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To: Bruner, Douglas; Masnik, Michael
Subject: Levy NPP Biological Opinion
Attachments: 20111201_BO_FWS_NRC_Levy_Nuclear_Power_Plant.pdf

Doug,

Here is the signed biological opinion for the Levy NPP. Please let me know if you have any questions as you finalized the EIS.

Thanks,
Annie

(See attached file: 20111201_BO_FWS_NRC_Levy_Nuclear_Power_Plant.pdf)

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December 1, 2011

Chief, Rulemaking and Directives Branch
Mail Stop: TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Biological Opinion for Levy Nuclear Power Plant Units 1 and 2, Application for Combined Licenses (COLs) for Construction Permits and Operating Licenses, (NUREG-1941)

This document is the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed Levy Nuclear Plant (LNP) Units 1 and 2 and associated offsite facilities including a heavy-haul road, barge slip, barge slip access road, water pipelines, cooling-water intake structure, and about 180-miles of existing and new transmission lines spanning nine Florida counties and its effects on the federally threatened and endangered species per section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

This biological opinion is based on information provided in the Nuclear Regulatory Commission's (NRC) and Army Corps of Engineers (Corps) Draft Environmental Impact Statement (DEIS), Biological Assessment (BA), and supplemental information provided by the license/permit applicant, Progress Energy Florida (PEF). PEF has conducted habitat assessment and appropriate species-specific surveys for federally listed species, including plants, to clarify NRC's determinations in their BA. Since construction of the project will be delayed until all necessary permits are obtained, additional habitat assessments and surveys will need to be conducted within 2 years of any construction activities and consultation on this project will need to be reinitiated and our biological opinion revised to reflect any new information at that time.

Based on the information submitted to the Service, we have provided a summary (Table 1) of the Service's concurrence on NRC's determinations made in the BA for the following federal threatened and endangered species potentially found within the action area.

Table 1. Summary of Federally threatened or endangered species and the Service's concurrence.

Species	Federal Status	Location in Action Area	NRC Determination based on DEIS (BA)	USFWS Determination
Florida manatee (*Trichechus manatus latirostris*)	Endangered	Barge slip, cooling-water intake structure	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Florida salt marsh vole(*Microtis pennsylvanicus dukecampbelli*)	Endangered	Power Plant site	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Florida panther (*Felis concolor*)	Endangered	Power Plant site, Transmission lines	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)	Endangered	Power Plant site, Transmission Lines	No effect	No effect
Audubon's crested caracara (*Polyborus plancus audubonii*)	Threatened	Power Plant site, Transmission Lines	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Everglade snail kite (*Rostrhamus socialbilis plumbeus*)	Endangered	Power Plant site, Transmission lines	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Piping plover (*Charadrius melodus*)	Threatened	Power Plant site	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Red-cockaded woodpecker (*Picoides borealis*)	Endangered	Mitigation site (Goethe State Forest)	May affect, likely to adversely affect	May affect, not likely to adversely affect
Florida scrub-jay (*Aphelocoma coeruluscens)*	Endangered	Transmission Lines	May affect, likely to adversely affect	May affect, likely to adversely affect

Wood stork (*Mycteria Americana*)	Endangered	Transmission Lines, Mitigation sites	May affect, likely to adversely affect	May affect, not likely to adversely affect
Eastern Indigo snake (*Drymarchon couperi*)	Threatened	Power Plant site, transmission line, mitigation sites	May affect, likely to adversely affect	May affect, not likely to adversely affect
Sand skinks (*Neoseps reynoldsi*)	Threatened	Transmission line	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Gulf sturgeon (*Acipenser oxyrinchus desotoi*)	Threatened	Barge slip, cooling water intake structure	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Britton's beargrass	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Florida bonamia (*Bonamia grandiflora*)	Threatened	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Brooksville bellflower (*Campanula robinisae*)	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Florida goldenaster (*Chrysopsis floridana*)	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Longspurred mint (*Dicerandra cornutissima*)	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Scrub buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*)	Enandgered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect

Cooley's water-willow (*Justicia cooleyi*)	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Lewton's polygala (*Polygala lewtonii*)	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Sandlace or Small's jointweed (*Polygonella myriophylla*)	Endangered	Transmission lines	May affect, likely to adversely affect	May affect, not likely to adversely affect
Pygmy fringe tree (*Chionanthus pygmaeus*)	Endangered	Transmission lines	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Wideleaf warea (*Warea amplexifolia*)	Endangered	Transmission lines	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Carter's mustard (*Warea carteri*)	Endangered	Transmission lines	May affect, not likely to adversely affect	May affect, not likely to adversely affect

Most of the listed species included in the BA had potentially suitable habitat located within the action area. However, detailed habitat assessments and species-specific surveys indicated that the wood stork, red-cockaded woodpecker, eastern indigo snake, Florida manatee, Florida scrub-jay, longspurred mint, and Britton's beargrass were the only species documented within the action area.

For the wood stork, a may affect, not likely to adversely affect determination for the wood stork was based on the PEF conducting a Wood Stork Foraging Habitat Assessment Procedure based on the Effect Determination Key for Wood Storks in Central and North Peninsular Florida. A total of ±145 acres of core foraging area (CFA) are proposed to be affected throughout the entire action area. No active wood stork colonies will be impacted. We recommend the Corps to work with our agency to ensure that the final wetland mitigation plan will compensate for expected impacts to suitable wood stork foraging habitat. Accordingly, the wood stork will not be discussed further in this biological opinion.

For the red-cockaded woodpecker (RCW), our determination is based on information that this species may benefit from any work proposed by this project. The RCWs are located within this proposed project are at Goethe State Forest (GSF). PEF plans on using a portion of the GSF as a wetland mitigation site and any work conducted at this site will benefit the

RCW. All active clusters located within the restoration areas should be avoided and any restoration activities should be conducted outside of the nesting season (May-July). Accordingly, the RCW will not be discussed further in this biological opinion.

For the eastern indigo snake, the Service's determination is based on the implementation of the Eastern Indigo Standard Protection Measures that will be used prior and during any land clearing or construction activities for this proposed project. Although eastern indigo snakes were observed within the action areas, mainly along the right-of-ways of the proposed Levy to Central Florida South transmission line corridor, the Service concludes that large tracts of land that surround these corridors will continue to provide suitable habitat and corridors for movement. Also, any loss of habitat or habitat fragmentation to eastern indigo snakes at the LNP site will be offset by the restoration of the ±1,548.7 acres of upland and wetland habitat. Accordingly, the eastern indigo snake will not be discussed further in this biological opinion.

