United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

November 7, 2003

Colonel Robert M. Carpenter
District Engineer
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Service Log No: 4-1-03-F-0946
Application No: 200101604 (IP-TWM)
Dated: November 30, 2001
Applicant: R.A.C. Equities, Incorporated
County: Lee

Dear Colonel Carpenter:

This document transmits the Fish and Wildlife Service's (Service) biological opinion for the proposed R.A.C. Equities, Incorporated, Development located in Lee County, Florida, and its effects on the bald eagle (*Haliaeetus leucocephalus*) (nest LE-38C) in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

This biological opinion is based on information provided in the November 30, 2001, U.S. Army Corps of Engineers (Corps) Public Notice; the May 29, 2002, bald eagle management plan; additional information prepared by Vanasse-Daylor, LLP, dated July 23, 2002, August 15, 2002, April 7, 2003, and May 5, 2003; telephone conversations; field investigations; and other sources of information. A complete administrative record of this consultation is on file in the South Florida Ecological Services Office.

I. CONSULTATION HISTORY

On November 30, 2001, the Corps issued the public notice with a determination of "may affect, but not likely to adversely affect" for the endangered wood stork (*Mycteria americana*). The project proposed impacts to 28.3 acres of jurisdictional wetlands and 0.2 acre of jurisdictional "other surface waters." The applicant proposed to preserve and enhance approximately 36.8 acres of wetlands onsite.

During the 2001-2002 bald eagle nesting season, Vanasse-Daylor, LLP, discovered a bald eagle nest approximately 340 feet east of the project's boundary.

On May 29, 2002, a bald eagle management plan was transmitted from Vanasse-Daylor, LLP, directly to the Service.

On July 18, 2002, Vanasse-Daylor, LLP, and Katherine R. English of Pavese, Haverfield, Dalton, Harrison and Jensen, LLP, met with the Service to discuss the bald eagle breeding activity report and the proposed bald eagle management plan.

On July 23, 2002, Vanasse-Daylor, LLP, sent additional information to the Corps. The revised site plan included a reduction of wetland impacts to 21.2 acres; preservation and enhancement of 43.3 acres of wetlands, 0.1 acre of uplands, and 0.5 acre of other surface waters; 1.6 acres of wetland restoration (berm removal); and off-site enhancement on 4 acres of contiguous Lee County-owned wetlands.

On August 15, 2002, a revised management plan was transmitted to the Service.

On August 22, 2002, the Service telephoned the Corps to inform them that the project's design had changed substantially since the public notice had been issued. The Corps informed the Service that the Corps would reissue or amend the public notice with a revised determination for the bald eagle.

On September 9, 2002, the Service telephoned Vanasse-Daylor, LLP, and informed them that the management plan was inconsistent with the *Habitat Management Guidelines for the Bald Eagle in the Southeast Region* (Service 1987) (Guidelines).

On October 3 and October 7, 2002, the Service had telephone conversations with Vanasse-Daylor, LLP, regarding changes to the bald eagle management plan.

On February 5, 2003, in a revised letter to the Service, the Corps determined that the proposed project "may affect, but is not likely to adversely affect" the threatened bald eagle.

On March 19, 2003, the Corps sent an email to the Service revising their determination to "may affect" for the bald eagle and requested formal consultation with the Service.

On April 7, 2003, Vanasse-Daylor, LLP, sent the Service a revised site plan, a revised bald eagle management plan, and additional information about the project. The revised site plan includes a reduction of wetland impacts to 21.0 acres, preservation and enhancement of 40.7 acres of onsite wetlands, 0.5 acre of other surface waters, and 0.4 acre of uplands under a conservation easement; and enhancement of 10 acres of contiguous Lee County-owned wetlands.

On April 9, 2003, the Service sent a letter to the Corps that concurred with the determination for the wood stork and requested additional information about the bald eagle.

On May 5, 2003, Vanasse-Daylor, LLP, sent additional information to the Service in response to the April 9, 2003, letter.

On May 15, 2003, the Service met with the applicant, Katherine R. English, and Vanasse-Daylor, LLP. It was determined that take may occur and a biological opinion would be necessary to complete consultation.

