



Statement of Outstanding Universal Value

3.3 b Proposed Statement of Outstanding Universal Value

a) Brief synthesis

ONWR is a highly diverse mosaic of unfragmented wetland, forest, and prairie ecosystems, habitats, and ecotones inhabiting over 162,000 hectares in the state of Georgia, United States of America. The ancient origins of ONWR's foundation deposits it with vast amounts of rich information illustrating millennia of global change and environmental conditions. It is located within two critical or endangered ecoregions of the Freshwater and the Terrestrial Global 200 Priority. The unique river depository breeds biodiversity that transcends national boundaries with global importance as one of the world's largest and North America's largest freshwater wetland. There are few, if any, comparable areas of scale and degree of naturalness elsewhere globally. ONWR's thriving diversity of ecosystems supports the lives of thousands of species existing within the property. Its vegetative community supports an ecosystem rife with rare or endangered species, such as the federally endangered and globally vulnerable red-cockaded woodpecker. The outstanding value and natural significance of ONWR, as one of the only wetlands surviving intact and largely unmodified within earth's most highly developed temperate zones, is so exceptional as to transcend national boundaries of common importance for present and future generations of all humanity.

b) Justification for Criteria

Criteria ix:

The vast, unfragmented wetland flourishes in one of the world's most highly developed temperate zones, making ONWR unique from a global perspective. Unlike many wetland areas, ONWR is the source of rivers rather than the recipient of waters, making it possible to keep the Suwanee River pristine. It therefore escapes disturbances to natural hydrology and water flow and is one of the world's largest naturally driven freshwater ecosystems. ONWR's formation hundreds of thousands of years ago combined with its development of longstanding natural processes clearly attribute to its ability to sustain rich ecosystems and biological diversity. Its origins are so complex that they remain in debate, providing the opportunity to enrich global learning of geographical and ecological processes if kept intact. ONWR's famous Taxodium forests continue to exist as naturally managed forests comprised of native species. This differs fundamentally from the surrounding areas where the impacts from logging and the commercialization of timber production resulted in the loss of most old trees.

The upland forests and wetland mires cover dense ancient deposits of water, sand, clay, and limestone. Bay and tupelo forests grade into cypress stands draped in Spanish moss only to be interrupted by the beginning of the river channel that will eventually become the Suwannee River. Beyond the cypress trees that line the channel, large marsh areas known locally as "prairies" open up, interspersed with tree islands that originated on floating peat masses. Water lilies, spatterdock, and neverwets grace the water surface while bladderwort prospers beneath. The open prairie gives way to expanses of dense scrub-shrub habitat composed of titi and fetterbush, all intertwined with a covering of green brier. Scattered pines rise above this impenetrable shrub layer. ONWR's diversity represents significant ecological development in the communities of plants and animals.

ONWR stands as an excellent example of a mosaic of ecosystems driven by natural processes rather than man-made systems or recreations of natural processes. This highly temperate region experiences some of the most lightning in North America, creating fires that rejuvenate vegetation and critically maintain natural habitats. The importance of fire represents significant on-going ecological and biological processes

in the evolution and development of the ecosystem. These severe fires historically led to the formation and maintenance of ONWR's open marshes, prairies, water ponds, and lakes. Longleaf pine savannas are ecosystems that have been maintained by fire for millennia.

ONWR is a vast peat bog, characterized by its sphagnum moss, acidic water, and low nutrient status and influenced and maintained by fire as well. ONWR's extensive peat bed records changes in vegetation and climate over the past 6,500 years that help explain the development of freshwater and terrestrial ecosystems. It also holds important information about global events, both natural and man-caused, such as the nuclear testing from the 1960's. With less than 3% of the world's land area covered by peatlands, coupled with their importance of carbon storage and carbon's scale of degradation, peatland preservation is globally significant. ONWR's carbon "sink" prevents climate change and exposing this stored carbon would have a significant impact on atmospheric carbon.

The fact that ONWR exists as remarkably intact within the highly disturbed NACP biodiversity hotspot, indicates its outstanding value as an example of the ecological processes illustrating the multiplicity of ONWR's landscape that its flora and fauna flourish within. ONWR is also located within a biogeographic region with high levels of disturbance, making its remarkably intact property even more important to protect endemic species.

Criteria x:

ONWR sits in the Southeastern Coniferous and Broadleaf Forest ecoregion, which has the highest species richness within the Nearctic realm, with 3,095 species, many of which are endemic or considered conservation priorities. Designated as an internationally significant Important Bird Area by Bird Life International, with a stated purpose of being a breeding ground for migrant and indigenous wildlife, many species depend on the refuge's open pine forest upland. ONWR supports 238 species of both resident and migratory birds, 88% of the bird species found within the NACP biodiversity hotspot. Nine species of woodpeckers, including the endangered Red-cockaded woodpecker make their home on the property. The refuge protects "habitats for endangered/high conservation priority species during all seasons

The property hosts many native reptile and amphibian species, including 34 snakes, 13 turtles, 1 crocodylian (alligator), 10 lizards, 21 frogs and toads, and 11 salamanders. Amphibian populations are of concern world-wide due to increased human populations encroaching on habitats, degradation of habitats, climate change, and increased pesticide use. ONWR provides a stable protected area for these species to thrive. ONWR supports one of the largest populations of the American alligator, an iconic reptile species and one of two alligator species in the world. The alligator within ONWR is a significant landscape engineer, creating open pools of water that benefit other animals. The property also supports 48 species of mammals including the southeastern US endemic round-tailed muskrat and a large population of Florida black bear. ONWR is one of three sites that is being considered for re-introducing the Florida panther because of its availability of large uninhabited tracts of land and its expanse of appropriate habitats.

