



**CITY OF NEW PORT RICHEY
FLOODPLAIN SPECIES ASSESSMENT & PLAN
AND
NATURAL FUNCTIONS REPORT
APRIL 2024**

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INTRODUCTION

The City of New Port Richey consists of approximately 4.61 square miles, with 1306.66 +/- acres located within the Special Flood Hazard Area (SFHA). In the New Port Richey area, natural resources include the Pithlachascotee River, lakes, wetlands, floodplains, groundwater, soils, air, wildlife, terrestrial and marine habitats, and vegetative communities. The Pithlachascotee River, Orange Lake, and Lake Chasco are among the surface water resources within the City. Incorporated New Port Richey has no direct contact with the Gulf of Mexico. The natural drainage areas predominantly occur in coastal areas west of US 19 and along the Pithlachascotee River. The Pithlachascotee River has a drainage area of approximately 182 square miles. Historic urban development in the floodplain in has increased the size of the floodplain in the City due to diminished drainage capacities. Current regulations restrict development in the floodplain to preserve its natural drainage function and to prevent loss of life and property due to flooding.

ECOLOGICAL COMMUNITIES

According to the City New Port Richey 2030 Comprehensive Plan, Conservation Element, the ecological communities, or vegetative communities, within or adjacent to the City include urban forest, wetlands, rivers and streams and marine. A summary of New Port Richey's ecological communities can be found herein.

Upland Forest

This category consists of temperate mesic forest located on sandy, rolling, upland terrain that is dominated by laurel oak, live oak, magnolia, slash pine, longleaf pine and other mixed hardwoods.

Wetlands

Wetlands in and around the City are comprised of freshwater and saltwater wetlands. Estuarine wetlands are found along the Pithlachascotee River and along the Gulf of Mexico coastline (in the unincorporated area). These areas have the greatest variety of wetlands including mangrove swamps, saltwater and freshwater marshes and hardwood swamps. The importance of mangroves, salt marshes and seagrass beds to coastal and estuarine ecosystems has been well documented. As primary producers, these species of wetland vegetation provide the foundation of coastal and estuarine food webs; both as direct sources of nutrition and as generators of detrital particles. Secondary to their role as primary producers, coastal and estuarine wetlands provide protection and habitat for such organisms as shrimp, crabs, scallops and juvenile fishes. In addition, wetland vegetation provides necessary substrate for the attachment of organisms that are major food sources for many economically important species of finfish.

In addition to their contributions to the biology of the marine ecosystem, coastal and

estuarine wetlands play an important role in modifying the geologic and hydrographic characteristics of the area. Acting as baffles, roots and leaves reduce the velocity of water over the bottom causing suspended particles to settle out and become trapped at the base of the plants. In this way, mangroves, marshes and seagrasses reduce turbidity, increase sedimentation rates, stabilize sediments and attenuate wave action on adjacent shorelines and reduce flood crests and flows rates after storm events. The binding and stabilization characteristics of these habitats are documented by reports of some coastal marshes and seagrass meadows surviving the destructive scouring forces of coastal storms and hurricanes in the Gulf States.

Forested Wetlands

Also found in the vicinity of New Port Richey are cypress and hardwood swamps. The cypress swamps are low-lying forest dominated by bald (*Taxodium distichum*) and pond (*Taxodium ascendens*) cypress. Freshwater wetlands are found in the southeast portion of the City due to annexation. Cattail (*Typha* spp.), fire flag (*Thalia geniculata*) and sawgrass (*Cladium jamaicense*) are some of the species found in this community. Upland communities include longleaf pine, slash pine and the field community. In addition, the growth and expansion of opportunistic exotic plant species such as Brazilian pepper (*Schinus terbinthefolis*), Australian pine (*Casuarina* spp.) and punk tree (*Melaleuca quinquenervia*) have encroached on native flora. The longleaf pine community is identified by the typical longleaf pine-turkey oak vegetation.

Dominant species of the Bottomland Forest include water oak, red maple, ironwood, diamond leaf oak, American elm, sweetgum, water hickory, water locust, slash pine and American holly. Possum haw, Walter's viburnum and hawthorns are characteristic understory trees or shrubs. Other species include winterberry, Virginia willow, stiff cornel dogwood, fire flag, poison ivy and peppervine. Characteristic herbs include small chain fern, bead fern, lizard's tail, sedges and saw palmetto.

Like vegetation, animal diversity in Bottomland Forest is diverse. Mast and berry production is moderate to high, providing good food resources for grey squirrel, red bellied woodpecker, turkey, quail and white tail deer. Particularly in the drier and higher parts of these hammocks, several species of rats and mice are common, providing food for carnivores such as the bobcat. The invertebrates provide food for mice, rats, shrews, opossum and other species in the Bottomland Forests. Bottomland Forest provide good habitat for amphibians such as the eastern spadefoot toad, leopard frog, narrow mouth toad, southern toad, green tree frog, barking tree frog, squirrel tree frog, little grass frog and common newt. Common reptiles include Florida box turtle, green anole, brown anole and southeastern five-lined skink. Snake species include the eastern indigo snake, black racer, red/yellow rat snake, rough green snake and eastern coachwhip. Breeding birds may include blue jay, cardinal, tufted titmouse, Carolina wren, great crested flycatcher and red bellied woodpecker. Pileated woodpeckers and turkey may be found in stands.

Other common species in bottomlands include the barred owl and downy woodpecker.

Mammal use of the Bottomland Forest is moderate and includes such species as the cotton mouse, golden mouse, short tailed shrew, southeastern shrew and marsh rabbit.

