Eastern Collier Multiple Species Incidental Take Permit Applications and Habitat Conservation Plan

Draft Environmental Impact Statement

U.S. Fish and Wildlife Service

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION TO THE FEDERAL ACTION

This draft Environmental Impact Statement (dEIS) has been prepared by the U.S. Fish and Wildlife Service (USFWS or Service) pursuant to the National Environmental Policy Act of 1969, as amended (42 United States Code [USC] 4321 et seq.) (NEPA), the Council on Environmental Quality (CEQ) regulations for Implementing NEPA (40 Code of Federal Regulations (CFR) Parts 1500-1508), and Department of the Interior NEPA Procedures including Secretarial Order 3355. The U.S. Army Corps of Engineers (Corps) is a cooperating agency.

This dEIS evaluates the potential effects to the natural, physical, and human environments likely to occur as a consequence of the Service issuing Incidental Take Permits (ITPs) for Covered Activities and Covered Species requested by a group of landowners acting jointly as the Eastern Collier Property Owners, LLC (ECPO) under Section 10 of the federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). The ECPO anticipate pursuing various activities on approximately 152,000 acres of private lands in northeastern Collier County, Florida identified as the Rural Land Stewardship Area (RLSA). Of these lands, the ECPO intend to preserve and limit development of approximately 107,000 acres of habitat important to the Florida panther (FP) and other federally listed species (restricted to uses no more intensive than historical uses of these lands) while directing future residential development, commercial development, and earth mining (i.e., “Covered Activities”) to the remaining 45,000 acres minus the acreage of the already permitted Ave Maria project for a total maximum of 39,973 acres of potential new development within the 152,000-acre plan area. These Covered Activities will be implemented in a portion of the RSLA lands considered to be of lesser habitat quality for the FP. The applicants have prepared the “Eastern Collier Multiple Species Habitat Conservation Plan” (ECMSHCP) as part of their ITP applications. The ECMSHCP provides, among other things, additional details of the activities and listed species of wildlife to be covered by the ITPs and the actions proposed by the ECPO to minimize and mitigate the effects of the taking of listed species.

The ECMSHCP and ITPs (if issued) would cover the incidental take of 19 Covered Species--eight federally listed species, three species that are being considered for listing but are not currently federally listed, and eight non-federally listed species that are currently listed as threatened by the state of Florida. See Section 2.1.3, Covered Species for details. Any ITPs issued, and the biological analyses performed for our intra-Service consultation, would inform and facilitate future regulatory actions by the Corps of Engineers in the ECMSHCP plan area.

The Service must decide whether to issue, issue with conditions, or deny the ITP applications based on the applicants’ ECMSHCP and after public comment. The Service will make its decision based on ITP issuance criteria: section 10(a)(2)(B), 50 CFR 17.22(b)(2), and 17.32(b)(2). If the Service finds that the ECMSHCP meets these criteria, we will issue the requested ITPs.

ES.2 PURPOSE AND NEED

The Service’s purpose in considering the proposed action is to fulfill its authority under the ESA, Section 10(a)(1)(B). Non-federal applicants, whose otherwise lawful activities may result in take of ESA-listed wildlife, can apply to the Service for incidental take authority so that their activities may proceed without potential violations of Section 9. Take is defined in Section 3 of the ESA as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The ECMSHCP would also provide a framework for section 7 consultations on future Clean Water Act section 404 authorizations.

Section 10 of the ESA specifically directs the Service to issue ITPs to non-federal entities for take of endangered and threatened species when the criteria in Section 10(a)(2)(A) are satisfied by the applicant. Once the Service receives an application for an ITP, the Service reviews the application to determine if it meets issuance criteria. As part of the ITP decision process, the Service conducts and intra-Service Section 7 consultation under Section 7(a)(2). During this consultation the Service must

insure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any listed species or result in the adverse modification of critical habitat. The Service also needs to ensure that issuance of the ITP and implementation of the associated habitat conservation plan is in compliance with applicable federal laws, regulations, treaties, and Executive Orders (EO).

A broader need for the federal action is to fulfill the Service's obligation to protect, conserve, and enhance threatened and endangered species and their respective habitats for the continuing benefit of the people of the United States and to provide a means and to take steps to conserve the ecosystems depended on by these species.

