



United States Department of the Interior

FISH AND WILDLIFE SERVICE

South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



July 7, 2005

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.: 4-1-04-PL-7372
Corps Application No.: SAJ-2004-118 (IP-JPF)
Application Date: May 20, 2004
Formal Consultation Initiation Date: May 16, 2005
Project: Tanglewood Development
Applicant: Colony Communities
Counties: Polk and Osceola

Dear Colonel Carpenter:

This document is the Fish and Wildlife Service's (Service) biological opinion for the proposed project known as Tanglewood in Osceola County, Florida. This biological opinion addresses potential effects of the project on two federally listed vertebrate species, the threatened bluetail mole skink (*Eumeces egregius lividus*) and the threatened sand skink (*Neoseps reynoldsi*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). Your May 20, 2004, request for formal consultation was received on May 21, 2004.

This biological opinion is based on information gathered from field investigations, onsite meetings, email correspondence, Austin Environmental Consultants (Austin), and the Service. A complete administrative record of this consultation is located at the Service's South Florida Ecological Services Office, Vero Beach, Florida.

CONSULTATION HISTORY

On April 23, 2004, a Service biologist conducted a field inspection of one of the proposed skink habitat preservation areas (the Sessler property in Highlands County, Florida).

On May 4, 2004, the U.S. Army Corps of Engineers (Corps) issued a Public Notice for the Tanglewood project. In the Public Notice, the Corps made the determination the proposed project "may affect" the sand skink and the bluetail mole skink.



On May 21, 2004, the Service received a letter from the Corps dated May 20, 2004, regarding the Tanglewood project, requesting initiation of formal consultation for the sand skink and the bluetail mole skink.

On July 6, 2004, the Service received a habitat preservation and management plan from Austin for the sand skink and the bluetail mole skink.

On July 30, 2004, the Service transmitted a letter to the Corps requesting additional information on how the applicant proposed to minimize the adverse effects of the proposed project to the sand skink and the blue tail mole skink.

On April 25, 2005, in response to the Service's June 6, 2004, letter to the Corps, the Service received a revised habitat preservation and management plan (dated April 22, 2005) from Austin for the sand skink and the blue tail mole skink.

On May 16, 2005, the Service transmitted a letter to the Corps initiating formal consultation and indicating a biological opinion would be provided to the Corps on or before September 21, 2005.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

Proposed Action

The applicant proposes to construct a residential short-term rental community consisting of 89 homes on separate lots and associated infrastructure. The development will provide short-term housing for tourists visiting western Osceola County and Orange County. The 45.4-acre project site is comprised of 18.0 acres of mixed-forested wetlands and 27.4 acres of uplands. The uplands on the site consist of 5.2 acres of Pine-Mesic Oak, 2.5 acres of live oak hammock, and 19.7 acres of xeric oak scrub. The applicant proposes to place fill material into 1.2 acres of mixed cypress and hardwood wetlands. To compensate for impacts to wetlands, the applicant has proposed to preserve approximately 95.9 acres of wetlands (18.0 acres of wetlands within the project site and 77.9 acres immediately adjacent to the project site). These wetlands will be placed in a conservation easement granted to the Southwest Florida Water Management District. The proposed project is bounded on the north by County Road 532, on the east by residential development, on the south by Old Lake Wilson Road, and on the west by undeveloped land. The proposed project is located in Section 1, Township 26 South, Range 27 East, Polk County, Florida and Section 36, Township 25 South, Range 27 East, Osceola County, Florida (Figure 1).

The project will impact 7.9 acres of occupied sand skink habitat. Bluetail mole skinks were not observed on the project site. However, a reliable survey method for bluetail mole skinks has not been developed. The entire known geographic range of the bluetail mole skink occurs within the known geographic range of the sand skink. Therefore, the Service assumes bluetail mole skinks are likely to occur wherever sand skinks occur. To minimize impacts to the sand skink and the blue tailed mole skink, the applicant has proposed to preserve, enhance, and manage in

perpetuity 15.8 acres of occupied skink habitat located offsite. Approximately 2.84 acres of occupied skink habitat has already been preserved and added to the Nature Conservancy's Tiger Creek Preserve (Figure 2) located in Section 25, Township 30 South, Range 28 East, Polk County, Florida. This acreage is part of a 10.06-acre parcel recently deeded to the Tiger Creek Preserve as habitat compensation for impacts to skinks associated with the Sandy Ridge development project (Service log number 4-1-03-F-74). The Service and the developer of the Sandy Ridge project agreed 7.22 acres of the 10.06-acre parcel would be used to minimize impacts to skinks resulting from the Sandy Ridge project and 2.84 acres would be available for use in association with a future development project that impacts skinks. The remaining 12.96 acres of occupied skink habitat will be preserved within the 57-acre Sessler Property located north of Old Bombing Range Road and east of North Bonnet Creek Road in Sections 4 and 9, Township 33 South, Range 29 East, Highlands County (Figure 3).

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 project will result in the construction of a residential development. The presence of a residential development may result in a variety of indirect and cumulative effects in the project area. The increase in the local human population resulting from the project will likely stimulate further development in the project area (*e.g.*, road widening and construction of new roadways to accommodate the increase in local traffic; construction of related facilities such as grocery stores, gas stations etc.) and increase the loss of skink habitat in the project area. Consequently, existing sand skink habitat in the project area is threatened by development. However, the extent of the project's effects to surrounding lands is difficult to discern. Therefore, the Service has established an action area for this project that includes the project site and all lands within 5 miles of the project site located in Osceola County and Polk County, Florida. The Service believes an action area of this size is sufficiently large enough to capture the majority of indirect and cumulative effects resulting from this project.