For the Florida manatee, the Service concurs with NRC's may affect, not likely to adversely affect determination. Appropriate special manatee conditions as called for in the 2011 Manatee Effects Determination Key and Programmatic Biological Opinion will be followed. Accordingly, the Florida manatee will not be discussed further in this biological opinion.

For sand skinks, although a portion of their range occurs within the proposed project site, no suitable habitat was located during on the ground habitat assessments of these areas, and we therefor concur with the NRC's not likely to adversely affect determination. However, due to the delay in implementing this project, the habitat should be reassessed within 2 years prior to any land clearing or construction of this project to determine if any suitable habitat is present, and if so surveys should be conducted. Accordingly, the sand skink will not be discussed further in this biological opinion.

For the Florida scrub-jay, the Service concurs with the determination by NRC that the proposed action may affect the threatened Florida scrub-jay. Species specific surveys were conducted by PEF, and observed this species within the proposed transmission line corridors. The Service has provided further information on the Florida scrub-jay in the following sections of this Biological Opinion. Further explanation of our determination for the Florida scrub-jay is provided below. The Service either concurred or determined that the proposed project may affect, but is not likely to adversely affect other species found in the above table based on the habitat assessments or surveys conducted.

Specific federally listed plant surveys were conducted in 2010 and 2011for the Brooksville bellflower, Cooley's water-willow, Florida bonamia, Florida golden aster, longspurred mint, and Britton's beargrass. The remaining listed plants mentioned in the BA were found to have ranges outside of the action area and were not surveyed. These surveys were conducted in areas located within the action area to have suitable habitat for the specific species. The surveys were conducted during the time of year when the species is the most distinctive (e.g., flowering). The only species found within the proposed project was

Britton's beargrass and longspurred mint as mentioned above. These species where located along the transmission corridors and will be avoided or the plants may be relocated within the same area so that any impacts by the proposed project will not result in "take". However, due to the delay in implementing this project in areas where suitable habitat occurs, additional surveys for all these species should be conducted within 2 years prior to any land clearing or construction. Any plants found within the action area should be avoided or relocated if possible. Accordingly, all listed plants will not be discussed further in this biological opinion.

Consultation History

In January 2008, PEF's consultant requested from the FWC a species list for the LNP site and associated onsite and offsite facilities and transmission lines.

In December 2008, Service staff visits the LNP site with NRC and Corps staff.

On 16 March 2009, Corps published their Public Notice (PN) for the LNP project from the applicant, PEF.

On 9 February 2009, the Service sent letter to NRC regarding our species list and recommending that species surveys be conducted if suitable habitat is found within the proposed project. This information was to be used in the BA for LNP.

On 5 August 2010, NRC request comments for BA.

On 13 August 2010, Corps issues another PN for NRC's BA for LNP. This PN updates the March 16, 2009 PN with new information from the BA.

On 24 September 2010, Service staff attends another on-site meeting on LNP with NRC and Corps.

On 26 October 2010, Department of Interior (DOI) (Service comments were included) provides a letter addressing our comments to NRC on BA.

On 4 January 2011, Service staff meets with NRC and Corps to discuss our comments on the BA.

In February 2011, Service received supplemental information from PEF for LNP project.

On 14 February 2011, NRC sent a letter to DOI in response to Service comments on BA.

On 28 February 2011, Service staff met with NRC and Corps to discuss potential listed species issues within the proposed project and any other Service concerns.

On 6 April 2011, Service staff met with PEF and their consultant to discuss specific listed

species surveys.

On 31 May and 14 September 2011, PEF provided Service information that included spring/summer plant survey results and other information on wood stork foraging assessments that we had requested.

On 30 September 2011, Service provided NRC and Corps a draft BO for LNP.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

The proposed LNP involves building two pressurized water nuclear reactors and associated facilities at a site approximately 4 miles northeast of the town of Inglis, FL, and 8 miles east of the Gulf of Mexico. The reactors would draw cooling water from the Cross Florida Barge Canal (CFBC), south of the project site. The reactors and associated on-site facilities would occupy about 777 acres of a 3,105-acre site in Levy County, Florida, that is presently used for commercial forestry. Approximately 2,333 acres (75 percent) of the LNP site will remain undeveloped and provide a vegetative buffer around the facility. Other associated offsite facilities associated with the LNP include a heavy-haul road, barge slip, barge slip access road, water pipelines, cooling-water intake structures, and about 180 miles of new transmission lines will span nine Florida counties (Citrus, Hernando, Hillsborough, Lake, Levy, Marion, Pinellas, Polk, and Sumter), mostly (>90 percent) collocated with existing transmission lines.

The current condition of the site for the proposed LNP is a managed pine plantation with predominately slash pine (*Pinus elliottii*) and loblolly pine (*P. taeda*). There is no other infrastructure other than a network of limestone roads. Vegetation, soil, and drainage patterns have all been extensively altered through silviculture activities including logging, road development, ditching, grading, bedding, and replanting. Approximately 777 acres will be impacted by this project of which 627 acres will be permanent. Approximately 509 acres of the affected area consists of a managed pine plantation. Approximately 150 acres of disturbed lands will be temporarily impacted since these areas will be restored to natural vegetation once construction is completed.

Based on wetland delineation conducted in 2008 and a jurisdictional determination issued by the Corps in 2011, wetlands were found on ±2,002 acres of the 3,105 acre LNP site. Forty-one percent of these wetlands have been altered by years of intensive forest management practices and are presently dominated by planted pine. Another 44 percent of the wetlands are forested wetland swamps such as cypress swamps. These areas have also been logged in various degrees and range from intact natural forest stands to a mixture of natural and planted trees. The remaining 14 percent of wetlands at the project site have been recently clearcut or heavily logged and not yet been replanted. A total of ±319 acres (16 percent) of wetlands at this site would be permanently filled. Approximately 1,500 acres of undeveloped lands at LNP will be restored or preserved to offset impacts to

wetlands within the project site. These lands will be enhanced by eliminating silvicultural practices and other practices that are further explained in the wetland mitigation plan included in the Final EIS.