ES.3 ALTERNATIVES

This EIS analyzes Alternative 1 – No Action Alternative and Alternative 2 – Issuance of ITPs for the ECMSHCP. Two other alternatives (Alternative 3 – Issuance of ITP for Panther-Only and Alternative 4 – Issuance of ITP for Florida Panther Protection Program Review Team (PRT) Configuration) were considered but not carried forward for detailed analysis in Chapter 4. A brief summary of Alternatives 1 and 2 is provided below. Sections 2.2, 2.3, and 2.4 provide detailed descriptions of all four alternatives.

ES.3-1 Alternative 1 – No Action Alternative

Under the No Action Alternative, the Service would not issue the ITPs and the ECMSHCP would not be implemented. Under this Alternative, the current residential zoning in the Rural Lands Stewardship Area's (RLSA) "Open Lands" would remain at a density of one residence per five acres (base zoning). Within the RLSA boundary, land owners could opt to voluntarily participate in the Rural Land Stewardship Program (RLSP); where they would be free to pursue development at greater densities than are permitted under base zoning. This optional participation in the RLSP requires transfer of development rights within the RLSA's Stewardship Sending Areas (SSAs) to the RLSA's Stewardship Receiving Areas (SRAs). Landowners participating in the RLSP can also pursue earth mining activities with a SRA. Under the No Action Alternative, any land use action taken by land owners could be done with, or without the following: coordination among landowners, landscape-level planning, monitoring or mitigation. Projects would be evaluated individually on a project-by-project basis to ensure compliance under federal, state, and local laws. Under this Alternative, the Service would request on-site or off-site compensation to offset development of lands used by the FP or the eighteen other Covered Species, on a case-by-case basis.

ES.3-2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Under Alternative 2, the Service would issue ITPs for a period of 50 years for the Covered Species and Covered Activities, and the plan would be implemented as described in the ECMSHCP. The ECMSHCP proposes approximately 50,175 acres of land for Covered Activities, within which up to approximately 45,000 acres of residential/commercial development and/or earth mining could occur. This acreage includes the acreage of the already permitted Ave Maria project (Figure 2-2) and thus leaves 39,973 acres for new development. The ECMSHCP was designed to work in concert with the current RLSP and would also work with the proposed RLSP amendments.

Under the ECMSHCP, approximately 107,000 acres would be designated for Preservation/Plan-Wide Activities and Very Low Density Use. Activities that could occur on the 107,000 acres would be deed restricted and no more intensive than the types of agricultural, ranching, and other traditional rural land use activities that have occurred historically throughout the ECMSHCP area. The 107,000-acre area also includes areas that function as regional wildlife corridors, potentially allowing for wildlife movement between publicly owned conservation lands in Southwest Florida. The deeds associated with the land parcels within the 107,000 acres would be designated for either continuation of current land use, very low density development, or possibly conservation, as development within the 45,000 acres occurs.

The exact type, location, and intensity of future land use associated with the ECMSHCP's traditional rural use area remain undefined. Future land use regulations including the County's RLSP allow for future land use that ranges in intensity from conservation to surface mining. Consistent with the RSLA program, these 107,000 acres could be not only designed for Preservation, but could also be developed with other

Plan-Wide Activities and Very Low Density Use, as described in the ECMSHCP. However, it is important to note that due to the inherent complexities of the RSLA program and the uncertainties in the proposed types, locations, and intensities of traditional rural use, the basis of analysis in determining potential environmental effects in this dEIS makes a conservative assumption that the approximately 107,000 acres of lands would be designated solely for preservation.

In addition to the activities undertaken through the ECMSHCP, the Marinelli Fund, founded by the Florida Panther Protection Program (FPPP) and funded through implementation of the ECMSHCP, is expected to serve the proposed ECMSHCP by undertaking additional conservation activities within and around the ECMSHCP area, independently of any project development conservation. The Marinelli Fund was originally intended to be used for FP habitat restoration, including restoring the functional corridors, buffering against panther-human interaction, locating and constructing of panther crossings, and acquiring habitat demonstrated to be important to FP management within the RLSP area. The FPPP has since expanded the mission of the Marinelli Fund to include conservation actions to benefit other wildlife including the ECMSHCP's Covered Species.

ES.4 POTENTIAL EFFECTS OF ALTERNATIVES

The potential environmental effects associated with the No Action Alternative and Alternative 2 are summarized below and described in detail in Chapter 4, Environmental Consequences. The resources described and analyzed in detail in this dEIS are: Environmental Setting (see Section 4.3), Geology and Soils (see Section 4.4), Cultural Resources (see Section 4.7), Transportation (see Section 4.9), and Biological Resources (see Section 4.10).