STATUS OF THE SPECIES AND CRITICAL HABITAT RANGE-WIDE

Use of Best Scientific and Commercial Information by the Service

The Service will use the most current and up-to-date scientific and commercial information available. The nature of the scientific process dictates that information is constantly changing and improving as new studies are completed. The scientific method is an iterative process that builds on previous information. As the Service becomes aware of new information, we will ensure it is fully considered in our decisions, evaluations, reviews, and analyses as it relates to the base of scientific knowledge and any publications cited in our documents.

South Florida Multi-Species Recovery Plan (MSRP)

The MSRP (Service 1999) was designed to be a living document with the flexibility to accommodate changes identified through ongoing and planned research and be compatible with

adaptive management strategies. These principals are set forth in both the transmittal letter from the Secretary of the Interior and in the document itself. As predicted, this is what indeed occurred in the intervening years since the MSRP was published. The Service uses the MSRP in the context it still presents useful information when taken in conjunction with all the new scientific information developed subsequent to its publication.

Species/Critical Habitat Description

Sand skink

The sand skink is a small, fossorial lizard that occurs on the sandy ridges of interior central Florida from Marion County south to Highlands County. The extant range of the sand skink includes Highlands, Lake, Marion, Orange, Osceola, Polk, and Putnam Counties (Christman 1988). Principal populations occur on the Lake Wales and Winter Haven Ridges in Highlands, Lake, and Polk Counties (Christman 1992a; Mushinsky and McCoy 1991; P. Moler, Florida Fish and Wildlife Conservation Commission (FWC), personal communication, 1998). The sand skink is uncommon on the Mount Dora Ridge, including sites within the Ocala National Forest (Christman 1970, 1992a). As of 1997, there were 114 locality records for the sand skink (Service 1999). The majority of these known skink localities occur within the Lake Wales Ridge (LWR). The modification and destruction of xeric upland communities in central Florida were a primary consideration in listing the sand skink as threatened under the ESA in 1987 (52 FR 42662). Critical habitat has not been designated for the sand skink.

The sand skink reaches a maximum length of about 5 inches. The tail makes up about half the total body length. The body is shiny and usually gray to grayish-white in color, although the body color may occasionally be light tan. Hatchlings have a wide black band located along each side from the tip of the tail to the snout. This band is reduced in adults and may only occur from the eye to the snout on some individuals (Telford 1959). Sand skinks contain a variety of morphological adaptations for a fossorial lifestyle. The legs are vestigial and practically nonfunctional, the eyes are greatly reduced, no external ear openings are present, the snout is wedge-shaped, and the lower jaw is countersunk.

The sand skink is widespread in xeric uplands with sandy substrates, but appears to be most abundant in ecotonal areas, typically between high pine and scrub (Telford 1996). It is also found in rosemary (*Ceratiola ericoides*) scrub, turkey oak (*Q. laevis*) barrens, or sandy areas of the high pine community (Campbell and Christman 1982). Optimal skink habitat includes areas with open canopies, scattered shrubby vegetation, and patches of bare sand with few plant roots (Christman 1978b, 1992a). However, more recent surveys have located sand skinks in areas with dense undergrowth and extensive canopy closure (H. Mushinsky, University of South Florida, personal communication, 1996) indicating extensive loose, root-free soils may not be a requisite for this species. Suitable habitat must also provide soil moisture conditions for thermoregulation and egg incubation (Telford 1959). Recent surveys have noted occurrence of skinks in converted lands, such as citrus groves.

Bluetail mole skink

The bluetail mole skink is a small, slender lizard that occupies xeric upland habitats of the Central Ridge in peninsular Florida. It requires open, sandy patches interspersed with sclerophyllous vegetation (Service 1999). The historic and anticipated future modification and destruction of xeric upland communities in central Florida were primary considerations in listing the bluetail mole skink as threatened under the ESA in 1987 (52 FR 42662). No critical habitat has been designated for the bluetail mole skink.

The bluetail mole skink reaches a maximum total length of about 5 inches and the tail makes up about half the body length. The body is shiny and brownish to pink in color with lighter paired dorsolateral stripes diverging posteriorly (Christman 1978a). Males develop a colorful orange pattern on the sides of the body during the breeding season. Juveniles usually have a blue tail (Christman 1992b; P. Moler, FWC, personal communication, 1998). Regenerated tails and the tails of older individuals are typically pinkish. The legs are somewhat reduced in size and used only for surface locomotion and not for “swimming” through the sand (Christman 1992b).

A variety of xeric upland communities provide habitat for the bluetail mole skink, including rosemary and oak-dominated scrub, turkey oak barrens, high pine, and xeric hammocks. Areas with few plant roots, open canopies, scattered shrub vegetation, and patches of bare, loose sand provide optimal habitats (Christman 1988, 1992b). Within these habitat types bluetail mole skinks are typically found under leaves, logs, palmetto fronds, and other ground debris. Shaded areas presumably provide suitable microhabitat conditions for thermoregulation, egg incubation, and foraging (Mount 1963). Bluetail mole skinks tend to be clumped in distribution with variable densities that may approach 25 adults per-acre (Christman 1992b). The distribution of bluetail mole skinks appears to be closely linked to the distribution of surface litter and, in turn, suitable microhabitat sites.

