



PINELAND MARINA

EAGLE MANAGEMENT PLAN FOR NEST LE-107.

Abstract

This document is an eagle management plan for the construction of a charter office at Pineland Marina within the 660-foot nest buffer for Eagle nest LE-107.

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Introduction

This bald eagle (*Haliaeetus leucocephalus*) management plan is being prepared for VRE Pineland, LLC the owner and operator of Pineland Marina. Pineland Marina consists of an existing marina approximately 22.6 acres in size and is located on the east shore of Pine Island Sound within Section 07, Township 44 South, Range 22 East, Lee County, Florida. The property address is 13851 Waterfront Drive, Bokeelia, FL 33922.

Bald eagle nest LE-107 is an active nest located in the north of the subject property on a vacant single-family lot. The lot strap is 06-44-22-08-00000.1620 and an address of 14090 Pacosin Court, Bokeelia, FL 33922. According to Lee County, and Florida Fish and Wildlife Conservation Commission the nest was built in March 2016.

Bald Eagle Habitat and Reproduction

The following information on the biology of the bald eagle is excerpted from the South Florida Multi-Species Recovery Plan (USFWS 1999).

Florida has one the densest concentrations of nesting bald eagles in the lower 48 states, with an estimated 1,500 nesting pairs (FWC). Bald eagles are considered a water-dependent species typically found near estuaries, large lakes, reservoirs, major rivers, and some seacoast habitats (USFWS 1999). In Florida, nests are often in the ecotone between forest and marsh or water and are constructed in dominant or co-dominant living pines (*Pinus* spp.) or bald cypress (*Taxodium distichum*) (McEwan and Hirth 1979). About ten percent of eagle nests are in dead pine trees, while two to three percent occur in other species such as Australian Pine (*Casuarina equisetifolia*), a listed exotic tree and Live Oak (*Quercus virginiana*). Nest trees in South Florida are smaller and shorter than reposted elsewhere; however, comparatively they are the largest trees available (Wood *et al.* 1989, Hardesty 1991). The small size of the nest trees in South Florida relative to other nest sites throughout the eagle's range is due to the naturally smaller stature of *Pinus ellioyyi*, *Pinus taeda*, *Pinus palustris*, and *Pinus clausa* in South Florida, and lack of pines (*Pinus* spp.) in extreme Southern Florida.

Bald eagles are monogamous and annual courtship behavior reinforces pair bonds (Palmer 1988). Pair bond formation includes dramatic pursuit flights, high soaring, talon locking, and cartwheeling (Johnsgard 1990). In establishing territories, eagles may also fly around the perimeter of their nesting areas and visually communicating their presence. Pair bond behavior, as well as territory establishment and defense, probably occur concurrently throughout much of the eagle's range. Successful pair bond information ultimately leads to nest site selection and nest construction for newly formed pairs or established pairs without nests. For pairs that have previously nested, nest repair or construction of an alternate nest may occur concurrent with copulation.

In South Florida, nesting activities generally begin in early September, with egg laying occurring as early as late October and peaking in the latter part of December. Depending on latitude incubation may be initiated from as early as October to as late as March. Clutches usually consist of one or two eggs, but occasionally three or four are laid. Incubation takes

approximately 35 days and fledging occurs within 10 to 12 weeks of hatching. Parental care may extend four to six weeks after fledging even though young eagles are fully developed and may not remain at the nest after fledging (USFWS 1989).

Status of Species

The bald eagle was added to the endangered species list on March 11, 1967 due to substantial population declines. On July 12, 1995, the bald eagle's status was reduced from endangered to threatened, due to significant population increases following conservation efforts (FWC). On August 9, 2007, the bald eagle was removed from the federal list of threatened and endangered species. After nearly disappearing from most of the United States decades ago, the bald eagle is now flourishing across the nation and no longer needs the protection of the Endangered Species Act (USFWS).

The U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission no longer list the bald eagle as a threatened or endangered species. However, the bald eagle is still protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (USFWS 1987).

Proposed Project

The proposed project is located south of the existing nest. Part of the project will be over 500 feet from the nest but within the 660' buffer zone. Site improvements shall consist of limited underground utility work, gravel parking area, and a modular office building with a traditional constructed deck and ADA access ramp. The building is within the 660' buffer zone. The project is to allow the Tropic Star operation to operate its shoreport from this location. It is required to have the facility close to the existing canal as Tropic Star is a passenger ferry service to Cayo Costa State Park and other locations in the outer island that does not have vehicular access.

Existing Site Conditions

The property consists of 22.60 acres of developed land with an operating Marina with wet and dry storage, Island Girl Charter Operations, and a boat ramp. The part of the site that is within the eagle buffer zone includes parking, trailer storage, and vessel mooring. Currently the vessel mooring is comprised of bay shrimpers. Between the proposed project and the eagle nest is 10-vacant single-family lots, roadway and Alden Pines Golf Course. North and East of the nest is Alden Pines Golf Course and single-family Homes. West of the nest is one Single Family Home, 6 vacant single-family lots, vacant lands and Pine Island Sound. There are 15 existing homes in the buffer zone to the east and southeast and 1 existing home to the north west. The eagles typical foraging flight path would be to the west and southwest avoiding human development.