On May 20, 2003, the Service sent a letter to the Corps acknowledging the Corps' request for formal consultation on the bald eagle.

II. BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Corps has received an application for the construction of a 383-unit multi-family residential development with an accompanying stormwater management system on a 98.9-acre site. The site consists of 29.1 acres of uplands, and 69.8 acres of jurisdictional wetlands. Habitat cover types consist of 29.9 acres of disturbed mangrove wetlands, 24.0 acres of Australian pine (*Casuarina spp.*) uplands, 15.8 acres of disturbed buttonwood (*Conocarpus erectus*)/mangrove wetlands, 10.0 acres of Brazilian pepper (*Schinus terebinthifolius*) wetlands, 7.1 acres of melaleuca wetlands, 4.8 acres of canal, 3.4 acres of spoil uplands, 1.8 acres of Australian pine/melaleuca (*Melaleuca quinquenervia*) uplands, 1.2 acres of "disturbed" wetlands, 0.6 acre of salt marsh wetlands, 0.5 acre of pond, and 0.2 acre of saltwater prairie wetlands. A portion of a historic flow-way, known as Cow Slough, bisects the site from southeast to northwest.

The applicant proposes to discharge material into 7.5 acres of disturbed buttonwood / mangrove wetlands, 6.4 acres of melaleuca wetlands, 5.0 acres of Brazilian pepper, 1.7 acres of disturbed mangrove wetlands, 1.2 acres of wetlands, 0.2 acre of saltwater prairie wetlands, 0.2 acre of canal, 0.2 acre of borrow pit, and 0.1 acre of salt marsh wetlands. The initial site plan proposed direct impacts to 28.8 acres of wetlands which has been reduced to impact 22.5 acres of jurisdictional wetlands. As compensatory mitigation to impacts to 22.5 acres of wetlands, the applicant proposes to enhance and preserve 41.2 acres of wetlands onsite, and exotic removal on 0.4 acre of uplands. The applicant will remove exotic and nuisance vegetation from the preserve area, and place the preserve area under a conservation easement held by the South Florida Water Management District (SFWMD). The applicant also proposes to remove exotic vegetation from 10 acres of disturbed wetlands off-site, on Lee County lands within Cow Slough. The offsite parcel is located north of Summerlin Road and east of Lee County Health Park, in Section 5, Township 46 South, Range 24 East, Lee County. The project site is bounded on the north by McGregor Boulevard, on the south and west by undeveloped or open land, and on the west by

residential development and undeveloped open land. The site is located in Section 29, Township 45 South, Range 24 East, Lee County, Florida.

To minimize effects to bald eagle nesting activities, the applicant proposes several measures in both the primary (750-foot radius) and secondary zones (750-foot to 1,500-foot radius) of the nest tree (LE-38C), which is located 340 feet east of the project's property boundary on adjacent Lee County conservation lands.

There are 10 acres of land on the project site within the primary zone. The site plan was revised to remove all residential units from within the primary zone. The applicant is proposing to construct a 2-acre portion of a dry detention area in the primary zone and remove exotic vegetation from the remaining 8 acres. The applicant proposes to plant vegetative screening around the detention area to minimize impacts to bald eagles. The applicant proposes to plant 125 mature cabbage palms around the perimeter to provide a vegetative screen. These trees will be 14 to 20 foot in height, and planted on 6 to10 foot centers. The applicant proposes to selectively hand-clear exotic vegetation, plus replanting where the exotic vegetation has the highest density. The proposed activities within the primary zone will be completed during the non-nesting season (May 16 - September 30).

The applicant proposes to conduct different activities in the Secondary zone depending on the distance from the nest tree. The applicant will conduct the activities listed below from 750 to 1,000 feet from the nest tree. There are 10 acres located between 750 and 1,000 feet from the nest tree on the project site. The site plan indicates that 5 acres will be for preserve, and 5 will be for planned residential development, including 4 to 5 two-story buildings. In this area, all construction will take place during the non-nesting season (May 16 - September 30)

From 1,000 to 1,500 feet the applicant is proposing to conduct the following activities. There are 26 acres located between 1,000 and 1,500 feet from the nest tree on the project site. The site plan indicates that 7 acres will be designated as preserve, and 19 acres will be included in the planned residential development, including 34 to 38 two-story residential buildings. In this area, the applicant proposes to conduct major construction during the nesting season with a monitor in place. The applicant is not proposing to stop construction if the eagles exhibit nesting behavior.