Life History

Sand skink

The sand skink is highly adapted for life in the sand. It spends the majority of its time below the surface where it burrows through loose sand in search of food, shelter, and mates. Sand skinks feed on a variety of hard and soft-bodied arthropods that occur below the ground surface. The diet consists largely of beetle larvae and termites (*Prorethodes* spp.). Spiders, larval ant lions, lepidopteran larvae, roaches, and adult beetles are also eaten (Myers and Telford 1965; Smith 1977). Anecdotal evidence indicates sand skinks are diurnal and probably feed primarily during the morning and late afternoon when their preferred body temperatures are achieved (Sutton 1996). With respect to season, Telford (1959) reported skinks most active from early March through early May, whereas Sutton (1996) found skinks to be most active from mid-February to late April. These high activity periods correspond to movements associated with breeding. Females are difficult to collect following mating, apparently due to the reduction or cessation of movements during nesting. Usually two eggs are laid in the sand under logs or debris approximately 55 days after mating (Telford 1959). The eggs hatch from June through

July. Sand skinks reach sexual maturity at 1 to 2 years (Telford 1959; Sutton 1996) and may remain reproductively active for 2 to 3 years (Sutton 1996). No information is available on the dispersal of this species or its territory size.

Bluetail mole skink

Bluetail mole skinks are typically found under leaves, logs, palmetto fronds, and other ground debris in a variety of xeric upland communities, including rosemary and oak-dominated scrub, turkey oak barrens, high pine, and xeric hammocks (Christman 1992b). Foraging activities of the bluetail mole skink are primarily at the soil surface or at shallow depths to 2 inches (Service 1993), usually during the morning or evening. Roaches, crickets, and spiders make up the bulk of the diet (Mount 1963). The reproductive biology of the bluetail mole skink is poorly known. Reproduction is presumably very much like that of the peninsula mole skink (*E.e. onocrepis*) where mating occurs in the winter (Mount 1963). The peninsula mole skink lays three to seven eggs in a shallow nest cavity less than 12 inches below the surface. The eggs incubate for 31 to 51 days, during which time the female tends the nest. Individuals probably become reproductively active at 1 year of age (Mount 1963; Christman 1978a).

Population Dynamics

The Service has little information on the populations of sand and bluetail mole skinks within their extant ranges. The skinks' diminutive size and secretive habits make them difficult to study. Recent studies have provided information on the distribution of skinks, but little information is known about population dynamics.

Status and Distribution

Sand skink

Reason for listing

The modification and destruction of xeric upland communities in central Florida were a primary consideration in listing the sand skink as threatened under the ESA in 1987 (52 FR 42662). By some estimates, as much as 90 percent of the scrub ecosystem has already been lost to residential development and conversion to agriculture, primarily citrus groves (FDNR 1991; Kautz 1993). Xeric uplands remaining on private lands are especially vulnerable to destruction because of increasing residential and agricultural pressures.

Range-wide trends

Except for a few locations where intensive research has been conducted, little information about the presence or abundance of sand skinks exists. An extensive 1992 survey in Ocala National Forest failed to capture any sand skinks despite placement of traps near historical locations and the capture of a number of other fossorial reptiles. Telford (1992) cited the ephemeral nature of early successional scrub habitats due to dynamic successional changes as an important

confounding factor in the evaluation of the sand skink's present status in the Ocala National Forest. Additional studies have provided presence/absence information that has been used to determine the extant range of the species (Mushinsky and McCoy 1991; Stout and Corey 1995). However, no long-term monitoring efforts have been undertaken to evaluate the status or trends of sand skinks at these or other sites.

At the time of Federal listing in 1987, Florida Natural Areas Inventory had recorded 31 known sites for the sand skink. By 1997, 114 localities were known. This increase is largely the result of more intensive sampling of scrub habitats in recent years and does not imply this species is more widespread than originally thought. Of the known locations, 41 (35 percent) occur on public lands or private lands placed under conservation easement, and offer habitat protection. It is likely continued residential and agricultural development of xeric upland habitat in central Florida has destroyed or degraded habitat containing sand skinks. Approximately 60 to 90 percent of xeric upland communities, historically used by sand skinks, have been lost due to development (Christman 1988; Christman and Judd 1990; Kautz 1993; Center for Plant Conservation 1995).

Protection of the sand skink from further habitat loss and degradation provides the most important means of ensuring its continued existence. Existing protected areas may not provide sufficient habitat to ensure the survival of the sand skink because many life history and population characteristics relevant to long-term survival of the species are unknown (Service 1993). Existing protection of occupied skink habitat consists primarily of private preserves such as Archbold Biological Station, Hendry Ranch, Tiger Creek Preserve, and Saddle Blanket Lakes Scrub Preserve, coupled with publicly owned lands such as Lake Arbuckle State Park and State Forest, Lake Louisa State Park, and Highlands Hammock State Park (Service 1993). Current efforts to expand the system of protected xeric upland communities on the LWR, coupled with implementation of effective land management practices, represent the most likely opportunity for assuring the sand skink's survival. Recovery of the sand skink may require rehabilitation of suitable but unoccupied habitat or restoration of potentially suitable habitat. Because sand skinks do not readily disperse, introductions into restored or created unoccupied habitat may be necessary.

Bluetail mole skink

Reason for listing

The historic and anticipated future modification and destruction of xeric upland communities in central Florida were primary considerations in listing the bluetail mole skink as threatened under the ESA in 1987 (52 FR 42662). As stated previously, as much as 90 percent of the xeric upland communities on the LWR have already been lost because of habitat destruction and degradation due to residential development and conversion to agriculture, primarily citrus groves (FDNR 1991). Remaining xeric habitat on private lands is especially vulnerable because projections of future human population growth suggest additional demands for residential development within the range of the bluetail mole skink. Campbell and Christman (1982) characterized bluetail mole skinks as colonizers of a patchy, early successional, or

disturbed habitat type, which occurs throughout the sandhill, sand pine scrub, and xeric hammock vegetative associations as a result of biological or catastrophic factors. Susceptibility of mature sand pine to windthrow may be an important factor in maintaining bare, sandy microhabitats required by bluetail mole skinks and other scrub endemics (Myers 1990).