ONWR houses 39 fish species that have adapted to extremely low oxygen, pH, and nutrient levels and have been successful at reproducing. ONWR's warm and humid climate allows for exceptional insect diversity. It is estimated that the arthropods in the dry longleaf pine habitats of the Coastal Plain could easily surpass 5,000 species, and over 1,000 moth species alone within the ONWR. New species continue to be discovered, adding to the property's existing biodiversity, like freshwater sponges and *Hydra lirosoma*.

ONWR also contains incredible levels of plant species richness. Over 856 identified plant species, or 14% of those listed in the NACP hotspot, thrive within the small depressions and mounds throughout ONWR's territory. The NACP biodiversity hotspot is unique for demonstrating extreme diversity across small elevation changes. ONWR is a prime example of this, as all ONWR's diversity is spread across only 12 m of elevation change. This includes a variety of wetland and upland hardwoods, mixed wetland pines, and 18 varieties of carnivorous plants including 8 globally vulnerable types, 4 sundew, 3 butterworts and 8 bladderworts.

c) Statement of Integrity

With protection and restoration occurring over the past 85 years, ONWR is now considered by many as nearly intact. Majestic old growth cypress trees still tower over the understory in a few places within the swamp and the seed bed has re-established the forest and savanna habitats from the ground vegetation to the tree canopy. Presently, only two non-native fauna species are documented to influence the property – feral hogs and the red bay ambrosia beetle. ONWR takes an aggressive management approach to eliminating those invasives that pose a threat on the property.

The ecological sustainability of ONWR's bio-physical processes and landform features has existed for millennia. Its entirety of over 400,000 acres maintains natural processes, creating long-term conservation of its ecosystems and biological diversity. For example, the freshwater acting as a depository to two major south-eastern rivers helps regulate its natural protection from disturbances to water flow. Its natural and controlled fire maintenance burns vegetation to allow for its rejuvenation. ONWR's distinctive survival allowed by these processes contrasts with the great demise or modification of most other wetlands across earth's temperate zones. Its extraordinary importance maintained by these natural and essential processes also enables its biologically diverse flora and fauna.

Combined with its large surface area, ONWR's rare landform varieties help maintain its natural ecosystems and enable biological diversity to thrive, retaining the refuge's global significance. Its unique combination of biological diversity includes some of the most diverse flora and fauna of the world's most highly developed temperate zones. ONWR's bio-geographical province facilitates the growth of life, creating a complete assemblage of co-evolved herbivores, plants, and even carnivorous plants—all closely interlinked with ONWR's vast and unique landforms. ONWR's uplands are broken up by small streams and numerous depressions, creating a mosaic of habitats critical for the successful reproduction of amphibian and invertebrate species. ONWR's unique properties thus conserve its vast biological diversity.

ONWR effectively protects its integrity against adverse effects through its natural processes of preventative maintenance strengthened by its evergreen management protection place. Small parts of the buffer zones of some of the component areas are slightly affected by traditional natural resource use. Previous threats against ONWR's preservation aims included mining along the site's boundaries, in turn affecting its hydrologic dynamics. Many organizations' continued commitments of protecting the site against degradation support the refuge's integrity.

d) Requirements for protection and management

USFWS CCC's comprehensive management and conservation plan ensures ONWR's global integrity is upheld for future generations. ONWR has worked tirelessly to protect the area. ONWR's wetlands gained federal protection in 1937 when it became a national wildlife refuge and was designated as a Class I Wilderness in 1974. This legislation significantly increases the complexity of decision making regarding the property's management while it preserves its wildlife habitat and is devoted to the public purposes of recreational, scenic, scientific, and educational use.

The overall philosophy of the refuge is to provide a quality experience for visitors. In order to provide a well-balanced system of protection to the wildlife and access to visitors, a well-established public-use management system was needed. Recreation management are tools that help the refuge meet its objectives. Optimum habitat and protection for threatened, endangered, and other wildlife species are provided through public use policies and facility designs. These practices concentrate the impact of the large numbers of people visiting the refuge on a fraction of the area managed. A large percentage of refuge visitors never venture beyond the public use areas provided and are restricted to day-use visitation or are issued a special use permit, which restricts access. Together, efforts from natural processes, ONWR, and UNESCO represent the last opportunity to protect the unfragmented foundation and biological diversity of a globally significant ecosystem.