ES.4-1 Environmental Setting

The No Action Alternative would likely result in permanent change of land use from the present mostly agricultural use to other uses (such as earth mining, oil and gas exploration, residential and commercial development), resulting in urban or suburban sprawl. Under Alternative 2, a regional strategy (the ECMSHCP) resulting from collaboration between conservation organizations and a landowner group would be implemented. The ECMSHCP would provide a long term (50-year) conservation and land use planning framework involving the restricted use of approximately 107,000 acres of privately held land while setting aside 45,000 acres of permanently changed land use (residential, commercial, earth mining) within the ECMSHCP area.

ES.4-2 Geology and Soils

The creation of impervious surfaces, in the form of access roads, footings, and foundations, would increase the potential for stormwater runoff and soil erosion. Earth and soils would also be directly impacted by residential and commercial development, earth mining, and oil and gas exploration and production. As discussed in Section 3.2.3, eastern Collier County consists mainly of poorly to very poorly drained soils, with hydric soils comprising approximately 61 percent of the ECMSHCP area. While both the No Action Alternative and Alternative 2 would involve displacement and disturbance of earth and soils, Alternative 2 is anticipated to reduce adverse impacts to geology and soils in the ECMSHCP Area.

ES.4-3 Water Resources

The No Action Alternative would require individual owners of 5-acre "ranchette" lots, and larger developments, to apply for state water resource permits, and possibly Corps dredge and fill permits. These individual actions would also require well and wastewater treatment system permits. Existing high-volume water uses and water management practices can be expected to continue for agriculture, and mining, in the ECMSHCP area. Under Alternative 2, the residential and commercial development would have centralized water distribution, wastewater collection, and treatment services. Alternative 2's development plan would leave the regional flow ways more intact by concentrating development and mining activities in areas that are currently row crops.

ES.4-4 Air Quality

Under the No Action Alternative, air pollutant emissions are expected to increase in Collier County. The short-term impacts from residential and commercial construction may temporarily increase particulate dust in the vicinity of construction projects. Mining activities are anticipated to create particulate dust daily. The effects of construction and mining on air quality would be reviewed on a case-by-case basis, as necessary, by the Florida Department of Environmental Protection. Alternative 2 is not expected to accelerate air pollution effects. The more self-contained development plan anticipated under Alternative 2 would result in reduced vehicle trip lengths relative to those which would occur if development was dispersed over a larger area which, in turn, is expected to reduce air pollutant emissions in the ECMSHCP area.

ES.4-5 Cultural Resources

The No Action Alternative would leave open the option to develop approximately 93,000 acres within the ECMSHCP area with no specific requirement to comply with Section 106 of the National Historic Preservation Act unless federal permits are required. Under Alternative 2, only approximately 45,000 acres of lands within the ECMSHCP area would be available for development. All actions with the potential to affect cultural resources (e.g., land clearing for development) would require consultation with the State Historic Preservation Officer. Section 106 also requires federal agencies to consult with federally recognized Native American Tribes to identify cultural resources of concern. Additionally, the restricted use of approximately 107,000 acres is anticipated to benefit Southern Florida's cultural heritage and create opportunities for future conservation activities.

ES.4-6 Visual Resources

Under the No Action Alternative, conservation lands (native wetlands, uplands and unimproved pasture) included in the RLSP sending areas will remain visibly intact. Lands developed under the RLSP in receiving areas are likely to include modern development aesthetics practices including wildlife friendly lighting. Land owners not participating in the RLSP may develop their properties in a piecemeal manner visually similar to nearby Golden Gate Estates. Under the ECMSHCP Alternative, development will incorporate water management lakes, berms, structural buffers, fencing, and directional and/or low-level lighting along the periphery of Covered Activities areas to visually separate developments from preservation areas, and minimizing the effects of light. Under both alternatives, both Preserved lands and undeveloped agricultural lands are expected to remain visually similar to their current state.

ES.4-7 Transportation

Future development within the ECMSHCP area would generate additional traffic on local and regional roadways. Future condition estimates included in FDOT's District One Regional Planning Model identify 30,000 residential units and 4,100 jobs present in the Plan Area under the No Action Alternative, and 72,200 residential units and 21,300 jobs under Alternative 2. Total Vehicle Miles Traveled (VMT) estimates for the No Action Alternative and Alternative 2 show VMT totals within the TAA would increase annually by an average of 6.0 percent and 6.8 percent, respectively over the 50 year study period (2010 to 2060).