STATUS OF THE SPECIES

This section summarizes bald eagle biology and ecology as well as information regarding the status and trends of the bald eagle throughout its entire range. The Service uses this information to assess whether a Federal action is likely to jeopardize the continued existence of the species. The Environmental Baseline section summarizes information on status and trends of the bald eagle specifically within the action area. This summary provides the foundation for the Service's assessment of the effects of the proposed action, as presented in the Effects of the Action section.

A thorough treatment of the biology and ecology of the bald eagle, both in south Florida and throughout its range, can be found in the *South Florida Multi-Species Recovery Plan* (Service 1999).

The bald eagle was listed as endangered on March 11, 1967, due to significant population declines (32 FR 4001). On July 12, 1995, the bald eagle's status was downgraded from endangered to threatened due to substantial population increases following conservation efforts, including the banning of DDT and other organochlorine pesticides (60 FR 36010). No critical habitat has been designated for this species. A proposed rule to delist the bald eagle was published in the *Federal Register* on July 6, 1999.

Distribution

The bald eagle was historically found throughout the North American continent from the Aleutian Islands and western Alaska to the Maritime Provinces of Canada and south to the Florida Keys, the Gulf Coast, and Baja California (Curnutt 1996). Apart from Alaska, most nesting bald eagles were found in Florida, the Chesapeake Bay area, the Great Lakes region, Maine, and the Pacific northwest. In Florida, eagles were historically found throughout the state, although they were probably most abundant along large rivers and lakes. Eagles were probably never numerous in the panhandle or extreme southeastern Florida. Today, bald eagle nesting is prevalent along the southwest coast, the Gulf Coast from Pinellas County north to the Suwannee River, the St. Johns/Oklawaha River basins, and the Kissimmee River valley including Polk and Osceola counties (Curnutt 1996).

Habitat

Bald eagles are considered a water-dependent species typically found near estuaries, large lakes, reservoirs, major rivers, and some seacoast habitats (Service 1999). Their distribution is influenced by the availability of suitable nest and perch sites near large, open water-bodies, typically with high amounts of water-to-land edge. Nesting habitat includes the nest tree, perch and roost sites, and adjacent high use areas but usually does not include foraging areas. The nest, perch, roost sites, and use areas around the nest comprise the nesting territory. The size and shape of a defended nesting territory varies greatly depending on the terrain, vegetation, food availability, and eagle density in the area. Generally, bald eagle nesting habitat is adjacent to, or near large bodies of water that are used for foraging (Service 1999). Nest sites must also provide good visibility and a clear flight path to the nest (Montana Bald Eagle Working Group 1991).

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 10 percent of eagle nests are located in dead pine trees while 2 to 3 percent occur in other species, such as Australian pine (*Casuarina equisetifolia*) and live oak (*Quercus virginiana*). The stature of nest trees decreases from north to south (Wood *et al.* 1989) and in extreme southwest Florida, eagles can nest in black (*Avicennia germinans*) and red

mangroves (*Rhizophora mangle*), half of which are snags (Curnutt and Robertson 1994). Nest trees in South Florida are smaller and shorter than reported elsewhere; however, eagles nesting here select the largest trees available (Wood et al. 1989, Hardesty 1991). The small size of nest trees in South Florida relative to other nest sites throughout its range is due to the naturally smaller stature of *Pinus elliottii*, *P. taeda*, *P. palustris* and *P. clausa* in South Florida.

Reproduction

Most breeding eagles construct nests within several hundred yards of open water (Service 1999). In Florida, most nests are located within 2 miles of open water, substantially further than other reported distances (McEwan and Hirth 1979, Wood et al. 1989).