Range-wide trends

At the time of Federal listing, there were 20 locality records for the bluetail mole skink. Currently, 34 sites are known. The increase in locality records is largely the result of more intensive sampling of scrub habitats in recent years and does not imply this species is more widespread than originally supposed. Of the known locations, only 14 occur on public land or on private land protected under conservation easement. It is likely continued residential and agricultural development of xeric upland habitat in central Florida has destroyed or degraded extensive tracts of habitat containing the bluetail mole skink. Estimates of habitat loss range from 60 to 90 percent, depending on the xeric community type (Christman 1988; Christman and Judd 1990; Kautz 1993; Center for Plant Conservation 1995).

A range-wide survey of the bluetail mole skink was conducted in 2004 as part of a 2-year study. Only one bluetail mole skink was trapped (S. Christman, personal communication, 2004). However, it is not unusual to capture only one bluetail mole skink for every 20 sand skinks captured (S. Christman, personal communication, 1986). Thus far 27 sand skinks have been captured. The data collected so far has not been analyzed and preliminary data indicate bluetail mole skink populations are typical of those surveyed in natural habitats (S. Christman, personal communication, 2004).

The protection and recovery of bluetail mole skinks will require habitat loss be stopped and unoccupied but potentially suitable habitat be restored. The existing protection of the bluetail mole skink includes a number of private and public preserves within the LWR. Current efforts to expand the system of protected xeric upland habitats on the LWR, in concert with implementation of aggressive land management practices, represent the most likely opportunity for securing the future of this species. Comprehensive land acquisitions that protect areas occupied by the bluetail mole skink include the Service's Lake Wales Ridge National Wildlife Refuge and the State of Florida's Conservation and Recreation Lands (CARL) Lake Wales Ridge Ecosystem Project (Service 1992).

Summary

In summary, little information is available to adequately assess the status and population dynamics of the sand and bluetail mole skinks. Both species are endemic to central Florida and are habitat specialists that rely on early successional xeric scrub habitat for their continuing existence. Estimates of habitat loss range from 60 to 90 percent, depending on the xeric community type (Christman 1988, Christman and Judd 1990, Kautz 1993, Center for Plant Conservation 1995). However, the sand skink is relatively widespread in remaining xeric uplands. Furthermore, the implementation of favorable management practices can create and

maintain suitable habitat conditions for both sand and bluetail mole skinks, as well as other xeric upland-dependent species. A number of actions over the last 20 years have resulted in conservation benefits to xeric uplands within the extant range of both species. The State of Florida has acquired xeric upland habitat through the CARL, Save Our Rivers, and other P-2000 acquisition programs. Combined, these land acquisition programs have protected 10,000 acres of xeric uplands (Florida Department of Environmental Protection 1998, South Florida Water Management District 1998). The Service has also acquired portions of several small tracts totaling 800 acres as a component of the LWR National Wildlife Refuge. Finally, private organizations, such as The Nature Conservancy and Archbold Biological Station have bought and currently manage xeric uplands within the LWR.

ENVIRONMENTAL BASELINE

The environmental baseline includes the past and present impacts of all Federal, State, or 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 impact of State or private actions, which are contemporaneous with the consultation in progress.

STATUS OF THE SPECIES/CRITICAL HABITAT WITHIN THE ACTION AREA

Cover board surveys performed in accordance with the Service's draft *Sand and Bluetail Mole Skink Survey Protocol* (Service 2002a) documented the occurrence of sand skinks within 7.9 acres of xeric oak scrub habitat within the project site. Bluetail mole skinks were not observed on the project site; however, a reliable survey method for bluetail mole skinks has not been developed. The entire known geographic range of the bluetail mole skink occurs within the known geographic range of the sand skink. Therefore, the Service assumes bluetail mole skinks are likely to occur wherever sand skinks occur. The sand skink has been documented to occur at other localities within the action area near the project site. In 2003, the Service consulted on two development projects within 1 mile of the project site that contained sand skinks: (1) the Sandy Ridge residential development and (2) the City of Kissimmee's Wastewater Treatment Plant.

FACTORS AFFECTING SPECIES HABITAT WITHIN THE ACTION AREA

Sand skinks and bluetail mole skinks are vulnerable within the action area due to the intense development pressures in the region resulting from central Florida's burgeoning human population. The University of Florida's Bureau of Economic and Business Research estimates Osceola County's population is projected to increase from 202,600 in 2005, to 232,100 by 2010. Similarly, Polk County's population is projected to increase from 480,450 in 2000 to 543,400 by 2010.

Remaining skink habitats are also threatened by degradation resulting from fire exclusion and lack of management. Xeric habitats favored by skinks require periodic fire to maintain optimal habitat values such as patches of bare sand and low shrub architecture. The need to protect agricultural, residential, and commercial development has resulted in the suppression of

wildfires. Accordingly, it is extremely likely remaining skink habitats in the project area will be converted to residential subdivisions, golf courses, and shopping centers. Furthermore, implementing prescribed burns in areas adjacent to residential areas is difficult due to safety concerns and objections of local residents. The Service is unaware of any recent fires within the action area. Xeric habitats lacking periodic fire or management become overgrown and less suitable to skinks. Over time, skinks will diminish in abundance and eventually may be extirpated. All occupied skink habitat in the action area would benefit greatly from burning, roller chopping, or other suitable types of management. Mechanical treatments, such as roller chopping, are not the preferred method for management of skink habitat because the use of heavy equipment could potentially crush and kill skinks, adversely affect suitable skink habitat by depositing vegetative debris into bare areas, and compact soils over time. However, mechanical management of skink habitat can be employed if the use of fire is not feasible.