Most of the habitat located along the 180 miles of planned transmission line corridors has been altered by residential development, forest management, agriculture, and utility development. Much of the upland habitat on and around the corridors has been disturbed, cleared or altered by low-density residential, utilities, open land, and pastureland. However, there are areas of undisturbed mixed hardwood forests and smaller stands of longleaf pine and xeric oak scrub. Most of the wetlands found on the corridors are predominately freshwater marshes, cypress swamps, and mixed wetland forests. These wetlands have reduced functionality due to past and ongoing disturbance (e.g., tree canopy removal, drainage alteration, livestock grazing). Ninety percent of the remaining transmission lines will be collocated with existing right-of-ways that have been already cleared and are maintained. The upland areas along the transmission lines will be avoided if possible to reduce the amount of impacts to listed species found there. If these areas cannot be avoided, other conservation measures to offset the impacts will be taken, such as restoration of adjacent areas to provide suitable habitat.

Other associated facilities such as the heavy-haul road, barge slip, barge-slip access road, make-up water and blowdown-water pipelines, and cooling-water intake will be constructed within the proposed LNP site and CFBC. A total of ±249 acres will be impacted for these facilities. Most of this habitat is currently in a pine plantation, open land, and mixed hardwood forest. Approximately 32 acres of wetlands will be impacted. These impacts will be offset/mitigated by actions described in the LNP wetland mitigation plan. Temporary impacts from roads and pipelines will alter ±30 acres of upland and wetland habitats that will be re-graded to previous conditions and seeded or allowed to regenerate naturally.

Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The affected area was considered to be the approximately 3,105-acre project site plus the proposed right-of-way for all associated off-site facilities, including ±180 miles of new transmission lines. All wetland mitigation will be conducted in the same watershed as the action area. An action area of this size is sufficient to capture the indirect and cumulative effects resulting from the proposed activities.

STATUS OF SPECIES/CRITICAL HABITAT

Florida scrub-jay (*Aphelocoma coeruluscens*)

This section summarizes the Florida scrub-jay biology and ecology as well as information regarding the status and trends of Florida scrub-jay throughout its entire range. We use this

information to assess whether a Federal action is likely to jeopardize the continued existence of the above mentioned species.

The following discussion is summarized from the South Florida Multi-Species Recovery Plan (MSRP) (Service 1999), as well as from recent research publications and monitoring reports. A complete Florida scrub-jay life history discussion may be found in the MSRP. No critical habitat has been designated for the Florida scrub-jay.

Description – Scrub-jays are about 25 to 30 centimeters (cm) (10 to 12 inches) long and weigh about 85 grams (3 ounces). They are similar in size and shape to the blue jay (*Cyanocitta cristata*), but differ significantly in coloration (Woolfenden and Fitzpatrick 1996a). Unlike the blue jay, scrub-jays do not have a crest. They also lack the conspicuous white-tipped wing and tail feathers, black barring and bridle of the blue jay. The Florida scrub-jay's head, nape, wings, and tail are pale blue, and it is pale gray on its back and belly. Its throat and upper breast are lightly striped and bordered by a pale blue-gray "bib." The sexes of scrub-jays are not distinguishable by plumage, and males average only slightly larger than females (Woolfenden 1978). The sexes may be differentiated by a distinct "hiccup" call vocalized only by females (Woolfenden and Fitzpatrick 1986). Scrub-jays less than about 5 months of age are easily distinguishable from adults; their plumage is smoky gray on the head and back, and they lack the blue crown and nape (neck) of adults. Molting occurs between early June and late November, and peaks between mid-July and late September (Bancroft and Woolfenden 1982). During late summer and early fall, when the first basic molt is nearly complete, fledgling scrub-jays may be indistinguishable from adults in the field (Woolfenden and Fitzpatrick 1984). The variety of vocalizations of scrub-jays is described in detail by Woolfenden and Fitzpatrick (1996b).

Scrub-jays are in the order Passeriformes and the family Curiae. They have been called a "superspecies complex," and described in four groups that differ in geographic distribution within the United States and Mexico: *Aphelocoma californicus*, from southwestern Washington through Baja California; *Aphelocoma insularis*, on Santa Cruz in the Channel Islands, California; *Aphelocoma woodhousii*, from southeastern Oregon and the Rocky Mountains and Great Plains to Oaxaca, Mexico; and *Aphelocoma coerulescens* in peninsular Florida (American Ornithologists' Union 1983). Other congeners include the Mexican jay or gray-breasted jay (*Aphelocoma ultramarina*) and the unicolored jay (*Aphelocoma unicolor*) of Central America and southwest North America (Woolfenden and Fitzpatrick 1996b).

The Florida scrub-jay has specific habitat requirements. It is native to peninsular Florida's ancient dune ecosystems or scrubs, which occur on well-drained to excessively well-drained sandy soils (Laessle 1958, 1968; Fitzpatrick et al. 1994). This relict oak-dominated scrub, or xeric oak scrub, is essential habitat to the Florida scrub-jay. This community type is adapted to nutrient-poor soils, periodic drought, high seasonal rainfall and frequent fires (Abrahamson 1984). In optimal habitat for scrub-jays, these oaks are 1 to 3 meters (m) high, interspersed with 10 to 50 percent unvegetated, sandy openings, and a sand pine (*Pinus clausa*) canopy of less than 20 percent (Woolfenden and Fitzpatrick 1990). Trees

and dense herbaceous vegetation are rare. Other vegetation noted along with the oaks include saw palmettos (*Serenoa repens*) and scrub palmetto (*Sabal etonia*), as well as woody shrubs such as Florida rosemary (*Ceratiola ericoides*) and rusty lyonia (*Lyonia ferruginea*).

Scrub-jays are rarely found in habitats with more than 50 percent canopy cover over 6 feet in height (Service 1990). Scrub-jays also prefer interspersed, exposed sand patches in the scrub matrix within which they forage and store acorns (Woolfenden and Fitzpatrick 1984). Breininger et al. (1995) noted that scrub-jays also occupy marginal habitat in large numbers in some locations.