In the southeastern United States bald eagles nest once a year, with the mated pair returning to the same breeding/nest area beginning in early September or October, refurbishing their nest during November and December, and laying eggs in December or January. Depending on the geographic area, incubation may be initiated as early as November or as late as March, with the eggs requiring about 35 days for incubation. Clutches usually consist of one or two eggs, but occasionally three are laid. In Florida, the eaglets will grow to the size of the adult birds within 10 to 12 weeks, at which time they typically fledge (Wood 1987). Parental care may extend 4 to 6 weeks after fledging even though young eagles are fully developed and may not remain at the nest after fledging.

The immature bald eagle lacks the white head, neck and tail, and has a dark beak and dark eyes. The overall color of young eagles is dark to light brown with light-colored base feathers that give a blotchy appearance. The white head and tail plumage may not appear complete until the eagle is 4 to 5 years of age.

Foraging

The bald eagle is an opportunistic feeder. Accordingly, its diet varies tremendously, depending on the time of year and habitat. Most studies indicate that fish are an important component of the eagle's diet, while birds and mammals account for the bulk of the remaining foods (Johnsgard 1990). During the winter, reduced availability of prey resulting from frozen waters require interior-based eagle populations to switch from a predominately fish diet to one of birds and mammals. Carrion is taken by many eagles and is also a substantial portion of the diet, especially for coastal eagles dependent on post-spawning salmonids. Non-coastal populations may also rely heavily on carrion, particularly during late winter and early spring.

In the southeastern United States the bulk of the diet is fish. Broley (1947) found catfish (*Ictalurus* spp.), mullet (*Mugil cephalus*), and turtles to be the most common food items found at nests in Florida. He also found that the variety of prey items differ among individual pairs. McEwan (1977) reported 79 percent fish and 17 percent bird prey, by occurrence, based on

788 animal remains recovered from nests. Of these, the dominant items were catfish and the American coot (*Fulica americana*).

Movements

Adult birds in coastal Alaska, Canada, the Pacific Northwest, Florida, and the Chesapeake Bay areas do not migrate, although dispersal of young may occur seasonally from some of these areas. Juvenile birds fledged in Florida are highly migratory, with more than one-third of the recoveries made 1,000 miles or more north of Florida, all during the non-nesting season (Broley 1947). If paired, it is assumed these birds remain in Florida, as do most other paired adults. If not paired, it is not clear whether these birds continue to migrate north during summer or remain in Florida with the breeding adults. Most radio-collared juveniles return to nesting areas each year, but a small proportion remain away for 2 to 3 years.

In Florida, bald eagles breed and nest during the temperate winter. Contrary to changes in habitat use exhibited by northern United States bald eagle populations, eagles in the southern United States do not substantially alter habitat use throughout the year. Some adults may remain in and defend their nesting territory outside of the breeding season (Palmer 1988), use or defend portions of their territory, or disperse and congregate at predictable food sources such as landfills. Of those adults that do not maintain territories throughout the year, most are not thought to leave the state. Conversely, following fledging, many juvenile eagles disperse north and summer from along the Atlantic Coast west to the Appalachian Mountains, and north as far as Canada (Broley 1947, Wood and Collopy 1995).

Status and Trends

Bald eagle nesting in Florida has been widely studied, and published accounts are available from a variety of sources. Broley (1947) was the first to document a decline in eagle nesting in the late 1940s. A further decline from 73 to 43 active nesting areas was reported for west central Florida between 1936 and 1956. Howell (1973) reported a decline in nesting around Merritt Island from 24 nests in 1935 to 4 nests in 1971. An excellent summary was provided by Peterson and Robertson (1978), in which they characterized the bald eagle population of the 1970s as less than 50 percent of historic numbers with continued, yet slow decreases.

In the early 1950s, State natural resource agencies and conservation organizations initiated surveys for nesting bald eagles which revealed that bald eagle numbers declined from historic numbers in many locations. A nationwide survey by the Service, several State wildlife agencies, and conservation groups in 1974 indicated that eagle numbers and their reproductive success in certain areas were low enough to warrant protective actions.

In Florida, bald eagle nesting and productivity has increased dramatically since the early 1970s. Florida currently supports the highest number of breeding bald eagles of any southeastern state, supporting approximately 70 percent of the occupied territories in this region (Nesbitt 1995).