Freshwater Marsh

Freshwater Marshes are wetland communities dominated by non-woody vegetation such as grasses, sedges, rushes, or broad-leaved aquatic emergent plants. The soils are often saturated and the sites are regularly or occasionally flooded at least during the wet season. Freshwater Marshes may undergo succession to Mixed Hardwood Swamp, Cypress Swamp, Bayhead, Hydric Hammock, Wet Prairie, Mesic/Wet Flatwoods, or Ponds and Lakes.

Mangrove Swamp

Mangrove swamp, also known as tidal swamp, saltwater forest, or mangrove forest, occur on low wave energy seashores on tidally submerged soils with sand and organic substrates. They may also extend inland along tidally influenced brackish rivers. Drainage and mosquito ditches are common features in mangrove swamps. Other than mangroves, the vegetation is usually restricted to a few herbaceous plants which tolerate saline conditions. Common species occurring are saltwort, glasswort, sea purslane, sea blite, sea lavender, leatherfern and black needlerush. Species which may nest in the mangrove swamp include the white and brown pelican, bald eagle, American osprey, roseate spoonbill, reddish egret, great egret, snowy egret, little blue heron, black and yellow crowned night herons, glossy ibis and white ibis. Nesting birds found in this habitat include the black-whiskered vireo and, perhaps, the mangrove cuckoo. Several other species may feed in or near mangrove swamp, usually on a seasonal basis. These include the peregrine falcon, several vireos and warblers, dowitchers, blue-wing teal and greater scaup. Reptile and amphibian representation in the mangrove swamp is rather low. The Florida mud turtle, Florida snapping turtle, ornate diamondback terrapin, green anole, Florida Green water snake, Atlantic salt marsh snake and green tree frog may infrequently be found, mainly in the brackish areas. The American alligator is a frequent inhabitant of the streams and ditches in mangrove systems. Racoons, Florida mink and bobcat may occasionally forage or hunt in this system. Mangrove swamp is a food source for estuaries and nursery ground for young fishes.

Salt Marsh

Salt marshes occur on low wave-energy seashores on tidally submerged soils with sand and organic substrates. Smooth cordgrass occupies the deeper zones and may extend up to 3,000 feet from the shoreline. Black needlerush usually occupies the next zone, also forming bands of similar size. Marshhay cordgrass and sand cordgrass may form narrow bands along the upper edge of the marsh. Sand cordgrass may form pure strands in shallow, brackish, sandy sites which are tidally influenced. Other plant species are rare in these zones, but they may include sea lavender, leather fern, glasswort, sea purslane and sea blite. Marshhay cordgrass may form extensive stands on the landward side of either the smooth cordgrass or black needlerush marshes. Associated species in these upper marsh zones include salt wort, leatherfern, buttonwood, glasswort, sea blight, seaoxey daisy, groundsel, salt marsh aster and marsh elders. Brackish water sites at the upper ends of

estuaries or along brackish rivers may be dominated by sand cordgrass which grows to heights of six feet. Associated species include saw grass, saltgrass, railroad vine, marsh elder, glasswort, leatherfern, black needlerush, coastal dropseed, climbing hempweed and salt joint grass.

Vertebrate wildlife diversity is limited in salt marshes due to fluctuating water levels, generally high salinity and exposure. The marsh rabbit and some mice and rats may graze or feed on seeds in the upper drier fringes of the marsh. Additional species which feed on grazing insects are spiders, dragonflies and some passerine birds such as marsh wrens and seaside sparrows. Other species which may be present in salt marsh are the American alligator, eastern indigo snake, diamondbacked terrapin, river otter and Florida mink. Much of the food production goes into the detrital food chain, where it is consumed by fiddler crabs, marine worms and mollusks. These, in turn, are food for racoons, river otter and several species of wading birds. These wading birds also use the marshes as feeding grounds for small fishes. Commonly occurring feeding birds are white ibis, herons, belted kingfishes, terns, black skimmers, blackbirds and grackles. Birds which may nest in the salt marshes include the long-billed marsh wren, clapper rail and common yellow-throat.

The estuarine wetland systems located along the Pithlachascotee River and extending into the Gulf are easily affected by the activities which take place within the City. The wetlands in the City are primarily for conservation purposes by providing necessary fish and wildlife habitat and promoting a natural “filter” for surface water.

Rivers and Streams

The rivers and streams category includes natural flowing waters with defined channels from the source or origin downstream to the point where tidal influences dominate flow. Rivers and streams in Pasco County may be described as either spring fed, blackwater, or seepage (bog fed). Vascular vegetation in most streams and rivers in Pasco County is limited. Most of the emergent vegetation is confined to the shore zone, where extensive stands may form. Species in these areas are similar to those of freshwater marshes. Deeper zones will contain floating leaved species such as spatterdock, fragrant water lily, American lotus, blue water lily, frogbit and floating heart. These species often occur where water depths are at least 24 inches and inundation is permanent. Common floating species are large water hyacinth, water lettuce, duckweed and water fern.

Wildlife diversity in rivers and streams is relatively high. Numerous macroinvertebrates may occur. In these streams, species tolerant of low oxygen and poor water quality are very abundant, while those species intolerant of low oxygen or poor water quality are often absent. Biomass of invertebrates is often greater, but diversity is lower, in nutrient rich areas. Species include tolerant Chironomus midges, tubificid worms, oligochaete worms, snails, sphaeroid clams and the Asiatic clam. Flowing streams with good water quality, sandy or rocky substrates, low levels of organic matter and nutrient enrichment normally have more diverse invertebrate communities, but the abundance and biomass is lower. Typical groups include mayflies, caddisflies, stoneflies, dragonflies, damselflies, intolerant

midges and grass shrimp. Crayfish may be found in a wide variety of sites, while the hellgramite is found only in rapidly flowing waters of good quality. Reptiles and amphibians are common within and along the banks of the rivers and streams, particularly in the permanent rivers which often serve as refuge for many species during stressful periods such as drought or fire events.