EFFECTS OF THE ACTION

This section includes an analysis of the direct and indirect effects of the proposed action on the sand skink and bluetail mole skink, including beneficial effects and interrelated and interdependent actions. As noted above, both species share similar habitat requirements and are presumed to co-occur at the project site. Therefore, the effects of the action are expected to affect the sand skink and the bluetail mole skink in the same manner.

This project site contains skink habitat and is located within the central portion of the geographic range of the sand skink and bluetail mole skink. The timing of construction for this project, relative to sensitive periods of the skink's life cycle, is unknown. Skinks are currently found within, and adjacent to, the proposed construction footprint. The project will be constructed in a single, disruptive event and result in permanent loss and alteration of the native vegetation within the project site. The time required to complete construction of the project is not known, but it is likely the majority of the land clearing will be completed within a few months. The disturbance associated with the project will be permanent and will result in a loss of habitat currently available to the skinks.

Beneficial Effects - Approximately 15.8 acres of occupied skink habitat located outside the project site will be preserved and managed in perpetuity. A 2.84-acre parcel of occupied skink habitat has already been preserved and added to the Nature Conservancy's Tiger Creek Preserve (Figure 2) located in Section 25, Township 30 South, Range 28 East, Polk County, Florida. An additional 12.96 acres of occupied skink habitat will be preserved and managed within the 57-acre Sessler Property located north of Old Bombing Range Road and east of North Bonnet Creek Road in Sections 4 and 9, Township 33 South, Range 29 East, Highlands County (Figure 3). The preservation areas currently contain a mosaic of vegetation and open sandy areas preferred by skinks. The following activities will be undertaken at these areas to benefit skinks:

1. The 12.96-acre parcel of skink habitat at the Sessler property will be placed under conservation easement and protected in perpetuity. Title of the parcels will be held by Colony Communities. Development and motorized vehicle use will not be allowed on the site;

2. The Nature Conservancy will manage the Tiger Creek Preserve site in perpetuity. Colony Communities will be responsible for the long-term management of the Sessler Property. A trust fund has been established by the applicant to provide for long-term management of the Sessler Property;
3. Signs will be erected around the Sessler Property parcel identifying the site as preserve areas and indicating entry is restricted;
4. Colony Communities will prevent vegetation on the Sessler Property from becoming overgrown and maintain patches of open, bare sand in the area. The vegetation management plan consists of prescribed burns, canopy and snag management, and manual, mechanical, and chemical maintenance;
5. The Sessler Property will be maintained free of exotic vegetation through prescribed burning or mechanical, manual, or chemical maintenance;
6. The applicant will conduct annual monitoring of the vegetation at the Sessler Property to assess the success of the on-going management and modify management where needed; and
7. An annual report documenting the management employed on the site and the existing site conditions will be provided to the Service.

The placement of occupied habitat under conservation easement and its proposed management is consistent with the Service's *Draft Species Guidelines for Endangered Species – Sand Skink and Bluetail Mole Skink* (Service 2002b). The preserve areas will benefit skinks and promote their long-term persistence.

Direct Effects - Direct effects are those effects caused by the proposed action, at the time of construction, and are reasonably certain to occur. The direct effects this project will have on sand skinks and bluetail mole skinks within the action area are discussed below.

The construction of the project will result in the direct loss of 7.9 acres of skink habitat. Incidental mortality of skinks due to land clearing and construction activities may also occur. Mechanical preparation of the proposed project site can crush or injure individual skinks and skink eggs, and destroy or degrade occupied and potential habitat and foraging areas. In addition, any clearing activities and/or prescribed fires may adversely affect skinks by causing them to leave the area and possibly miss foraging and mating opportunities. Individual skinks fleeing the area may be more vulnerable to predation. The Service considers this project, as proposed, to represent a threat of disturbance to skinks. In addition, the project will add to the continued fragmentation of skink habitat in the region and result in a small reduction of the geographic distribution of these species. Therefore, the project proposed by Colony Communities is expected to directly affect skink mortality in the action area.

Interrelated and Interdependent Actions - An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No interrelated or interdependent actions are expected to result from the project.

Indirect Effects - Indirect effects are those effects that result from the proposed action, and are reasonably certain to occur. The indirect effects this project will have on skinks within the action area are discussed below.

The construction of the proposed residential development will increase the human population in the action area. The increase in the local human population resulting from the project may stimulate further development in the project area such as, road widening and construction of new roadways to accommodate the increase in local traffic and construction of service related facilities (*e.g.*, grocery stores, gas stations, etc.) on privately owned lands in the project vicinity. Such development would result in the conversion of skink habitat to buildings, parking lots, roadways, and other areas unsuitable as skink habitat. The habitat loss resulting from these projects will continue to fragment habitat in the action area and further reduce the geographic range of the species.

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 unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Anticipated future county actions in the action area that will adversely affect skink habitat include the issuance of county building permits. Permits to construct single-family homes and commercial buildings within the action area are required by Osceola and Polk Counties. Many of the construction projects impacting skink habitat in the action area will require both a county building permit and a Corps permit, and will require consultation under section 7 of the ESA.

A small proportion of construction projects requiring county building permits will not impact wetlands and will not require a permit from the Corps. In general, these projects will not have a Federal nexus requiring consultation with the Service under the ESA. However, applicants obtaining county building permits are not absolved from the prohibition of take of listed species under the ESA. Section 10 of the ESA provides a means for permitting the incidental take of listed species associated with non Federal actions such as county building permits. In order to obtain an incidental take permit, the applicant must prepare a Habitat Conservation Plan (HCP), acceptable to the Service, describing how impacts to the species will be minimized and compensated for to the greatest extent practicable. In order to be acceptable to the Service, an HCP for a non Federal action affecting federally listed skinks would generally include the enhancement, restoration, or preservation of skink habitat. The Service has considered cumulative effects within the action area, and based on the above discussion, we have not

identified any additional cumulative effects beyond those already discussed in the Environmental Baseline.