Although numbers and productivity of bald eagles are increasing in Florida, concerns remain about the cumulative impacts associated with continued agricultural, residential, and commercial development (Wood 1987, Nesbitt 1995).

As shown in the table below, there has been a steady increase in the number of bald eagle nests in Florida since 1982.

YEAR	NO. OF NESTS
1982	340
1984	375
1987	391
1988	399
1989	439
1990	535
1991	601
1992	652
1993	667
1994	764
1995	831
1996	876
1997	912
1998	980
1999	1043
2000	1069
2001	1102
2002	1133

Threats

A primary threat to bald eagles after World War II was the widespread use of the pesticide DDT for mosquito control (Broley 1950). It was sprayed directly into wetlands, entered the food chain, and resulted in eggshell thinning. This caused massive reproductive failure which became

evident in the 1960s. Peterson and Robertson (1978) indicated that the eagle population decreased by 50 percent in a 30-year period. In response, the Federal Government banned the use of DDT in 1972.

A major threat to eagles that remains is habitat loss and degradation from human alteration of the environment (Heinzman 1961, 1962, and Smith 1969). This is especially true along coasts and waterways where development has increased. Nesbitt et al. (1993) compared productivity of Florida bald eagle nests near human disturbances with nests in more natural, undisturbed settings and did not find significant differences in productivity. An additional hazard to eagles occurs predominantly in the western United States, and involves death from lead and chemical poisoning. Lead poisoning originates from lead shot that remains in dead or dying birds, and chemical poisoning from the intentional poisoning of nuisance animals. The effects to eagles are secondary.

For each bald eagle recovery unit in the United States (*e.g.*, Southeast, Chesapeake Bay, Northern States, Southwest, Pacific), the Service worked with the states to produce guidelines that provide recommendations to avoid or minimize detrimental human-related effects to nesting bald eagles. These include recommendations on the frequency, distance, and type of disturbances that should be avoided in the vicinity of bald eagle nests. Though the Guidelines vary from region to region, they generally provide for spatial and temporal protection of the nest site and foraging areas. These Guidelines have been widely adopted by Federal and State agencies and are applied to both public and private lands.

The Guidelines have been used in Florida to avoid or minimize potential adverse effects to nesting bald eagles. Nesbitt et al. (1993) evaluated the effectiveness of the Guidelines in protecting bald eagle habitat and found that bald eagle use and productivity were not significantly affected by encroachment if the Guidelines were implemented as recommended. These results led to the conclusion that no modifications to the Guidelines were needed.

ENVIRONMENTAL BASELINE

Status of the species within the action area

The action area is defined as the 98.9-acre project site and the area within 1,500 feet of bald eagle nest LE-38. Portions of this 1,500-foot zone are outside of the proposed project footprint. During the 2001-2002 nesting season, an eagle nest was found approximately 340 feet from the eastern project property boundary on Lee County conservation lands. The subject nest is located in an Australian pine tree, 980 feet west of A&W Bulb Road and low-density single-family residential development and approximately ½ mile southeast of McGregor Boulevard. The nest has been active during the 2001-2002 and 2002-2003 nesting seasons. It has not been determined if the nest has produced fledglings in these two nesting seasons.

The nest tree is located on the eastern edge of an area characterized by high densities of woody exotic vegetation, including Australian pine, Brazilian pepper, and melaleuca in the canopy and subcanopy. Native vegetation within this area is uncommon and includes occasional cabbage palm (*Sabal palmetto*) and southern slash pine (*Pinus elliottii*). This nest habitat is immediately adjacent to a 52-acre active cattle pasture located to the east of the nest tree, within the boundaries of Lee County conservation lands. The pasture consists largely of pasture grasses with occasional clumps of woody vegetation including Brazilian pepper, cabbage palm, slash pine, and Australian pine.