Marine

Freshwater mixing with saltwater creates unique chemical and physical environments each of which supports different communities of organisms particularly adapted to that type of water condition. The Gulf of Mexico receives freshwater from the Pithlachascotee River which flows through the center of New Port Richey. Some of the freshwater species of fish include largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*). There are two species of special concern found in the area. The primary habitat for Atlantic sturgeon (*Acipenser ocyrhincus*) are rivers and coastal waters and for rivulus (*Rivulus marmoratus*) are saltwater marshes and mangroves. The City does not directly abut the Gulf of Mexico. Estuarine conditions, however, are evident within the western reaches of the Pithlachascotee River within the City.

Protected Flora and Fauna

A species may be classified as endangered when it is in danger of extinction within the foreseeable future throughout all or a significant portion of its range. A threatened classification is provided to those animals and plants likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges. Critical habitat is defined as the geographic area containing the physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection.

LISTED SPECIES IN PASCO COUNTY

According to the Pasco County Natural Resources Division, the following species are listed as threatened, endangered, or as a species of special concerns by the Fish and Wildlife Conservation Commission (FWC) and are found within Pasco County (refer to Appendix A).

Reptiles

American alligator (*Alligator mississippiensis*)
Eastern indigo snake (*Drymarchoncoraiscouperi*)
Gopher tortoise (*Gopherus polyphemus*)
Short-tailed snake (*Stilosomaextenuatum*)
Florida pine snake (*Pituophismelanoleucusmugitus*)

Birds

Florida scrub-jay (*Aphelocomaeruluscens*)
Wood stork (*Mycteria americana*)
Red-cockaded woodpecker (*Picoidesborealis*)

Florida burrowing owl (*Athene cunicularia*)
Little blue heron (*Egretta caerulea*)
Tricolored heron (*Egretta tricolor*)
Southeastern American kestrel (*Falco sparverius paulus*)
Florida sandhill crane (*Grus canadensis pratensis*)
Bald eagle (*Haliaeetus leucocephalus*)
Osprey (*Pandion haliaetus*)
Roseate spoonbill (*Platalea ajaja*)
Least tern (*Sternula antillarum*)

Mammals

West Indian manatee (*Trichechus manatus*)

Plants

Auricled spleenwort (*Asplenium erosum*)
Hammock fern (*Blechnum occidentale* var. *minor*)
Sand butterfly pea (*Centrosema arenicola*)
Piedmont jointgrass (*Coelorachis tuberculosa*)
Tampa vervain (*Glandularia tampensis*)
Pondspice (*Litsea aestivalis*)
Pygmy pipes (*Monotropsis reynoldsiae*)
Celestial lily (*Nemastylis floridana*)
Britton's beargrass (*Nolin brittoniana*)
Hand fern (*Ophioglossum palmatum*)
Plume polybody (*Peclumaplumula*)
Comb polypody (*Peclum aptilotavar. bourgeauana*)
Giant orchid (*Orthochilus cristatus*)

COMPREHENSIVE PLAN GOALS, OBJECTIVES, AND POLICIES

The City of New Port Richey's Comprehensive Plan, Conservation Element details goals, objectives, and policies (GOP) to promote the conservation and protection of natural resources. The Open Space Element guides decisions related to park and open space lands. The following GOP, among others within the comprehensive plan, support the City's initiative to maintain the natural habitat and to restore the natural and beneficial functions of the floodplain. The City's Land Development Code is used to implement the comprehensive plan and contains specific administrative procedures for this purpose.

Open Space

ROS 1.3.1 The City shall continue to implement regulations in the Land Development Code that define open space and establish standards for the protection of open space and natural vegetation and the use of open space for buffering between land uses.

ROS 1.3.3 Open space in parks shall be maintained to protect and preserve native habitats and provide passive recreation opportunities.

ROS 1.3.5 The City shall acquire, protect and maintain natural reservations.

ROS 1.3.6 The City shall create a system of greenways by defining and preserving the following areas as open space:

- a. Conservation and Preservation Category designated lands on the Future Land Use Map;
- b. Jurisdictional wetlands and wetland buffers;
- c. Significant habitat of threatened or endangered species; and
- d. Any species management areas for species of special concern.

Pithlachascotee River

CON 1.4 Protect, conserve, restore and enhance the natural function of the Pithlachascotee River.

CON 1.4.1 In order to reduce non-point source pollutant loads and improve the functioning of the City's drainage system relative to the riverine system, dumping of debris of any kind (e.g., yard clipping and trimmings) into drainage ditches, storm sewers and other stormwater control structures shall be prohibited.

CON 1.4.3 Where the shoreline of the Pithlachascotee River is not seawalled native vegetation shall be used for shoreline stabilization.

CON 1.4.4 The replacement material for failed or damaged Pithlachascotee River concrete seawall should be rip-rap or planting of native vegetation where technically feasible.

CON 1.4.5 Setbacks or other non-structural methods of shoreline protection shall be given the highest priority.

Wildlife and Habitat Objective

CON 1.5 Conserve and enhance wetlands, aquatic resources and wildlife habitats to maintain their environmental and recreational value.