The area covered by scrub has been reduced, fragmented, or degraded due to conversion to agricultural, commercial, and residential development. In addition, fire suppression has resulted in the succession of many areas to denser, vertically stratified scrub vegetation that no longer provides suitable habitat for scrub-jays. As a result of the direct and indirect loss of scrub habitat, scrub-jays have been extirpated in Alachua, Clay, Broward, Miami-Dade, Duval, Gilchrist, Pinellas, and St. Johns Counties, and their numbers reduced in Brevard, Hernando, Highlands, Levy, Orange, Palm Beach, and Seminole Counties (Cox 1987; Fitzpatrick et al. 1991, 1994, In Press). Fitzpatrick et al. (1994) estimated the scrub-jay population to be about 10,700 individuals. Fitzpatrick et al. (In Press) indicates that current population estimates represent only about 10 percent of pre-settlement scrub-jay population numbers.

Cox (1987) and later Fitzpatrick et al. (1994) identified several scrub areas of Florida that are occupied by over half of the existing population of scrub-jays. Fitzpatrick et al. (In Press) called these three areas "core populations" and suggested that maintenance and restoration of these areas was essential to maintaining scrub-jays in Florida. These core populations exist on Cape Canaveral/Merritt Island National Wildlife Refuge (NWR) (Brevard County), Ocala National Forest (NF) (primarily eastern Marion, southwestern Putnam, northeastern Lake, and western Volusia Counties), and the Lake Wales Ridge (LWR) (Polk, Highlands, and Glades Counties). Fitzpatrick et al. (1994) estimated that about 1,334 groups (34 percent) of scrub-jays were on Federal land, whereas 2,627 groups (66 percent) were located outside of Federal lands.

Scrub-jay habitat is managed on Federal lands, but because of conflicts with primary or multiple use mandates established for these lands, scrub-jay populations are not necessarily secure. Fitzpatrick et al. (1994) indicated that fire suppression at Cape Canaveral and Cape Canaveral Naval Air Station threatens the viability of this core population of scrub-jays. Furthermore, they stated that current forestry practices on Ocala NF are likely to contribute to the continued decline of scrub-jays in this core area. Scrub-jays occurring on private land also face continued threats due to habitat degradation, fragmentation, and loss.

Life History – Scrub-jays have a social structure that involves cooperative breeding, a trait that the western North American populations of scrub-jays do not exhibit (Woolfenden and Fitzpatrick 1984). Scrub-jays live in groups of two (a single mated pair) up to large,

extended families of eight adults and one to four juveniles. Fledgling scrub-jays remain with the breeding pair in their natal (birth) territory as "helpers," forming a closely-knit, cooperative family group. Pre-breeding numbers are generally reduced to either a pair with no helpers or families of three or four individuals (a pair plus one or two helpers). A well-developed intra-familial dominance hierarchy exists, with breeder males most dominant, followed by helper males, breeder females, and finally, female helpers (Woolfenden and Fitzpatrick 1977). Helpers participate in sentinel duties (McGowan and Woolfenden 1989), territorial defense, predator-mobbing, and the feeding of both nestlings (Stallcup and Woolfenden 1978) and fledglings (McGowan and Woolfenden 1990). The well-developed sentinel system involves having one individual occupying an exposed perch watching for predators or territory intruders. When a predator is observed, the sentinel jay gives a warning call and all group members seek cover in dense shrub vegetation (Fitzpatrick et al. 1991).

Florida scrub-jay pairs occupy year-round, multi-purpose territories (Woolfenden and Fitzpatrick 1984; Fitzpatrick et al. 1991, 1994). Territory size averages 22 to 25 acres, with a minimum size of about 12 acres. Territories are a limiting factor for scrub-jay populations. Because of this limitation, non-breeding adult males may remain at the natal territory as helpers for up to 5 years, waiting for either a mate or territory to become available (Fitzpatrick et al. 1991). New territories are established the following ways: by replacing a lost breeder on a territory (Woolfenden and Fitzpatrick 1984); through "territorial budding," where a helper male becomes a breeder in a segment of its natal territory (Woolfenden and Fitzpatrick 1978); by inheriting a natal territory following the death of a breeder; by establishing a new territory between existing territories (Woolfenden and Fitzpatrick 1984); or through "adoption" of an unrelated helper by a neighboring family followed by resident mate replacement (B. Toland, Service, personal communication, 1996). Territories can also be obtained by creation of suitable habitat through effective habitat management efforts (Thaxton and Hingtgen 1994).

Reproduction and Demography

To become a breeder, a scrub-jay must acquire a territory as well as a mate. Evidence presented by Woolfenden and Fitzpatrick (1984) suggests that scrub-jays are permanently monogamous. The pair retains ownership and sole breeding privileges in their particular territory year after year. Courtship to form the pair is lengthy and ritualized, and involves posturing and vocalizations made by the male to the female (Woolfenden and Fitzpatrick 1996b). Copulation between the pair is generally out of sight of other jays (Woolfenden and Fitzpatrick 1984). These authors also reported never observing copulation between unpaired jays, nor courtship behavior between a female and a jay other than her mate. Age at first breeding in the Florida scrub-jay varies from 1 to 7 years, although most individuals become breeders between 2 and 4 years of age (Fitzpatrick and Woolfenden 1988). Persistent breeding populations of scrub-jays exist only where there are scrub oaks in sufficient quantity to provide an ample winter acorn supply, cover from predators, and nest sites during the spring (Woolfenden and Fitzpatrick 1996b).

Florida scrub-jay nests are typically placed in shrubby oaks, at a height of 1 to 2 m (3 to 7 feet). Scrub oak and sand live oak is the preferred shrubs on the LWR (Woolfenden and Fitzpatrick 1984) and myrtle oak is favored on the Atlantic Coastal Ridge (Toland 1991). In suburban areas, scrub-jays nest in the same evergreen oak species as well as in introduced or exotic trees; however, they construct their nests in a significantly higher position in these oaks than when in natural scrub habitat (Bowman et al. 1996). Florida scrub-jay nests are an open cup, about 7 to 8 inches outside diameter, and 3 to 4 inches inside diameter. The outer basket is bulky and constructed of coarse twigs from oaks and other vegetation, and the inside is lined with tightly wound palmetto or cabbage palm fibers. There is no foreign material as may be present in a blue jay nest (Woolfenden and Fitzpatrick 1996b).

Nesting is synchronous, normally occurring from the beginning of March through the end of June (Woolfenden and Fitzpatrick 1990; Fitzpatrick et al. 1994). On the Atlantic Coastal Ridge, nesting may be protracted through the end of July. In suburban habitats, nesting is consistently initiated earlier (March and April) than in natural scrub habitat (Fleischer 1996).