This nest has been unofficially designated 38-C by the applicant due to its proximity to nests 38-A and 38-B. Lee County and the Florida Fish & Wildlife Conservation Commission documented that nests LE-38A and LE-38B were inactive and in disrepair since 1998. Nest LE-38A was reported to be occupied by great horned owls from November 2000 to January 2001. By March 2001, only a small amount of nest material was observed in the nest tree, with the remaining nest material found at the base of the nest tree. Similarly, only remnant material was observed in Nest Tree LE-38B, with the remaining nest material found at the base of the nest tree, by November 2000. No signs of nests LE-38A or LE-38B or any associated nesting activities were found during the 2001-2002 or 2002-2003 breeding season.

Significant bodies of water that may serve as foraging areas in the general vicinity include the small pond and canal located on the project site, Deep Lagoon (0.6 mile to the north-northwest), the Caloosahatchee River (1.2 miles to the north-northwest), Lakes Park (2.3 miles to the east), Hendry Creek (2.7 miles to the east-southeast), the wetlands and waters of Estero Bay Aquatic Preserve and State Buffer Preserve (2.7 miles to the south), and an approximately 46-acre borrow pit located 0.3 mile to the southeast.

EFFECTS OF THE ACTION

This section includes an analysis of the direct and indirect effects of the proposed action on the species and its interrelated and interdependent actions. To determine whether the proposed action is likely to jeopardize the continued existence of threatened or endangered species in the action area, we focus on consequences of the proposed action that affect rates of birth, death, immigration, and emigration because the probability of extinction in plant and animal populations is most sensitive to changes in these areas.

Factors to be Considered

The applicant has considered the suggestions made by the Service that would avoid and/or minimize effects to the bald eagles. However, the final project alignment does not conform completely with the Guidelines. The Service recommends that a proposed project conform with the Guidelines to the greatest extent possible to minimize the disturbance to the bald eagles on the nest. According to the applicant, however, any further design alternatives will not make the project financially viable.

Individual bald eagles react differently to human encroachment. When evaluating effects to nesting bald eagles, there is a gradient of bald eagle reactions to human behavior. On one end of the gradient, bald eagles that nest in rural environments are generally intolerant of human disturbance and, typically, construct their nests in locations far removed from unpredictable, daily human disturbance. On the other end of the gradient, bald eagles that nest in urban environments move in after construction disturbances are completed or already existing. They maintain nesting territories in areas where human encroachment occurs within the secondary zone, and occasionally, the primary protection zone.

Analyses for Effects of the Action

Beneficial Effects

There are no known beneficial effects to bald eagles from the proposed activity.

Direct Effects

The bald eagles occupying the action area are likely to be adversely affected by the proposed action. The project may result in direct "take" of the eagles through harm and harassment as a result of the noise and disturbance generated from site work, construction of homes and infrastructure, and the loss of buffering vegetation in both the primary and secondary protection zones of the nest tree. These direct effects could cause the eagles to abandon the nest prior to egg laying, abandon the nest while eggs are in the nest which would result in embryo mortality, or abandon the nest when chicks are in the nest which would result in chick mortality.

While the nest location cannot be characterized as remote or undisturbed, the true characterization of this nest is probably somewhere in between "urban" and "rural." LE-38C is located in a live Australian pine approximately 340 feet east of the project's eastern boundary. The construction of a dry detention is proposed in the primary zone and high-density residential development is proposed in the secondary zone. Since LE-38C has no historic precedent (see Environmental Baseline), the available information is inconclusive in trying to determine the tolerance of these individual eagles to human disturbances. However, it is evident that the proposed project represents a new, more intrusive, and potentially chronic disturbance closer in proximity than other, less disturbing uses currently in the area of the LE-38C nesting territory.

Project construction will permanently alter the habitat surrounding the bald eagle nest by building homes, roads, and associated infrastructure within both the primary and secondary zones of the nest tree. Tree and vegetation removal in combination with construction will likely reduce habitat suitability for nesting bald eagles. Also, the removal of trees around the nest site will increase disturbance from existing sources. Bald eagles usually select nest sites that are removed from human disturbance and tend to relocate nests or nesting territories away from encroaching disturbance, if suitable habitat exists (Broley 1947, Fraser et al. 1985). Tree removal may also

destroy important perch sites surrounding the nest tree. Diurnal perches located close to the nest are important for hunting, loafing, and monitoring the nest. Favored perches that are used consistently year-after-year are generally 300 to 600 feet from the nest tree and provide an unobstructed view of the nest (Herrick 1924). The applicant proposes to plant cabbage palms along the dry detention area. However, in the long term, the loss of trees and vegetation onsite will not necessarily be completely compensated for by the applicant's proposed tree plantings, which could take a considerable amount of time to reach a sufficient size for bald eagle perching or nesting.