CON 1.5.1 Through the Intergovernmental Coordination Committee, the City shall work with Pasco County, the Southwest Florida Water Management District and the Florida Department of Environmental Protection to identify, protect and conserve the natural character and function of area rivers, lakes, wetlands, floodplains and upland areas.

CON 1.5.2 The City shall coordinate with Pasco County, Southwest Florida Water Management District, Army Corp of Engineers, Florida Fish and Wildlife Conservation Commission and US Fish and Wildlife Service, as appropriate, to develop strategies and partnerships for the protection of riverine habitats, including wetlands and the 100-year floodplain within Pasco County designated Critical Linkages and Ecological Planning Units and habitats for threatened, endangered, or species of special concern.

CON 1.5.3 The City shall identify coastal marshes, freshwater wetlands and hardwood hammocks as Conservation on the Future Land Use Map.

CON 1.5.4 Conservation areas, such as coastal marshes, freshwater wetlands and hardwood hammock areas shall be protected from development that would significantly alter their function and character as defined by the regulatory permitting agencies.

CON 1.5.5 Through the Intergovernmental Coordination Committee, the City shall coordinate with the county and appropriate agencies to identify specific pollution problems adversely affecting wildlife and fish populations and establish and implement the necessary programs, local laws and regulations to reverse and eliminate adverse pollution sources.

CON 1.5.6 The City shall assist the Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission and US Fish and Wildlife Service in the application of and compliance with all state and federal regulations pertaining to species of special status (e.g., endangered, rare, species of special concern and threatened).

CON 1.5.7 The City shall promote local, regional, state and federal initiatives that aim to protect and maintain the natural vegetation, native wildlife and natural processes within Coastal Marsh wetlands within and adjacent to the City through the following:

- a. Conserve environmental lands;
- b. Protect water quality;
- c. Eliminate additional impact to wetlands;
- d. Protect the remaining uplands adjacent to Coastal Marsh wetlands to provide a transition buffer;
- e. Retrofit of stormwater draining through this area; and
- f. Remediate/restore any previous impacts to wetland systems that can be rehabilitated.

CON 1.5.8 The clustering of residential development, or the implementation of other measures to minimize adverse environmental impacts, shall be required whenever areas of significant native habitats are involved.

Florida Native Vegetation

CON 1.6 The City shall conserve, appropriately use and protect native vegetation, including the City's urban forest.

CON 1.6.1 The City shall require that all new development preserve at a minimum 25 percent of the native upland vegetation on site. This should not be interpreted to allow development in wetland areas.

CON 1.6.2 The use of native vegetation shall receive priority in the landscaping requirements of Land Development Code.

CON 1.6.3 The City shall encourage the removal of exotic species such as punk tree (*Melaleuca* sp.), Australian pine (*Casuarina* sp.) and Brazilian pepper (*Schinus* sp.) through site plan review.

CON 1.6.4 The City shall coordinate with the Pasco County and the Southwest Florida Water Management District to protect the cypress and hardwood communities within the vicinity of New Port Richey by preventing activities which would alter their character and natural function.

CON 1.6.6 Although limited natural vegetative communities remain in the City, every effort shall be taken to protect these resources as including the following measures:

- a. Recreational development shall be compatible with the surrounding environment and shall be subject to performance standards adopted in the Land Development Code; and
- b. The clearing of trees and wetland vegetation shall be prohibited, unless specifically permitted;
- c. All applications for development approval on sites with natural vegetative communities shall be subject to site plan review.

Wetland Protection

CON 1.7.1 The City shall require the submittal of a wetland survey at the appropriate phase in the land development review process. This requirement must be met prior to issuance of any development order.

CON 1.7.3 The City shall coordinate with the US Army Corp of Engineers, the Florida Department of Environmental Protection and the Southwest Florida Water Management District to identify and regulate wetland areas under the respective agency's jurisdiction.

CON 1.7.4 The City shall require the identification of Category I, II and III wetlands for prior to the review of any Future Land Use Map amendment or development site plan proposals. Sites with wetlands that are under consideration for a Future Land Use Map amendment or site plan approval shall be designated as Conservation on the Future Land Use Map during or prior to the next regular update of Comprehensive Plan.

CON 1.7.5 The City shall require a minimum 25-foot buffer between Category I and II wetlands and new development in order to protect water quality, preserve natural wetland functions and preserve wildlife habitat. The buffer, as measured landward from the approved jurisdictional line, shall be maintained in a natural vegetative state and be free of exotic and nuisance species as defined by the Florida Pest Council.

CON 1.7.10 The City shall require all wetland encroachments to be mitigated according to chapters 62-25 and 40D-4, FAC, and Section 404, Clean Water Act and mitigation compliance to be monitored by the Florida Department of Environmental Protection, Southwest Florida Water Management District and US Army Corp of Engineers.

CON 1.7.11 In combination with other goals, objectives and policies of the Comprehensive Plan, the City shall protect and conserve wetlands by redirecting incompatible uses away from wetlands.

Floodplain

CON 1.8 Protect the natural function of the 100-year floodplain to carry, store and filter flood waters through land development regulations.

CON 1.8.1 If any filling of land occurs during site design such that the volume of floodplain storage would be reduced, an equal volume of soil shall be excavated within the same floodplain to provide compensatory storage. Such excavations shall not be located within land areas identified for conservation purposes, or within the jurisdictional wetland

limits of regulatory agencies, except for the purpose of providing pretreated stormwater storage capacity.

CON 1.8.3 The City shall encourage the development of a strict floodplain management program by state and local governments to preserve hydrologically significant wetlands and other natural floodplain features.