Clutch sizes range from one to five eggs, but are typically three or four eggs. Clutch sizes are generally larger (up to six eggs) in suburban habitats, and the birds attempt to rear more broods per year (Fleischer 1996). Double brooding by as much as 20 percent has been documented on the Atlantic Coastal Ridge, compared to about 2 percent on the LWR. Scrub-jay eggs measure 1.1 inches by 0.8 inch (length by breath) (Woolfenden and Fitzpatrick 1996b), and coloration "varies from a pea green to pale glaucous green, blotched and spotted with irregularly shaped markings of cinnamon rufous and vinaceous cinnamon, these being heaviest about the larger end" (Bendire *in* Bent 1946). Eggs are incubated for 17 to 18 days and fledging occurs 16 to 21 days after hatching (Woolfenden 1974, 1978; Fitzpatrick et al. 1994). Only the breeding female incubates and broods eggs and nestlings (Woolfenden and Fitzpatrick 1984). Average production of young is two fledglings per pair per year (Woolfenden and Fitzpatrick 1990; Fitzpatrick et al. 1994) and the presence of helpers improves fledging success (Mumme 1992). Annual productivity must average at least two young fledged per pair for a population of scrub-jays to maintain long-term stability (Fitzpatrick et al. 1991). Data from Indian River County show that mean annual productivity declines significantly in suburban areas. Toland (1991) reported that productivity averaged 2.2 young fledged per pair in contiguous, optimal scrub; 1.8 young fledged per pair in fragmented, moderately developed scrub; 1.2 young per pair fledged in fragmented, suboptimal scrub; and only about 0.5 young per pair in residential lawns. Overall nest success (probability of fledging at least 1.0 young) is about 50 percent on the LWR and about 70 percent on the Atlantic Coastal Ridge in Indian River County.

Nesting failures are almost always caused by predation, most frequently by ground-based predators, including eastern coachwhip (*Masticophis flagellum*), eastern indigo snake, rat snake (*Elaphe obsoleta*), corn snake (*E. guttata*), raccoon (*Procyon lotor*), and domestic cat (*Felis catus*) (Fitzpatrick et al. 1991; Schaub et al. 1992).

Fledglings remain nutritionally dependent for about 10 weeks, during which time they are fed by both breeders and helpers (Woolfenden 1975; McGowan and Woolfenden 1990). Survival of scrub-jays from fledgling to the yearling age class averages 35 percent, while annual survival of adult males and females averages around 80 percent (Fitzpatrick et al. 1994). The maximum observed lifespan of a Florida scrub-jay is 15.5 years (Woolfenden and Fitzpatrick 1996b).

Dispersal

Scrub-jays are nonmigratory, sedentary, and permanently territorial. Juveniles remain in their natal territory for up to 5 years before dispersing to become breeders (Woolfenden and Fitzpatrick 1984). Once they pair and become breeders, generally within two territories of their natal ground, they remain on their breeding territory until death. In suitable habitat, fewer than 5 percent of scrub-jays disperse more than 5 miles (Fitzpatrick et al. 1994). All documented long-distance dispersals have been in unsuitable habitat such as woodland, pasture, or suburban plantations. Scrub-jay dispersal behavior is affected by the intervening landscape matrix. Protected scrub habitats will most effectively sustain scrub-jay subpopulations if they are located within a matrix of surrounding habitats that can be used and traversed by scrub-jays. Brushy pastures, scrubby corridors along railway and country road right-of-ways, and open, burned flatwoods provide links for colonization among scrub-jay subpopulations. Stith et al. (1996) believe that a dispersal distance of 5 miles is close to the biological maximum for scrub-jays.

Foraging

Scrub-jays forage mostly on or near the ground, often along the edges of natural or man-made openings. They visually search for food by hopping or running along the ground beneath the scrub or by jumping from shrub to shrub. Insects, particularly orthopteran and lepidopteran larvae, comprise the majority of the animal diet throughout most of the year (Woolfenden and Fitzpatrick 1984). Acorns are the most important plant food (Fitzpatrick et al. 1991). From August to November each year, scrub-jays may harvest and cache 6,000 to 8,000 acorns (DeGange et al. 1989). Acorns are typically buried 1/2 to 1 inch beneath the surface of bare sand in openings during fall, and retrieved and consumed in winter and early spring. On the Atlantic Coastal Ridge, acorns are frequently cached in pine trees, either in forks of branches, in the ends of pine boughs, under bark, or on epiphytic plants, between 1 to 30 feet in height. Other small nuts, fruits, and seeds are also eaten.

Vertebrate prey items comprise the minority of the diet, but may include a wide array of species weighing up to 0.9 ounces. Notable vertebrate prey species documented by Woolfenden and Fitzpatrick (1984) for scrub-jays on both the LWR and the Atlantic Coastal Ridge include the green treefrog (*Hyla cinerea*), squirrel treefrog (*H. squirella*), green anole (*Anolis carolinensis*), brown anole (*A. sagrei*), Florida scrub lizard (*Sceloporus woodi*), six-lined racerunner (*Cnemidophorus sexlineatus*), black racer (*Coluber constrictor*), peninsula crowned snake (*Tantilla relicta relicta*), rough green snake (*Opheodrys aestivus*), house mouse (*Mus musculus*), cotton mouse (*Peromyscus gossypinus*), oldfield mouse (*P.*

polionotus), and Florida mouse (*Podomys floridanus*). In suburban areas, scrub-jays will accept supplemental foods offered by humans, such as peanuts, corn, and sunflower seeds.

Population Dynamics – Stith et al. (1996) used a Geographic Information System (GIS) buffering procedure and 2.2-mile dispersal buffer to delineate 191 separate Florida scrub-jay subpopulations. Of these, 152 subpopulations (over 80 percent) contained fewer than 10 pairs of scrub-jays, 33 subpopulations contained between 10 to 99 pairs, and only 6 contained at least 100 pairs. The overall Florida population of scrub-jays is divided into five subregions, corresponding to the major sand deposits throughout the peninsula. Three of these subregions are considered "core populations" because they contain well over half of the State's remaining scrub-jays. These population cores occur at Merritt Island/Cape Canaveral Complex, Ocala NF, and on the southern LWR, and are respectively named the Atlantic coast subregion, the Ocala subregion, and the LWR subregion (Service 1999; Fitzpatrick et al. Unpublished Manuscript).