Bald Eagle Nest Zone Habitat

The following Florida Land Use, Cover and Forms Classification System (FLUCFCS) codes per SFWMD were used to map the site (Exhibit 1):

1210 – Fixed Single-Family Units

Medium Density Residential single-family units

1210⁽¹⁾ – Fixed Single-Family Units

Medium Density Residential single-family units. This area is within the eagle buffer area and is mostly vacant lots. Some lots have been cleared and have grassy area, others have dense population of Australian Pine. (*Casuarina spp.*)

1820 – Golf Course

Recreational public access golf course

1840 – Marinas and Fish Camp

Existing Marina with wet and dry boat slips, boat ramp, and associated marina activities.

2110 – Improved Pasture

Fallow improved grass covered pasture

3300 – Mixed Rangeland

Randall Research Facility/ Calusa Indian Historical Site. Mixed of hardwoods and grasses in upland area.

6120- Mangrove Swamp/Brazilian Pepper Invaded

Mangrove Swamp/Brazilian Pepper invasion are found at the north of the property bordering the Pine Island Sound and Aquatic Preserve. This wetland area is dominated by red mangroves (*Rhizophora mangle*), Brazilian pepper, seaside mahoe, and scattered melaleuca.

History of Eagle Pair and Territory

This pair of eagles nest has been in service for many years this nest was classified as active 2015, 2016, and 2017 activity information as provided by Lee County below in Table 1.

Table 1. LE-107 Nest History

Nest Year	Nest Active	Productivity of Nest
2015-2016	Yes	
2016-2017	Yes	2 Fledged
2017-2018	Yes	2 Fledged
2018-2019	Yes	Current Incubation

Incubation was observed by Lee County staff November 2018

Nest Observations

The nest was observed with current incubating activities and flights to the Northwest to Southwest accessing Pine Island Sound.

Management Plan

This management plan is only applicable to this 22.6-acre subject property (Pineland Marina) located at 13851 Waterfront Drive, Bokeelia, FL 33922. It is the responsibility of the property owner(s) to retain and implement this plan, including educating others (*i.e.*, contractors, future owners, etc.) about the specific requirements of this Bald Eagle Management Plan (BEMP) and the local, state and federal eagle protection laws. Any modification to this BEMP will require review and approval by Lee County, or any other succeeding body.

The details of this BEMP are prepared to provide conservation measures designed to reduce potential adverse impacts to the eagle nest while allowing the project to move forward. The following guidelines shall limit activities occurring on the property.

1. ALL exterior construction activities (including clearing and exotic vegetation removal/maintenance) within 660 feet of the nest will ONLY be carried out during the non-nesting season (May 16th - September 30th), or after nestling eagles have fledged, and obtained confirmation by the Lee County Staff. If the eagles have not initiated nesting activity by February 1st, construction and exotic removal/maintenance activities may occur, upon approval of Lee County Staff.

2. New construction activity within 660 feet of nest includes an existing planted landscape buffer on the north property line that screens the new activity from the nest. The north property line has 15' - 20' Australian Pine along a mangrove fringed ditch that will be removed per Lee County Land Development Code regulations. Given these pines are relatively small and the existing Australian Pines that exist between the nest and the proposed project the removed Pines shall be replaced with 10' overall height green buttonwoods at a 1:1 ratio.

3. All new exterior lighting shall be positioned/shielded in such a way that little to no light illuminates the bald eagle nest tree or its surrounding area. The only light on the north side of the proposed structure is a switch light for Florida Building Code emergency egress. This light shall be downlit.

4. Interior finish (*i.e.*, dry wall, flooring, electrical, painting, plumbing) work may be conducted on the subject property throughout the year.

5. Typical day-to-day activities shall be allowed throughout the year (*i.e.* lawn and property maintenance) as the project is located greater than 500 feet from the nest.

6. If bald eagle nest LE-107 has been lost for three consecutive nesting seasons or abandoned for five consecutive nesting seasons, this nest shall be de-listed (as "loss of nest" or "abandoned nest") and the requirements of this management plan shall be terminated.

7. Authorized work per LDO2018-00183 outside the 660-foot buffer zone is unrestricted if a Lee County Vegetation Permit has been issued and a structural construction temporary fencing has been installed to define the buffer zone. The temporary fencing shall consist of a 48" high plastic fencing with steel stakes along at a minimum the 660-foot buffer. The work being proposed before the end of nesting season is the following:

1. Construction of Concrete Entrance ramp. This work requires LCDOT ROW permit.
2. Installation of 3 rail wood fence along southern boundary of project area
3. Installation of septic drainfield
4. Construction of parking area outside eagle buffer zone including landscaping.

Work to be completed after clearance of nesting activities:

1. All building works per Lee County Building Permit
2. Remaining site work per LDO.
3. Removal of Australian Pine along north property line and replacement with 10' Green Buttonwood
4. Inventory and replace landscaping as required for compliance of North and East ROW landscape buffers.

REFERENCES

- Florida Fish and Wildlife Conservation Commission. Eagle Nest Locator Website.
- Florida Fish and Wildlife Conservation Commission. 2017. A Species Action Plan for the Bald Eagle *Haliaeetus leucocephalus*. 41 pp.
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