CON 1.8.4 Recognizing that portions of the community are located within the 100-year floodplain, the City shall strictly enforce all appropriate federal, state and regional coastal construction codes and coastal setback regulations.

CON 1.8.6 The City, through the implementation of the Land Development Code, shall promote appropriate land use practices compatible with floodplain areas and provide for performance standards which, at a minimum, require that:

- a. To the maximum extent legally possible, new development shall not be located in river floodways, the area of highest velocity during flow;
- b. New development permitted in the flood fringe, the area of the floodplain outside the floodway, shall be required to meet flood hazard construction requirements;
- c. Development along the Pithlachascotee River floodplain shall be low density residential with adequate setbacks to maintain any existing areas of natural habitat; and
- d. The prevention of erosion, retardation of runoff and protection of natural functions and values of the floodplain be considered while promoting public usage.

CON 1.8.7 In addition to the Conservation land use designation, the City shall protect the Pithlachascotee River through the use of the "Pithlachascotee River Environmental Corridor." The corridor is defined as the area within 50 feet landward from the top of the river bank. In places where the top of the bank is not discernable, either the mean high water line or the upland/wetland boundary shall be used, whichever is greater. Development within the corridor shall be managed as follows:

- a. Lots created after November 1, 1990, shall denote the corridor on the lot survey, and shall dedicate the corridor to the City via conservation easement.
- b. Only water-dependent uses within the corridor are permitted.
- c. Existing vegetation within the corridor shall be preserved. Where native vegetation has been disturbed in the past, it shall be restored concurrent with new development.
- d. Where new plantings are required, a restoration plan, specifying appropriate vegetation for rehabilitation of shores and associated lands (such as grasses for submerged lands and shorelines and trees/shrubs for banks sloping away from shore) shall be submitted as part of the development proposal. The type of vegetation selected for new plantings shall be based upon its ability to provide shore stabilization, water purification and wildlife habitat.

CON 1.8.8 Floodplains whose functional values have been degraded or destroyed through human intervention shall be restored, if feasible, through the public acquisition of historic floodplain lands. Various state, regional and local acquisition programs shall be sought for this purpose.

CON 1.8.9 The City shall prohibit fill material or other structures to adversely obstruct the natural movement of floodwater, overland sheet flow or pose a threat to the public health, safety and welfare.

CON 1.8.10 The City will continue the use of the Conservation future land use category to protect the natural functions of floodplains and shorelines.

RECOMMENDED ACTION

The GOPs listed in the City of New Port Richey Comprehensive Plan places special emphasis on the conservation and restoration of habitat within the City that contains or may contain threatened, endangered, or species of special concern. Threats to these species include habitat degradation, fragmentation, and destruction due to development. Threats also include pollution/pesticide exposure and hydrology alterations. The City’s Comprehensive Plan outlines goals, objectives, and policies to reduce these threats. The City’s Floodplain Species Plan places special focus on two species, the Bald eagle (*Haliaeetus leucocephalus*) and the Tricolored heron (*Egretta tricolor*).

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle has been the national bird of the United States since the late 1700s. Some may say it is one of the nation’s most recognizable birds as it is easily recognizable by its size, color, and form. The Florida Fish and Wildlife Conservation Commission (FWC) released A Species Action Plan for the Bald Eagle in November of 2017, some of which has been incorporated into this action plan.



Photo Courtesy of USFWS

LIFE CYCLE

According to the U.S. Fish & Wildlife Service (USFWS), Bald eagles can live up to about 30 years in the wild.

Bald eagles typically reach breeding maturity at the age of 4 or 5, although they may delay breeding until later in life. These majestic birds form lifelong partnerships, but if one of the pair dies, the surviving eagle will seek a new mate.

When it comes to nesting, eagle pairs usually prefer the tops of tall trees with sturdy branches capable of supporting their large and heavy nests. These nests are constructed using large sticks and may be lined with materials such as moss, grass, plant stalks, lichens, seaweed, or sod. While pairs often reuse and expand the same nest each year, they may also have additional nests within their breeding territory. These nest sites typically include at least one perch with a clear view of a water body for hunting, although bald eagle nests are increasingly being found away from large bodies of water.

Bald eagles are known to travel long distances during different stages of their lives and non-breeding seasons. However, they usually return to their place of origin, within

approximately 100 miles, to nest and breed. In most regions, bald eagles breed in early spring, with the breeding season extending into summer. However, in warmer climates like Louisiana and Florida, they nest during the winter. It is also common for bald eagles in southern areas to attempt re-nesting if their initial nest fails before the chicks hatch. During the breeding season, bald eagles typically lay one to three eggs per year, with the eggs hatching after approximately 35 days. The young eagles, known as eaglets, begin flying within three months of age but continue to use their nest.

DIET

Bald eagles are known for being opportunistic eaters, with fish being a primary part of their diet. In addition to fish, they will consume waterfowl, shorebirds, waterbirds, turtles, rabbits, snakes, small animals, and carrion. Due to their hunting style, which relies heavily on their vision, eagles typically spot their prey from a high vantage point or while soaring in the sky before diving down to catch it. They are also scavengers, feeding on dead fish and animals, and are notorious for stealing food from other eagles, mammals, and birds of prey.

HABITAT

Bald eagles rely on a sufficient food supply, suitable perching spots, and appropriate nesting locations. Historically, bald eagles were commonly seen nesting close to rivers, lakes, and marshes. Their habitat encompasses estuaries, expansive lakes, reservoirs, rivers, and certain coastal areas. They are now increasingly spotted in arid regions further away from water sources, such as agricultural land and urban or suburban environments.