All existing scrub-jay populations outside of the three core population subregions consist of smaller subpopulations that are isolated to varying degrees (Fitzpatrick et al. Unpublished Manuscript). Along the Gulf coast from Levy County south to Lee County, scrub-jays historically occurred in a contiguous fourth major population: the Gulf coast subregion. Today, however, this population is divided into two subregions: the northern Gulf coast subregion and the southern Gulf coast subregion, because of the extensive amount of habitat fragmentation and loss that has occurred in Pinellas, Hillsborough, Pasco, and Hernando Counties (Fitzpatrick et al. 1994).

Status and Distribution – The Florida scrub-jay was federally listed as threatened in 1987 primarily because of habitat fragmentation, degradation, and loss (52 Federal Register [FR] 20715; Service 1987a). Scrub habitats associated with Florida's barrier islands, mainland coasts, and LWR are some of the most imperiled natural communities in the United States, with estimates of habitat loss since presettlement times ranging from 70 to more than 80 percent (Bergen 1994; Fitzpatrick et al. 1994). Historically, this vegetation occurred as large, continuous patches, some of them for over hundreds of miles (Cox 1987). Today, only relict patches of xeric oak scrub remain. Throughout the northern part of the range, population declines in scrub-jays are attributed to scrub fragmentation and degradation, due primarily to widespread fire suppression. Citrus conversion and residential development continue to be the most important factors causing the decline of scrub-jay populations in the southern extremes of their range (Fernald 1989; Fitzpatrick et al. 1991).

The decreasing trend of the Florida scrub-jay population is closely correlated with loss of scrub habitat. A statewide survey of scrub-jays conducted during 1992-1993 documented about 11,000 scrub-jays (approximately 4,000 pairs) as of 1993, extrapolating from the average scrub-jay group size of 2.8 individuals, and estimated that at least two-thirds of the population inhabits Federal lands (Fitzpatrick et al. 1994). This population estimate is no more than 15 percent of the pre-settlement population estimate and corresponds to a similar reduction in the distribution of scrub habitat. Half of all remaining scrub-jays occurred in Brevard County (1,232 families) and Highlands County (890 families) (Fitzpatrick et al.

1994). A total of 19 occupied counties contained 30 or fewer groups of scrub-jays. The greatest population decline has occurred during the last 10 to 12 years with an estimated 25 to 50 percent reduction in scrub-jay numbers (Fitzpatrick et al. 1994).

Countywide surveys of Brevard County and Charlotte County have revealed population declines. The 1992-1993 statewide survey estimated that on Federal lands within Brevard County there were 860 pairs of scrub-jays. Surveys from outside Federal lands estimate 276 breeding pairs were present (Fitzpatrick et al. 1994). The scrub-jay population estimate on non-Federal lands dropped to 185 pairs in 1999 (Toland 1999). A countywide survey in Charlotte County showed similar numbers of scrub-jays overall, from 134 families in 1992-1993 to 135 families in 2001 (Miller and Stith 2002). The appearance of stability in the Charlotte County survey may be due to a more intensive survey effort on private property during the recent survey. Some metapopulations, such as the one known as Tippecanoe, have shown a decline of 33 families with 75 individuals in 1992-1993 to 10 families with 35 individuals in 2001. During the 1992-1993 survey, the coastal western metapopulation was estimated at 51 families with 117 individuals. These numbers dropped to 35 families with 89 individuals in 2001 (Miller and Stith 2002).

Results from population viability analysis indicate that a population of jays with fewer than 10 breeding pairs has a 50 percent probability of extinction over 100 years. This improves to a 2 to 3 percent chance of extinction for populations with at least 100 pairs. Only the three subregion core populations currently have enough breeding pairs, each with a low quasi-extinction risk and an estimated 99 percent probability of survival over 100 years (Stith 1999).

Scrub-jays will inhabit suburban areas where patches of scrub remain. In central Florida, the highest densities of scrub-jays are in areas where development is 33 percent or less (Bowman 1998). Scrub-jay increases in human-modified habitat probably result from supplemental food sources (primarily peanuts) and the initial creation of openings in the scrub and visual buffers (buildings) to neighboring jay families. However, as human development increases toward buildout, the survivorship of fledgling jays declines and failed nesting attempts increase (Toland 1991). Females from suburban territories may have fewer opportunities to pair with single males, because most males in suburban areas gain territories through breeder replacement (Thaxton and Hingtgen 1996). In addition, the potential for males remaining as helpers to inherit suitable habitat in suburban areas is reduced when compared to protected areas. Resident males may be less likely to maintain any natal territory as a breeder in suburban areas (Thaxton and Hingtgen 1996).

Scrub-jay population numbers are also affected by the frequency and severity of catastrophic mortalities. Epidemic disease is the only known catastrophe that affects Florida scrub-jay populations (Fitzpatrick et al. 1991). Archbold Biological Station experienced an epidemic between September 1979 and February 1980 that killed 70 percent of the scrub-jays on that site; 11 years later the population had still not recovered to pre-epidemic numbers. The probability of such an epidemic occurring in the future should be considered, along with habitat quality and management, to better predict the future status of

scrub-jay populations in Florida. Root (1996) used spatially-explicit models to show that an annual epidemic rate 0.001 (1 in 1,000 years) produced quasi-extinction probabilities of at least 66 percent for scrub-jays in Brevard County, Florida, under optimal habitat conditions and no dispersal, and at least 52 percent when dispersal was allowed among her modeled populations. The addition of connectivity between populations can mitigate the effects of epidemics and should be an important component of reserve designs for conservation of scrub-jays.

Analysis of the species/critical habitat likely to be affected

The proposed action has the potential to adversely affect Florida scrub-jay adults, juveniles, nests, and hatchlings within and around the proposed project area. Potential effects include injury, mortality, habitat loss or degradation, and disturbance resulting from construction, operation, maintenance, and management of the proposed project.

Critical habitat has not been designated for this species; therefore, the proposed action will not result in the destruction or adverse modification of critical habitat.