SUMMARY OF EFFECTS

Based on the above evaluation, the Service believes the project area provides habitat for the sand skink and bluetail mole skink. The project will result in the direct loss of 7.9 acres of sand skink and bluetail mole skink habitat. The project will also add to the continued fragmentation of skink habitat in the region and reduce the geographic distribution of these species. The preservation and long-term management of the 15.8 acres of skink habitat will compensate for the direct adverse effects of the project to the sand and the bluetail mole skink by maintaining the habitat quality of the sites and by protecting the land from future development.

CONCLUSION

After reviewing the status of the sand skink and bluetail mole skink, 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 construction of the Tanglewood Development, as proposed by Colony Communities, is not likely to jeopardize the continued existence of the sand skink or bluetail mole skink. No critical habitat has been designated for either species, and therefore none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and 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, the carrying out of 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 ESA provided such taking is in compliance with the terms and conditions of this incidental take statement.

The terms and conditions described below are nondiscretionary and must be undertaken by the Corps so they become binding conditions of any grant or permit issued to Colony Communities as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require Colony Communities 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 protection coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps or Colony Communities must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

The Service anticipates incidental take of sand skinks and bluetail mole skinks associated with the conversion of 7.9 acres of skink habitat to residential development. The Service anticipates incidental take of sand skinks and bluetail mole skinks will be difficult to detect and quantify for the following reasons: skink density varies considerably within and between apparently suitable habitat patches; density dependent mechanisms are currently unknown and may be due to territorial requirements, micro habitats, and other unknown environmental influences; individuals have a small body size and spend the majority of their time underground; and finding a dead or impaired specimen is unlikely. Bluetail mole skinks have not been located onsite; however, this species is usually found in habitats occupied by sand skinks within the LWR, and a reliable survey technique to detect bluetail mole skinks is not currently available. However, take of sand skinks and bluetail mole skinks can be anticipated within the 7.9 acres of skink habitat located in the project footprint due to land clearing and construction activities associated with the project. Therefore, the Service believes all individuals occurring within this 7.9 acre portion of the project footprint will be incidentally taken. The incidental take is expected to be in the form of harm, injury, or death due to construction activities and/or habitat loss, or disturbance.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize take of the sand skink and bluetail mole skink:

Minimize adverse effects of habitat loss and fragmentation to sand and bluetail mole skinks by implementing an appropriate habitat management plan for sand and bluetail mole skinks occurring within the preserve areas located at the Tiger Creek Preserve and the Sessler Property.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

1. Place a conservation easement on the Sessler Property in order to preserve skink habitat.
2. Implement the Sand Skink Habitat Management Plan discussed above at the Sessler Property.

3. Upon locating a dead sand skink or bluetail mole skink specimen, initial notification must be made to the nearest Service Law Enforcement Office (Mr. Vance M. Eaddy; Fish and Wildlife Service; 9549 Koger Blvd., Suite 111; St. Petersburg, Florida 33702; 727-570-5398). Secondary notification should be made to the FWC; South Region, 3900 Drane Field Road; Lakeland, Florida, 33811-1299; 1-800-282-8002. Care must be taken in handling any dead specimens of proposed or listed species found in the project area to preserve the specimen or its remains in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the ESA. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure the terms and conditions are appropriate and effective.

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 further minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Place any additional sand skink habitat on the project site, not needed for construction of the project, under conservation easement.

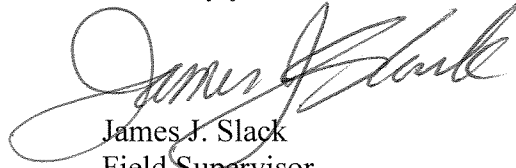
The Service wishes to be kept informed of any actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, and requests notification of any conservation recommendations implemented by Colony Communities.

REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the May 20, 2004, 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 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.

Thank you for your cooperation and effort in protecting Florida's fish and wildlife resources. If you have any questions, please contact John Wrublik at 772-562-3909, extension 282.

Sincerely yours,

A handwritten signature in black ink, appearing to read "James J. Slack". The signature is fluid and cursive, with a large initial "J" and "S".

James J. Slack
Field Supervisor
South Florida Ecological Services Office

cc:

Austin Environmental Consultants, Kissimmee, Florida
Corps, Tampa, Florida (John Fellows)
EPA, West Palm Beach, Florida (Richard Harvey)
FWC, Vero Beach, Florida
Service, Atlanta, Georgia (Noreen Walsh-Electronic Copy Only)
Service, Vero Beach, Florida (Marilyn Knight-Electronic Copy Only)
SFWMD, Orlando, Florida