Construction-related disturbances such as the operation of heavy equipment, power and hand tools, and human voices are expected to have adverse effects on this pair of nesting bald eagles when construction occurs during the nesting season. Even though the applicant has agreed to conduct as much of the construction as possible during the non-nesting season, some construction is expected to occur within the secondary zone during the nesting season. The applicant has agreed to implement a variety of measures to avoid potential disturbance to the eagles during the nesting season (see Description of the Proposed Action). Such measures include fencing off the eagle protection area during the nesting season and providing monitoring of the nest tree during the nesting season. However, given the increased sources and levels of disturbance in the vicinity of the nest tree, as well as the proposed habitat degradation and loss, the impacts may be sufficiently adverse as to result in nest site abandonment or loss of or reduced productivity (loss of or reduced fledgling).

Interrelated and Interdependent Actions

There are no interrelated or interdependent actions associated with the proposed action that are expected to impact bald eagles.

Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside the area directly affected by the action. Indirect effects may include other Federal actions that have not undergone section 7 consultation, but will result from the action under consideration. The indirect effects that could result in harm or harassment to the bald eagles would include the following: (1) the noise and other activity associated with the development (landscaping equipment) and access roads (automobiles and motorcycles), (2) increased artificial lighting from the proposed project and surrounding development, (3) human interaction within close proximity to the eagle nest tree, and (4) any future developments planned within the action area. These indirect effects could cause the eagles to abandon the nest prior to egg laying, abandon the nest while eggs are in the nest which would result in embryo mortality, or abandon the nest when chicks are in the nest which would result in chick mortality.

Species Response to the Proposed Action

Bald eagles are vulnerable to disturbance early in the nesting season, *i.e.*, during courtship, nest building, egg laying, incubation, and brooding (roughly the first 12 weeks of the nesting cycle), and disturbance during this critical period may lead to nest abandonment and/or chilled or overheated eggs or young. Human activity near the nest later in the nesting cycle may cause the eaglet(s) to fledge prematurely, thereby reducing the likelihood of fledgling survival. The Service believes human activity, as outlined in the applicant's bald eagle management plan and at the distances currently depicted in the site plan, has an increased probability of resulting in one or more of these negative effects.

Project implementation will likely result in the abandonment of the bald eagle nest site or in the loss or reduction of productivity or fledglings. The loss of productivity (assuming nest productivity equaled the 10-year statewide average of 1.57) would represent about 0.002 percent of the average annual statewide bald eagle production (Nesbitt 1999). Disturbance associated with the project could result in an immediate one-time abandonment of the nest site based on vegetation removal and construction activities in the primary zone, intermittent failure of the nest site based on habitat degradation and human encroachment, partial failure of the nest site (loss of or reduced fledgling) based on habitat degradation and human encroachment, or permanent abandonment upon the completion of the project, with the subsequent collapse of the nest itself.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. The Service has considered cumulative effects of this project on the eagle nest, and in this instance, there are no cumulative effects.

CONCLUSION

After reviewing the current status of the bald eagle, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the project as proposed, is not likely to jeopardize the continued existence of bald eagles. No critical habitat has been designated for this species, therefore, none will be affected.

Since 1982, the number of bald eagle nests in Florida has more than doubled. While human disturbance may lead to abandonment of this nest, the eagles may build a new nest elsewhere. The loss of this nest, including the loss of eggs or chicks, will not appreciably affect the overall survival and recovery of the bald eagle in Florida.

III. INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct) of ESA-listed species of fish or wildlife without a special exemption. "Harm" and "harass" are further defined in Service regulations (50 CFR 17.3). "Harm" is defined to include significant habitat modification or degradation that results in death or injury to ESA-listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. "Harass" is defined as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering.

Under the terms of sections 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement. The measures described below are nondiscretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply.