Climate Change

Climate change is evident from observations of increases in average global air and ocean temperatures, widespread melting of snow and ice, and rising sea level, according to the Intergovernmental Panel on Climate Change Report (IPCC 2007). The IPCC Report describes changes in natural ecosystems with potential wide-spread effects on many organisms, including marine mammals and migratory birds. The potential for rapid climate change poses a significant challenge for fish and wildlife conservation. Species' abundance and distribution are dynamic, relative to a variety of factors, including climate. As climate changes, the abundance and distribution of fish and wildlife will also change. Highly specialized or endemic species are likely to be most susceptible to the stresses of changing climate. Based on these findings and other similar studies, the Department of the Interior (DOI) requires agencies under its direction to consider potential climate change effects as part of their long-range planning activities (Service 2007).

Temperatures are predicted to rise from 2° C to 5° C (3.6° F - 9.0 ° F) for North America by the end of this century (IPCC 2007a,b). Other processes to be affected by this projected warming include rainfall (amount, seasonal timing and distribution), storms (frequency and intensity), and sea level rise.

Climatic changes in Florida could amplify current land management challenges involving habitat fragmentation, urbanization, invasive species, disease, parasites, and water management. Global warming will be a particular challenge for endangered, threatened, and other "at risk" species. It is difficult to estimate, with any degree of precision, which species will be affected by climate change or exactly how they will be affected. The Service will use Strategic Habitat Conservation planning, an adaptive science-driven process that begins with explicit trust resource population objectives, as the framework for

adjusting our management strategies in response to climate change (Service 2006). As the level of information increases concerning the effects of global climate change on sandhill and scrub communities, the Service will have a better basis to address the nature and magnitude of this potential threat and will more effectively evaluate these effects to the range-wide status of species occurring in these habitats.

ENVIRONMENTAL BASELINE

This section summarizes information on status and trends of the species specifically within the action area. These summaries provide the foundation for our assessment of the effects of the proposed action, as presented in the "Effects of the Action" section.

The environmental baseline includes the past and present impacts of all Federal, State, private actions, and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impacts of State or private actions, which are contemporaneous with the consultation in progress.

Status of the species within the action area

Florida scrub-jay- The Citrus-S.W. Marion metapopulation and population viability modeling suggests this metapopulation is at high risk of extinction or quasi-extinction (Stith 1999). Scrub-jays are found in this metapopulations are located in small isolated clusters in S.W. Marion and N.W. Sumter Counties. The lands comprising this metapopulations are mostly in private ownership, such as the Marion Oaks Subdivision. Eight Florida Scrub-jays have been observed along the right of way of the project area along the Levy to Central Florida South transmission line primarily south of Marion Oaks subdivision in Marion County and one scrub-jay found in Citrus County. Additionally, these birds are likely utilizing the scrub and xeric hammock on adjacent private and public property.

Factors affecting species environment within the action area

Scrub-jays evolved in a landscape matrix of nearly contiguous habitat patches that shifted in size and distribution in response to natural fire events. Habitat quality and the location of suitable habitat patches were dependent on periodic fires that retarded vegetative succession. Natural fire events created temporal, optimal, early-successional xeric vegetative communities that were exploited by scrub-jays.

Over the last 100 years, human occupation of central Florida resulted in direct habitat loss through land clearing, habitat fragmentation, and habitat degradation through fire suppression. These same factors continue to act synergistically against scrub-jays in this metapopulation. However, as scrub-jay populations become smaller and more isolated, the adverse demographic effects of urbanization influences may be magnified - small populations are more susceptible than larger populations.

Demographic modeling indicates that scrub-jays in this metapopulation are highly vulnerable to extinction and quasi-extinction risk (Stith, 1999) and there are few opportunities available to acquire and/or manage existing habitat to reduce these risks. The prognosis for the long-term survival of this metapopulation is not good because habitat quality will continue to decline on private property due to vegetative succession and development. There are few remaining public lands (Cross Florida Greenway) with suitable or potentially suitable habitat available for acquisition in this area. If habitat management expands to include all available suitable habitat on public lands, scrub-jays may persist in the metapopulation for some time, but they would still be vulnerable to disease and catastrophic events such as hurricanes.

Climate Change

Based on the present level of available information concerning the effects of global climate change on the status of the Florida scrub-jay, the Service acknowledges the potential for changes to occur in the action area, but presently has no basis to evaluate if or how these changes are affecting these species. Nor does our present knowledge allow the Service to project what the future effects from global climate change may be or the magnitude of these potential effects.

EFFECTS OF THE ACTION

This section includes an analysis of the direct and indirect effects of the proposed action on the Florida scrub-jay, the supporting habitat, and its interrelated and interdependent activities.

Factors to be considered

The proposed transmission line corridor associated with this project will impact scrub-jay habitat along the right-of-way. Land clearing is typically one of the first measures undertaken in constructing a new utility line. Once native vegetation has been removed, suitability of the habitat along the right-of-way for scrub-jays use will be limited to foraging around the edges and will remain so throughout the construction period. Once completed, the site's value to the scrub-jay will depend on the remaining vegetation. The reduction or loss of scrub-jay habitat along the corridor will be permanent.

Analysis for effects of the action

PEF conducted scrub-jay surveys along all transmission line corridors where suitable habitat for scrub-jays was found. The survey found scrub-jays along the Levy to South Central Florida transmission line corridor. One scrub-jay was observed in Citrus County and seven more where observed south of Marion Oaks Subdivision in Marion County. Majority of the construction for this corridor will take place within the existing utility corridor. This project should just result in a minimal amount of scrub habitat impacted. Also, most of the scrub-jay territories will be found on the adjacent scrub habitat. Additional surveys will be

conducted within 2 years prior to the initiation of any land clearing or construction activities associated with any facilities included within the action area.

Beneficial Effects

Since the effects of this project may not take place for many years, additional surveys of this and other areas along the transmission lines may be needed prior to any construction activities. However, every measure will be taken to not impact scrub-jay habitat, but if occupied habitat can't be avoided, other conservation measures to offset the impacts will be taken, such as restoration of adjacent areas to provide suitable habitat will be discussed during our reinitiation of this biological opinion.

Direct Effects

The direct effect of the proposed project is the possible loss of occupied scrub-jay habitat along the Levy to South Central Florida transmission line. We do not believe that the amount of habitat potentially impacted would result in scrub-jays abandoning their territory. Large areas of intact scrub habitat are adjacent to this area and provide suitable habitat that make up most of their territory.