During the winter season, these birds gather in significant numbers near open water, perching on tall trees to scan for prey. These trees also serve as nighttime roosting spots for protection. These locations are typically situated beneath man-made dams or river branches to maintain access to larger waterways. Winter roosting sites may be utilized throughout the season or intermittently when alternative food sources are scarce.

THREATS

According to the Florida Fish and Wildlife Conservation Commission, the greatest threat to the Bald eagle population is trauma and poisoning. In Florida, from 1963-1994, trauma resulted in 59% of known cases of bald eagle mortality; the most frequent cause was vehicle collision, but other causes included gunshot, intraspecific aggression, and powerline collision (Forrester and Spalding 2003).

Bald eagles primarily consume poisons from secondary sources, such as when they feed on carcasses or prey that contain toxins. Second generation anticoagulant rodenticides (SGARs), which are approved for use in the United States, have been identified as a documented source of secondary poisoning. In a study conducted by the FWC over an 18-month period starting in 2014, necropsies were performed on bald eagle carcasses found in Florida when the cause of death was unclear or poisoning was suspected. The results revealed that 100% of the tested carcasses contained SGARs, with 17 out of 33 cases indicating that SGARs were either the cause of death or a possible contributing factor in the eagles' demise (Van Deventer et al., 2017). Additionally, eagles have been poisoned after consuming improperly disposed carcasses of euthanized animals that contain pentobarbital (Forrester and Spalding, 2003). Another cause of secondary poisoning in bald eagles is lead poisoning, which occurs when they feed on waterfowl or other animals that have been shot

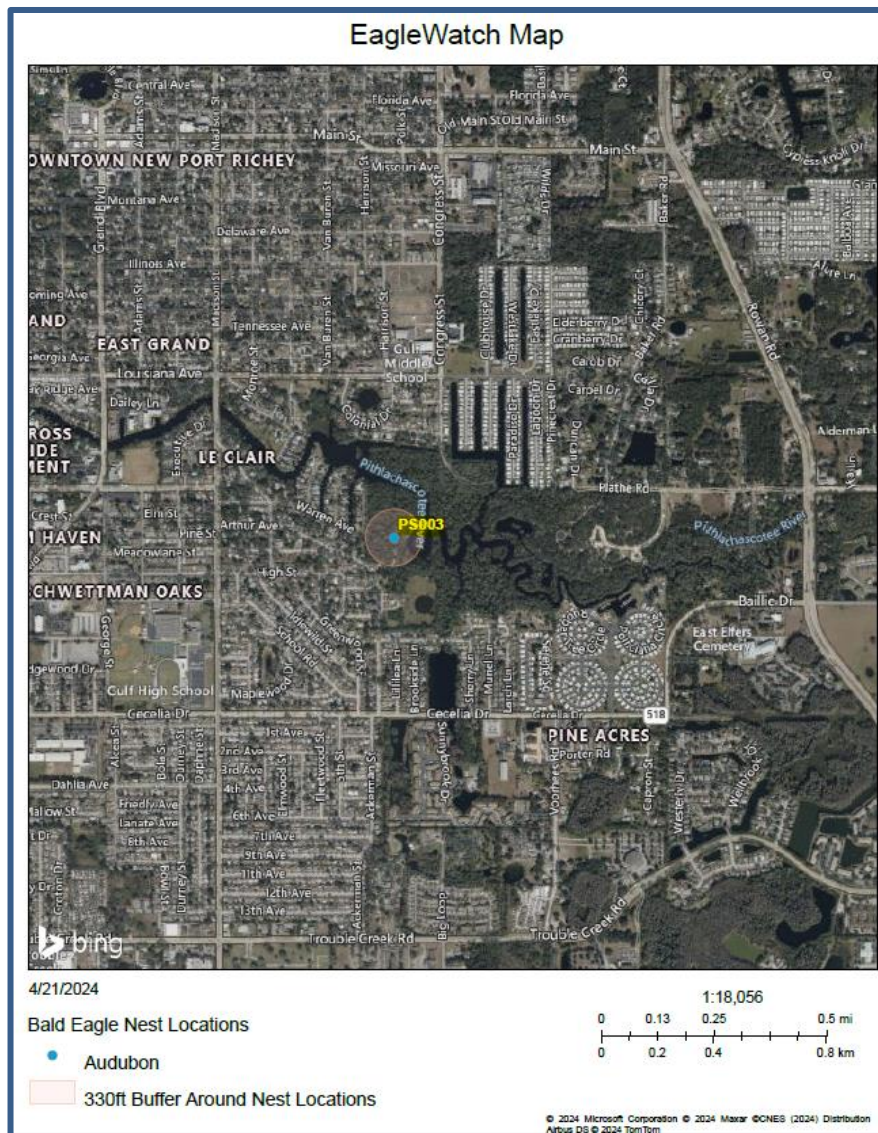
with lead ammunition. Although the use of lead shot for waterfowl hunting was prohibited in 1991, lead poisoning continues to be a significant cause of death for bald eagles. Out of 762 eagles examined at the National Wildlife Health Center between 1975 and 2013, 64% died as a result of lead poisoning. Furthermore, there has been a statistically significant increase in lead poisoning cases after 1991, suggesting that the use of lead ammunition to kill other animals still poses a threat of secondary poisoning (Russell and Franson, 2014).

RECOMMENDED ACTIONS

To address the threats to bald eagles, habitat conservation and management, as well as protection from disturbance, are crucial. The USFWS employs regulatory processes such as permitting, technical assistance, and guidelines to safeguard bald eagles and their habitat. Implementing land management practices that benefit bald eagles by maintaining healthy natural communities, reducing the risk of catastrophic fires, and providing suitable nesting trees is recommended.