The Federal agency has a continuing responsibility to regulate the activity that is covered by this incidental take statement. If the agency (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

The Service has reviewed the biological information for this species, information presented by the applicant, and other available information relevant to this action, and based on our review, incidental take, in the form of harm or harassment, is anticipated for the adult bald eagles, their eggs, or their young at LE-38C nest. Harm or harassment may result in the eagles abandoning the nest prior to egg laying, abandoning the nest while eggs are in the nest which would result in embryo mortality, or abandoning the nest when chicks are in the nest which would result in chick mortality. Incidental take as described above may occur during the 2003-2004 nesting season and/or subsequent nesting seasons for the life of the project.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

REASONABLE AND PRUDENT MEASURES

When providing an incidental take statement, the Service is required to give reasonable and prudent measures it considers necessary or appropriate to minimize the take along with terms and conditions that must be complied with, to implement the reasonable and prudent measures. Furthermore, the Service must also specify procedures to be used to handle or dispose of any individuals taken. The Service believes the following reasonable and prudent measures are necessary and appropriate to reduce take and to minimize the direct and indirect effects of the proposed project on the bald eagles, their eggs or their young, and their nesting territory:

1. For the duration of the project, the applicant must take all necessary steps to minimize the potential for incidental take of bald eagles during each nesting season and within the primary zone of the nest tree. During the construction of the project, the applicant must make reasonable effort to preserve the integrity of the bald eagle nest tree, the nest, and the surrounding habitat.

2. Upon the onset of the nesting season each year of construction (October 1), the applicant must initiate monitoring to detect the presence of bald eagles on the project site and, if present, any abnormal bald eagle behavior, since site work and building construction within the secondary zone is proposed to occur during the nesting season.

TERMS AND CONDITIONS

To implement the above reasonable and prudent measures, the Service has outlined the following terms and conditions. In accordance with the Interagency Cooperation Regulation (50 CFR 402), these terms and conditions must be complied with to implement the reasonable and prudent measures:

1. The applicant must implement and adhere to the April 7, 2003, bald eagle management plan.

2. The applicant must make every effort to conduct construction activities that are closest to the nest tree during the non-nesting season.

3. Construction in the primary zone must take place in the non-nesting season (May 16 - October 1).

4. Every effort must be made to complete construction activities within the secondary zone of the nest tree before the onset of the nesting season each year (October 1). In the event that construction activities are proposed to occur within the secondary zone of the nest tree after the beginning of the annual nesting season, the applicant must initiate monitoring to detect the presence of bald eagles on the project site and, if present, any abnormal bald eagle behavior, as provided in the applicant's bald eagle management plan.

5. If a dead bald eagle is found at the project site, the applicant must notify the South Florida Ecological Services Office immediately at 772-562-3909.

COORDINATION OF INCIDENTAL TAKE STATEMENT WITH OTHER LAWS, REGULATIONS, AND POLICIES

To the extent that this statement concludes that take of any threatened or endangered species of migratory bird will result from the agency action for which consultation is being made, the Service will not refer the incidental take of any such migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

IV. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on ESA-listed species or critical habitat, to help implement recovery plans, or to develop information.

- The Service has no conservation recommendations at this time.

V. REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR Section 402.16, reinitiation of formal consultation is required when discretionary Federal agency involvement or control over the action has been retained and if: (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect ESA-listed species or critical habitat in a manner or to an extent not considered in this biological opinion, (3) the agency action is subsequently modified in a manner that causes an effect to the ESA-listed species or critical habitat not considered in this biological opinion, or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Thank you for your cooperation and effort in protecting fish and wildlife resources. If you have any questions regarding this project, please contact Allen Webb at 772-562-3909, extension 246.

Sincerely yours,

James J. Slack
Field Supervisor
South Florida Ecological Services Office

cc:
Service, Section 7 Regional Coordinator, Region 4, Atlanta, Georgia (Ken Graham)
FWC, Tallahassee, Florida (Dan Sullivan)
FWC, Punta Gorda, Florida (Jim Beever)
Lee County, Fort Myers, Florida (Becky Sweigert)
EPA, Fort Myers, Florida

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