Indirect Effects

Scrub-jays are known to be killed due to collisions with cars. During clearing and construction operations, there will be an increase in vehicle traffic and a resulting increase in the risk of scrub-jay road mortality. This increase in risk is not measurable and expected to be minor.

Interrelated and Interdependent Actions

Interrelated or interdependent actions are not expected to result from the proposed action.

Species' response to the proposed action

The destruction of native scrub habitat is likely to have adverse effects to existing scrub-jays. The reduction in sheltering and nesting habitat will likely reduce adult survivorship, reproductive success, and/or juvenile survival and possibly lead to abandonment of the territory. Since other unoccupied, suitable habitat is known to exist within normal dispersal distance, it is likely that these families of scrub-jays will continue to survive in this territory.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, 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 Act.

We anticipate that the loss of occupied scrub-jay habitat will occur within some portions of the action area. Future development proposed within occupied scrub-jay habitat should be addressed through either section 7 or section 10 of the ESA and is not addressed here. However, future development and its associated infrastructure will result in destruction of native vegetation that is not occupied by scrub-jays but may be used by birds dispersing from occupied habitat. In addition, future development will result in an increasing hostile environment surrounding occupied scrub-jay habitat. There will be more buildings, roads, and associated infrastructure, all of which have the potential to have indirect adverse effects on scrub-jays (e.g., increasing road mortality, decreasing habitat quality because of lack of fire, increased predation and competition from more urban adapted wildlife, etc.).

However, these cumulative effects are difficult to quantify because we cannot predict where or when they might occur and we cannot specifically attribute adverse impacts to any one particular project. In the future, these factors will probably work synergistically against scrub-jays within the Citrus- S.W. Marion metapopulations, however due to the minimal amount of loss of habitat this project may have we expect the impacts will have little effect to the metapopulation viability.

CONCLUSION

After reviewing the status of the scrub-jay, the environmental baseline for the action area, and the cumulative effects, it is the Service's biological opinion that the issuance of this ITS is not likely to jeopardize the continued existence of the scrub-jay throughout their range.

Limited mortality of Florida scrub-jay and their nests resulting from habitat loss will occur from the construction, operations, and maintenance of the proposed action. However, the loss of this habitat is not expected to appreciably affect the overall survival and recovery of this species. The Florida scrub-jay is not anticipated to be extirpated from the action area but will be confined to the suitable habitat remaining in the project area and the surrounding areas. The Florida scrub-jay also has some ability to move away from many situations that may result in direct injury or disturbance and has the ability to access adjacent habitat if escape opportunities are made available. The proposed action will not appreciably reduce the number, distribution, and reproduction of the Florida scrub-jay.

No critical habitat has been identified for the scrub-jay; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create

the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described in the BA and since used here, are nondiscretionary and must be undertaken by the Service so that they become binding conditions of any grant or permit issued to the PEF, as appropriate, for the exemption in action 7(o)(2) to apply. The NRC and Corps have a continuing duty to regulate the activity covered by this incidental take statement. If the NRC and Corps (1) fail to assume and implement the terms and conditions or (2) fail 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, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the NRC and Corps must report the progress of the action and its impact on the species to itself as specified in the incidental take statement.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

Based on the Applicant's survey results and available biological information at this time, the Service anticipates that a family of scrub-jays may be incidentally taken as a result of the destruction of its territory along the Levy to South Central Florida transmission line that will impact occupied scrub-jay habitat. However, due to the delay in construction of the transmission line, surveys should be conducted within 2 years prior to any land clearing or construction to determine if the amount or extent of take for this action has increased. This incidental take will be in the form of "harass." If scrub-jays are found and impacts cannot be avoided, minimization measures will be implemented by PEF.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

RESONABLE AND PRUDENT MEASURES/TERMS AND CONDITIONS

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action.

The action agency's BA includes methods to minimize on-site habitat disturbances and deal with unforeseen future circumstances. However, the Service has reviewed these measures and believes that the scrub-jay surveys mentioned in the BA should be conducted within 2

years of construction or any habitat modification that includes land clearing for this project. If scrub-jays are still observed within the action area appropriate conservation measures mentioned below should be implemented to minimize the level of incidental take impacts. Therefore, the measures described in BA are incorporated by reference into the Service's BO as required reasonable and prudent measures. The Service considers the following reasonable and prudent measures are necessary and minimize impacts of incidental take of Florida scrub-jays:

1. Avoid construction during the scrub-jay nesting season from March 1 through June 30 to the maximum extent practicable.

2. Notify the Service of any unauthorized take of scrub-jays during the construction of the proposed action.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the NRC and Corps must implement the measures as described in their BA in order to fulfill their responsibilities for complying with the terms and conditions of this BO. These include conducting threatened and endangered species surveys within 2 years of construction or any habitat modification that includes land clearing for this project. These terms and conditions are non-discretionary. To implement the above reasonable and prudent measures, the Service has outlined the following terms and conditions for incidental take. 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 for incidental take:

1. If clearing of occupied scrub-jay habitat is to occur within the species' nesting season (typically March 1 through June 30), the areas must be surveyed prior to clearing to determine if there are any active scrub-jay nests located within the vegetation. If an active scrub-jay nest is located, to the maximum extent practicable, clearing activities must not take place within 150 feet of the nest site until nestlings have fledged or until it has been determined that the nest has failed.

2. Unauthorized take of scrub-jays associated with the proposed activity should be reported immediately to the Service's Jacksonville Field Office (904) 731-3336. If a dead scrub-jay is found on the project site, the specimen should be thoroughly soaked in water and frozen for later analysis.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the

purposes of the Act 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 a listed species or critical habitat, to help implement recovery plans, or to develop information.

- Cooperate with Federal, State, or local research supporting implementation of recovery actions which may include long-term ecological monitoring on Florida scrub-jay, manatee, wood stork, and eastern indigo snakes in the project area.

- We recommend the applicants review and incorporate applicable management conservation recommendations and best management practices within the LNP site as well as other conservation lands identified in the wetland mitigation plan.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat 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.

The Service appreciates the cooperation of the NRC, Corps and applicant's environmental consultant during this consultation. If you have any questions regarding this biological opinion, please contact Annie Dziergowski (904) 731-3089.

Sincerely,

for David L. Hankla
Field Supervisor

cc: FWC, Tallahassee, Ted Hoehn
Service, Vero Beach, Al Begazo
USACE, Jacksonville, Don Hambrick

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