Bald eagles are adaptable when it comes to their habitat. By maintaining healthy natural communities, we not only enhance water quality (which supports the availability of healthy food sources) but also provide suitable nesting habitats. Land management practices play a vital role in benefiting bald eagles by reducing the risk of devastating wildfires, ensuring the health of forests, and providing appropriate nesting trees. These practices include prescribed fires, removal of non-native species, reduction of excessive fuel loads, thinning overstocked areas, and replanting native species. It is important to retain large-diameter native pine trees to ensure the availability of potential nest trees in the future. Selective thinning that maintains at least 50% of the total canopy and preserves large native pine trees is recommended. These practices are often incorporated into management plans for public lands, which provide guidance for implementation at specific sites.

The protection of lands that provide prime nesting habitats for Bald eagles is critical in the City's conservation efforts. According to the EagleWatch map provided by the Audubon Center for Birds of Prey, a Bald eagle nest was observed within the James E. Grey Preserve Park, located at 6938 Plathe Rd, New Port Richey, Florida. Additional measures may be necessary to minimize potential disturbance in areas where recreational activities take place near a bald eagle breeding nest. These measures could include the installation of signs or the establishment of seasonal no-entry boundaries.



To reduce the number of deaths and injuries caused by known and emerging threats, it is crucial to prioritize minimizing mortality from specific threats. This is especially important in order to prevent a decline in the population. Whenever possible, specific threats should be avoided, minimized, or contained through early detection and adaptive management responses.

For bald eagles, there are several known or potential causes of mortality that need to be addressed. These include vehicle collisions, secondary poisoning from substances like lead, pentobarbital, and rodenticides, and electrocution and collisions with power lines.

To address the impacts of these threats, a comprehensive response is warranted. This can involve management actions, education and outreach programs, coordination with partners, and monitoring to assess the effectiveness of these efforts.

For instance, to minimize the risk of secondary pentobarbital poisoning, which occurs when

eagles feed on carcasses of euthanized animals, it is important to emphasize the need for quick incineration or burial of these bodies to prevent scavenging by eagles and other wildlife. Another example is the need to minimize electrocution- and collision-related mortality. This can be achieved by encouraging utility companies to incorporate "avian-friendly" devices and fittings on their equipment. The Avian Powerline Interaction Committee has outlined suggested practices in this regard. City staff can collaborate with utility companies to develop and implement avian protection plans, which outline proactive measures to protect birds from the impacts caused by equipment. To reduce Bald eagle mortality due to vehicle collisions, signs warning drivers to be diligent may be posted along roadways where Bald eagle activity has been recorded.

Tricolored heron (Egretta tricolor)

According to the Florida Fish and Wildlife Conservation Commission (FWC), the Tricolored heron is protected by the U.S. Migratory Bird Treaty Act and as a State Threatened by Florida's Endangered and Threatened Species Rule. FWC released A Species Action Plan for Six Imperiled Wading Birds in November of 2013, some of which has been incorporated into this action plan.



Photo Courtesy of FWC

LIFE CYCLE

Tricolored herons engage in colony breeding from February to August. The females skillfully build nests using sticks and vegetation gathered by the males. These nests are typically located in trees or shrubs situated on salt marsh islands or in standing water. Each female lays a clutch of three to five eggs, and both parents take turns incubating them. After a period of around 21-25 days, the eggs hatch. The fledglings stay in the nest until they reach about 35 days of age (LaLonde 2003).

DIET

Since the diet of the Tricolored heron primarily consists of fish, it is imperative to protect water quality and natural floodplain functions. The Tricolored heron primarily consumes topminnows and killifishes, along with various other small fish, crustaceans, insects, tadpoles, frogs, salamanders, lizards, and spiders.

HABITAT

Tricolored herons are commonly found in various habitats such as fresh and saltwater marshes, estuaries, mangrove swamps, lagoons, and river deltas (Frederick 1997). Their range extends from Massachusetts, through the Gulf of Mexico and Caribbean, all the way to northern Brazil. Breeding locations can also be observed along the Pacific Coast from Baja California to Ecuador. In Florida, Tricolored herons are prevalent permanent residents, although they may be less abundant in certain areas of the Panhandle.