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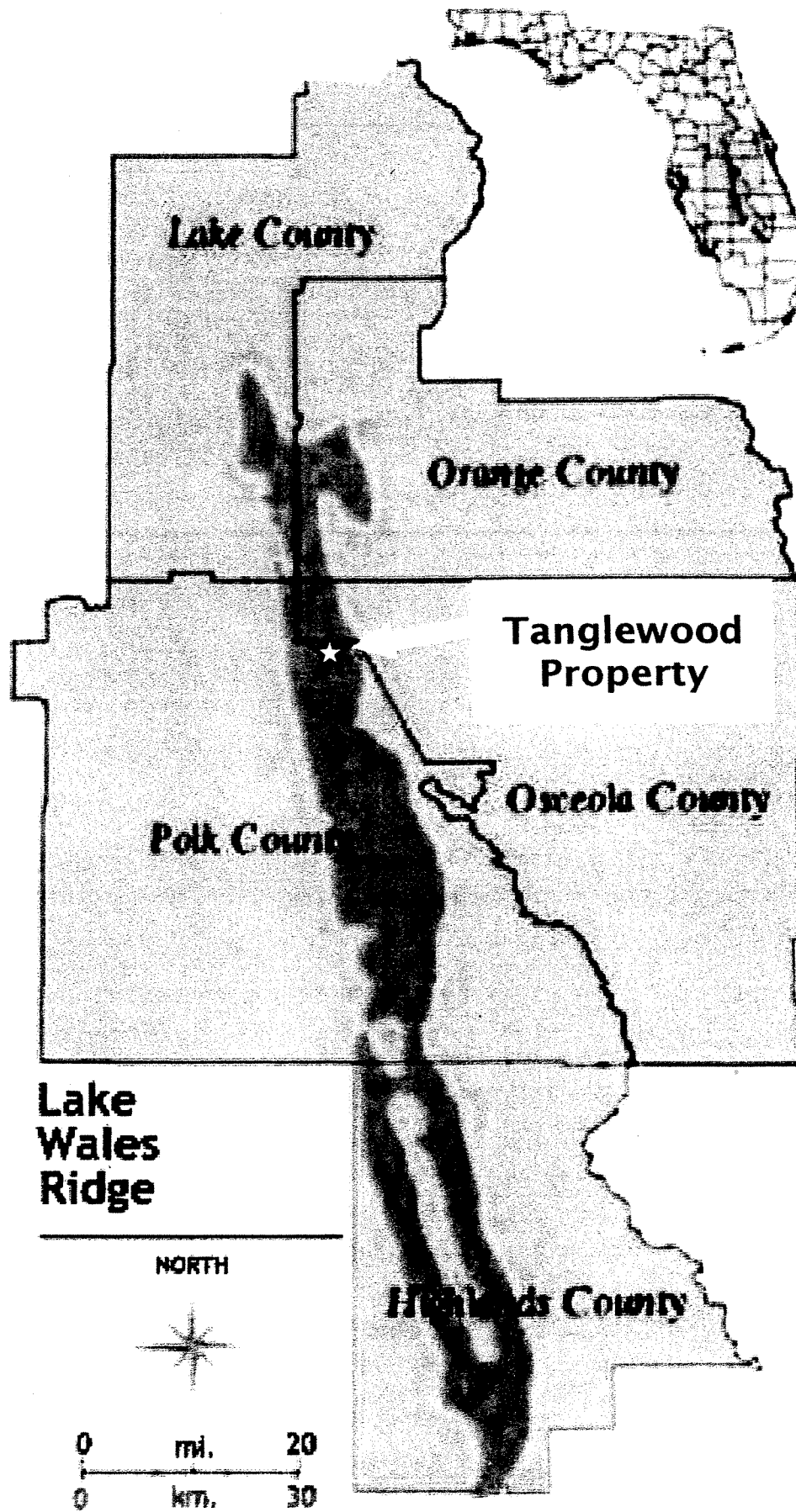
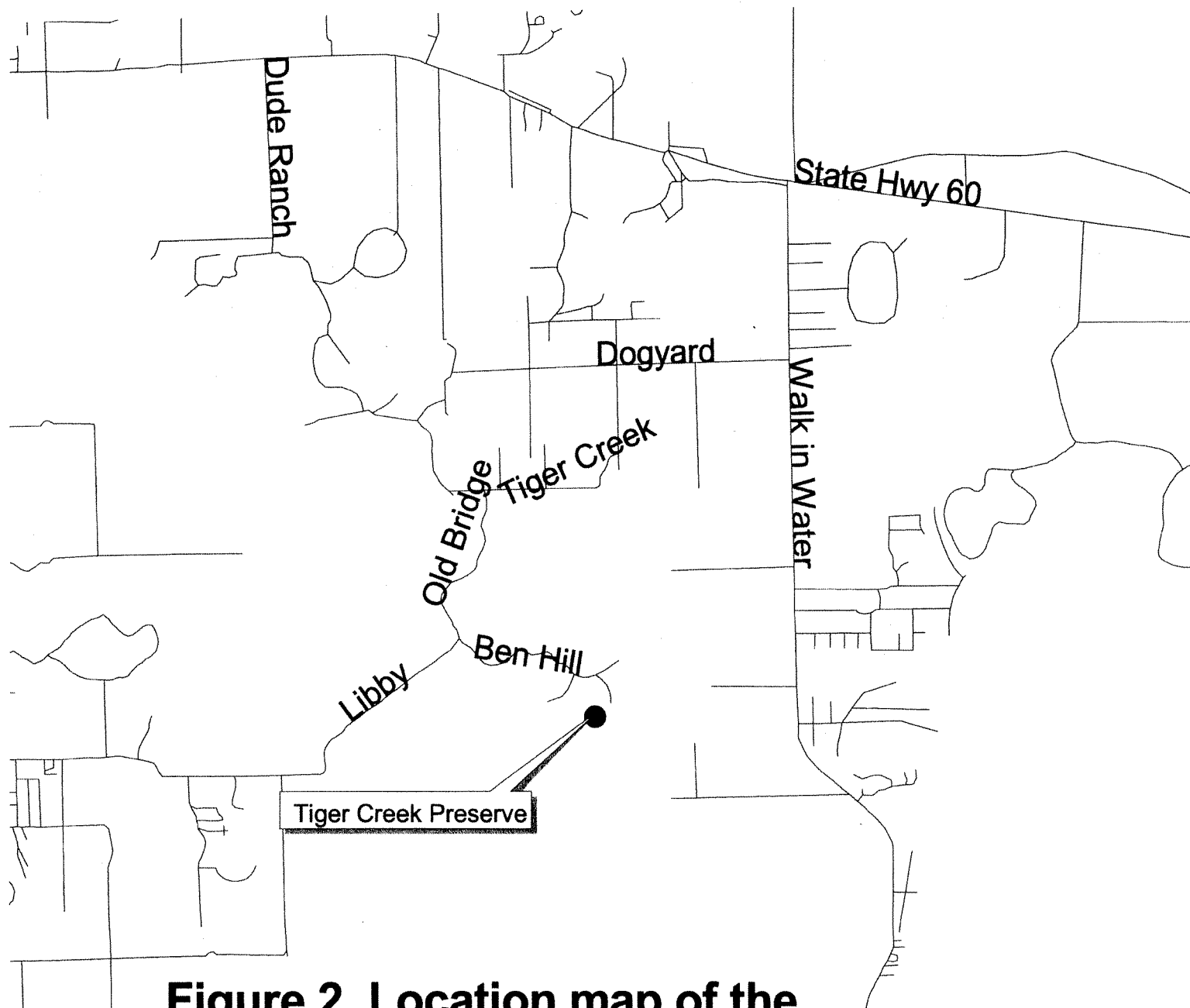
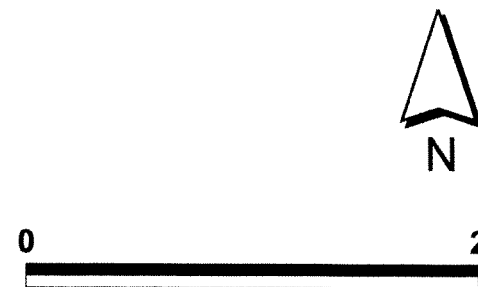


