islands region, humans constructed many of today's land-based islands from shell debris, primarily oyster shells. Over time, the accumulation of debris (shell and soil middens) and the intentional construction of raised platforms, ridges, high mounds, crescents, canals, and inundated courtyards have significantly altered the topography of these locations. These human-constructed landscape elements support numerous plant and animal habitats that would not exist in their current numbers and locations without the agency of American Indians.

The Mud Lake Canal on Cape Sable is an aboriginal canal that may have been constructed as early as 1,250 years ago by ancestors of the Tequesta people and is associated with the Bear Lake Mound district. The canal extends about four miles, linking Bear Lake and the waters of Whitewater Bay with Florida Bay. The prehistoric canal likely provided safer navigation passage, easy access to aquatic resources, and a route to facilitate exchange and tribute among groups. The canal was designated a national historic landmark in 2006, exhibiting exceptional national significance as the best-preserved example of a rare prehistoric engineering feature.

More recently, human interaction with the wilderness includes exploration and recreation, subsistence activities, resource extraction, agricultural undertakings, homesteading, engineered canals, military excursions (with associated development of camps and forts), large-scale hydrological modifications, and ecological restoration. It is noteworthy that the remains of the thousands of people who lived and died in the wilderness are still present in burial mounds, cemeteries, and burial grounds. Human presence on this landscape is integral to fully understanding and defining this wilderness.



Until establishment of Everglades National Park in 1947, American Indians who identify today with the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Council of the Original Miccosukee Simanolee Nation Aboriginal Peoples, and Independents were living in camps and practicing traditional activities. After establishment of the park, there was a decline in the American Indian presence, but traditional activities continue today. These traditions include arts, crafts, social institutions, hunting, fishing, gathering plants, practicing religious ceremonies, and burying their dead in the wilderness. The land and resources comprising the wilderness are linked to their cultural practices and beliefs. For American Indians the landscape holds deeply embedded heritage values important in maintaining and continuing their cultural identity.

Based on documented activities within the wilderness, historical archeological resources include fishing and hunting camps, fish processing facilities and ice plants, tannic acid plants, charcoal production sites, road construction camps, military outposts, sugar cane mill sites, farmsteads, private recreational development, homesteads, ecological restoration, and oil exploration sites. Archeological features associated with historic sites include the remnants of houses, outbuildings, cisterns, and gardens. Associated artifacts commonly include ceramic and glass fragments, metal hardware, tools, and personal items. The location, integrity, and cultural significance of most of these historic archeological resources are currently unknown.

In the early 1900s, canals were constructed as part of the draining of the landscape for agricultural purposes and permanent settlement of the area. These canals were plugged in the 1950s and 1960s as part of the ecological restoration of the wilderness environment.

In East Everglades, several hunting camps (including bunkhouses, sheds, outhouses, and other features) are present on interior tree islands and hardwood hammocks. One of particular note is Duck Camp, constructed around 1950, which was formerly used by the Miami Rod and Gun Club.

Threats to other resources of value include weathering, vandalism, sea level rise, and park management actions, including those associated with Everglades restoration.