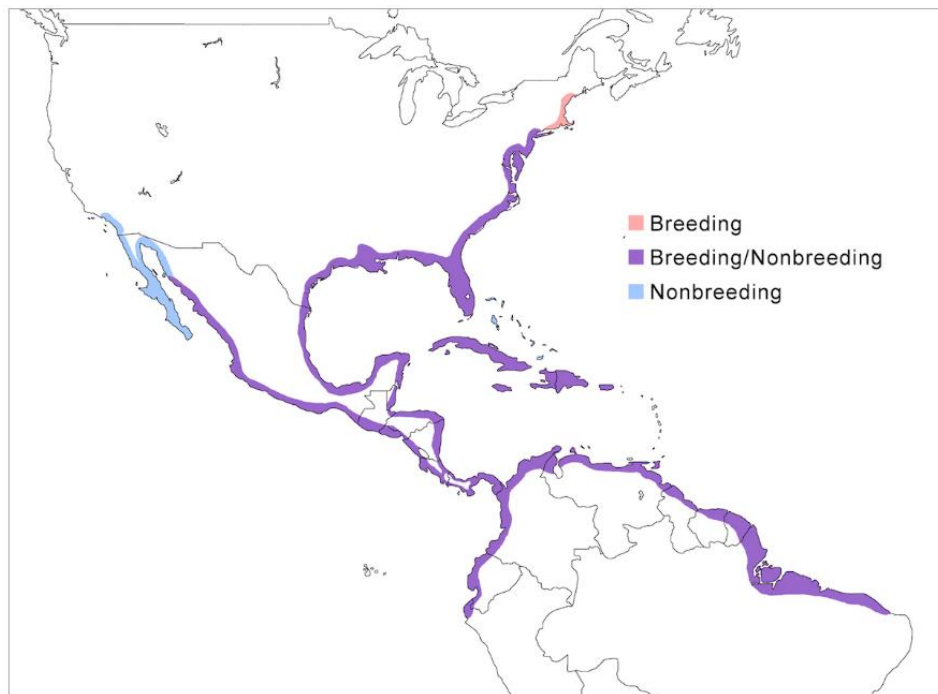


Photo Courtesy of heronconservation.org

THREATS

The tricolored heron encounters numerous challenges to its population, including the ongoing expansion of wetlands. Similar to other avian species residing in estuaries, the tricolored heron population is endangered by the presence of pollutants and pesticides (Rodgers 1997, Spalding et al. 1997). Additional threats encompass modifications to the hydrology of foraging regions, diminished availability of prey, and the detrimental effects of oil spills on crucial breeding, foraging, and roosting locations.

RECOMMENDED ACTIONS

Wading bird populations in Florida rely heavily on the quantity and quality of their nesting and foraging habitats. Unfortunately, these habitats have significantly declined over the past century. Furthermore, the remaining wetland habitats have been altered due to changes in water quality, water quantity, and flooding patterns. These alterations can have a negative impact on the prey community composition and abundance, which in turn affects the foraging success and energy intake of wading birds.

Water-body restoration projects and floodplain conservation development techniques are critical in mitigating the threat to the Tricolored heron. The Orange Lake Restoration Project is one of many mitigation activities launched by the City of New Port Richey.

Although New Port Richey's western municipal boundary is located approximately one mile from the waters of the Gulf of Mexico, coastal reaches of the Pithlachascotee River traverse the City. The City's Comprehensive Plan Coastal Management Element boasts the Coastal Transfer of Development Rights (TDR) program, which allows the transfer of development rights from city-owned properties within the CHHA to other properties within the CHHA that are suitable and desirable for development or redevelopment. Once the development

entitlements have been transferred from one property to another, the sending property is re-designated to the Conservation land use category, under which it must remain in perpetuity. The City could develop a streamlined process similar to this process for applicants to transfer development rights from areas inundated by the Special Flood Hazard Area to uplands or otherwise developable land. Preserving natural floodplain functions plays a significant role in the conservation of wading birds and their food sources.

PROJECTS

The City of New Port Richey has put in substantial effort to conserve critical habitat and to restore the natural and beneficial functions of the floodplain. The purpose of this section is to document the City's dedication to conservation and restoration.

SIMS PARK

One of the City's feature water resources is Orange Lake, located within Sims Park. Sims Park is depicted on the City's open space map under CRS Activity 420. According to the open space calculations, approximately 3.9 acres of Sims Park is located within the Special Flood Hazard Area (SFHA).

The City has taken action to restore Orange Lake to its natural state. The Orange Lake Restoration Project has several components; dredging of Orange Lake and the installation of a CDS Unit to prevent pollutants from entering into the lake, restoration of banks and planting of littoral shelves, modification of existing outfalls to control water levels, installation of aeration/diffuser system for complete water mixing, and finally construction of an educational boardwalk and overlook with public access feature. Improving the water quality and overall function of Orange Lake is expected to benefit the overall health of the Pithlachascotee (Cotee) River and the Coastal Springs Watershed. According to the Capital Improvement Program report (FY 2015/2016 – FY 2019/2020), the total cost of the Orange Lake Restoration Project was \$940,000.00.

The Final Project Summary of Dredging Operation (Appendix B) indicates a significant amount of trash and debris was removed from Orange Lake. Smaller particles, such as sediment and silts, were removed as well through the dewatering process. All material was removed from the site and the site was graded back to its original condition.

JAMES GREY PRESERVE

According to the City of New Port Richey Parks and Recreation Master Plan, the James E. Grey Preserve is a 94-acre nature park/preserve. The James E. Grey Preserve is depicted on the City's open space map under CRS Activity 420. According to the open space calculations, approximately 68.8 acres of James Grey Preserve is located within the Special Flood Hazard Area (SFHA). The preserve is owned and maintained by the City and is a sanctuary for more than 150 bird species including the Bald Eagle. The James E. Grey Preserve is designated as open space on the City's Future Land Use Map and will be protected in perpetuity.

PASCO COUNTY GREENWAYS, TRAILS, AND BLUEWAYS MASTER PLAN

The City supported Pasco's County's effort to develop the Pasco County Greenways, Trails, and Blueways (GTB) Master Plan (Appendix C). The Master Plan Working Group was comprised of regional, county, municipal, state, federal, and stakeholder representatives, including the City's Parks and Recreation Director. The GTB Master Plan's purpose is to guide the planning of enhancements to existing and development of new greenways, trails, and blueways to increase connectivity. The Master Plan is not a detailed design and engineering study of individual trails but rather a documentation of guidance and best practices designed to inform decisions on further developing the greenway, trail, and blueway system. The Master Plan offers recommendations for potential future trail opportunities and connections and provides strategies for implementation and regulatory actions.

CLOSURE

The anticipated result of the recommended actions will further the City's goals to restore the natural functions of the floodplain and maintain its natural habitat for protected flora and fauna, as well as contribute to the rise in population of the species of focus.