Figure 1. Location map of the proposed Tanglewood development.



**Figure 2. Location map of the
Nature Conservancy's Tiger
Creek Preserve, in Polk County,
Florida**



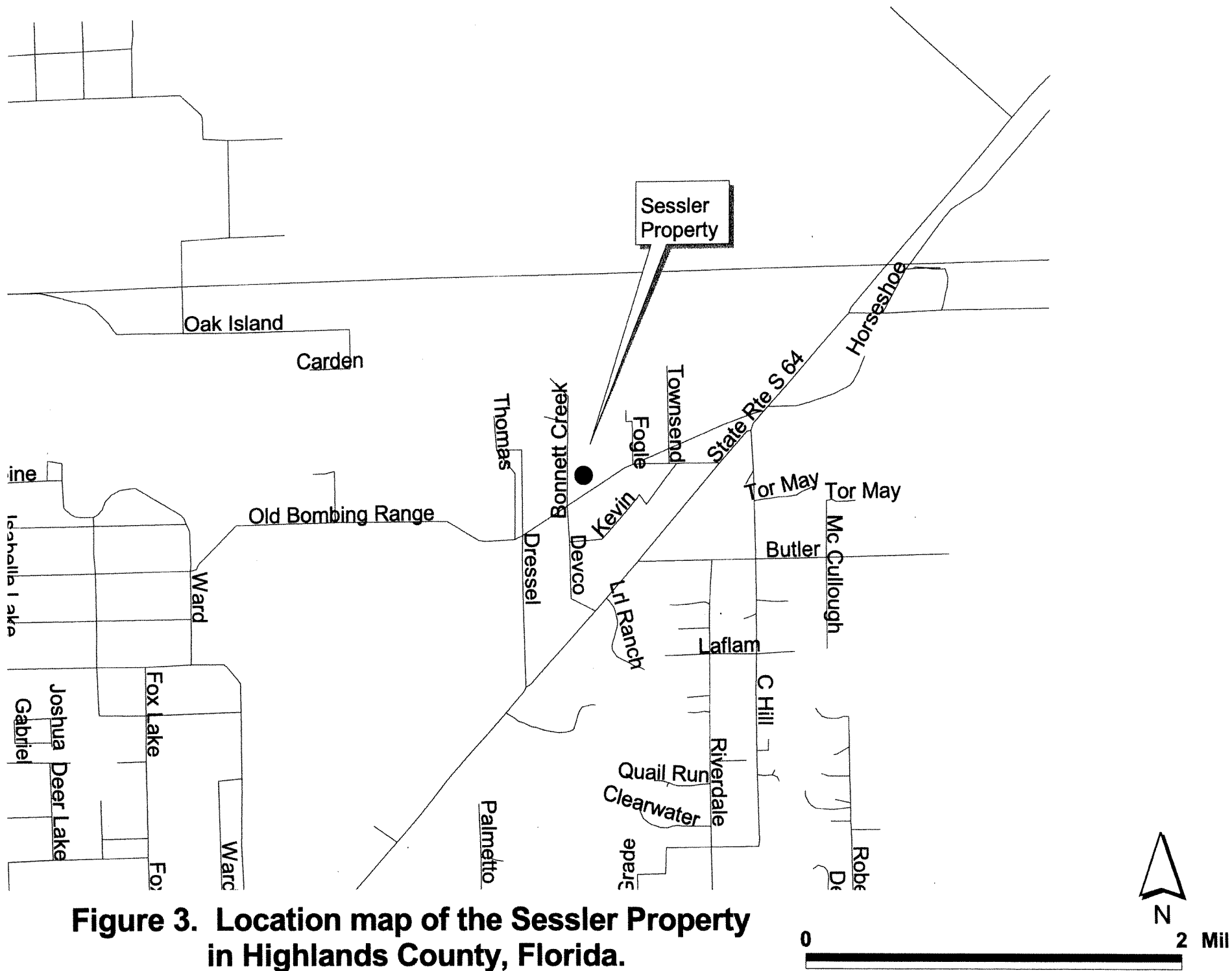


Figure 3. Location map of the Sessler Property in Highlands County, Florida.