As a result, most roadways within the Transportation Analysis Area would operate at much higher volumes with significant impacts to traffic and transportation. Both alternatives would entail a significant increase in the overall regional traffic volume.

ES.4-8 Biological Resources

Under the No Action Alternative, there could be significant direct and indirect impacts on ecological communities, wildlife (including federally listed and candidate species), and wildlife habitat linkages and corridors. Future land use would be regulated by current base zoning entitlements potentially leading to a disjointed land use pattern with little capacity to accommodate the preservation of wildlife corridors between existing public conservation lands. Impacts resulting from this type of disjointed development

include the potential loss of habitats, habitat fragmentation, loss of wildlife corridor linkages between existing public conservation lands, and harm from wildlife-vehicle collisions.

Under Alternative 2, direct and indirect adverse impacts on biological resources could be potentially significant but would be theoretically limited, as compared to the No Action Alternative, because of conditions of any ITP and mitigation measures that are part of the ECMSHCP. Potential impacts from future development associated with Covered Activities within the ECMSHCP area would result in loss of habitat, disturbance due to construction and earth mining, and harm from wildlife-vehicle collisions. However, under Alternative 2 the ECMSHCP would preserve additional habitat, limit habitat fragmentation, conserve wildlife corridors to provide permanent linkages between existing public conservation lands. Under Alternative 2, direct and indirect adverse impacts on biological resources within the ECMSHCP area likely would be below significant levels.

ES.4-9 Farmlands

The Natural Resources Conservation Service's (NRCS) Farmland Protection Policy Act of 1981 (FPPA) provides definitions for prime, unique, statewide, and locally important farmlands. This act is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Only soils classified as unique farmland under FPPA occur in the ECMSHCP area.

Even though Federal permitting decisions are not subject to the FPPA, the Service is providing some general statements about farmland in the ECMSHCP Area. Under the No Action Alternative, farmlands (including cultivated crops, citrus, sod, pastures, and specialty crops) are likely to be developed before natural communities because the permitting at many levels is easier than for natural areas. Under the ECMSHCP Alternative, the intensively farmed lands in the Covered Activities area are expected to be converted to residential or commercial development, or mining.

CHAPTER 1.0 INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This draft Environmental Impact Statement (dEIS)[1] has been prepared by the U.S. Fish and Wildlife Service (USFWS or Service) pursuant to the National Environmental Policy Act of 1969, as amended (42 United States Code [USC] 4321 et seq.) (NEPA) the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA (Title 40 of the Code of Federal Regulations [CFR] Parts 1500 to 1508), the US Department of the Interior's (DOI) implementing regulations (43 CFR Part 46), and DOI Secretarial Order 3355. The mission of the Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people (USFWS 1999). The U.S. Army Corps of Engineers (Corps) is a cooperating agency in the preparation of this dEIS. The CEQ NEPA regulations address cooperating agencies, which are federal agencies other than a lead agency that have jurisdiction by law or special expertise with respect to an environmental impact involved in a proposal or reasonable alternatives (40 CFR 1501.6 and 1508.5). The Corps has prepared a comprehensive study of future permitting in Southwest Florida, including the HCP Area (Corps 2000, 2003). This study improved planning and permitting by identifying site design and other considerations depending on the location of the project. The dEIS complements the Corps' study and refines the footprint for development which will inform future Clean Water Act Section 404 permitting and preservation.

This dEIS evaluates the potential effects to the natural, physical, and human environments likely to occur as a consequence of the Service issuing Incidental Take Permits (ITPs) requested by a group of landowners acting jointly as the Eastern Collier Property Owners, LLC (ECPO) under Section 10(a)(1)(B) of the federal Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 et seq.). The ECPO applicants (in alphabetical order) are: Alico, Inc.; Barron Collier Investment, Ltd.; Collier Enterprises Management, Inc.; Consolidated Citrus Limited Partnership; English Brothers Partnership; Half Circle L Ranch, LLP; Heller Bros. Packing Corp.; JB Ranch I, LLC; Owl Hammock Immokalee, LLC; Pacific Land, Ltd.; and Sunniland Family Limited Partnership. The ECPO anticipates pursuing various activities on approximately 152,000 acres of private lands in northeastern Collier County, Florida (Figure 1-1). Of these, the ECPO intends to limit development on approximately 107,000 acres of habitat important to the Florida panther (FP) and other federally listed species, while pursuing residential development, commercial development, and earth mining on the remaining 45,000 acres (i.e., Covered Activities). This acreage includes the acreage of the already permitted Ave Maria project and leaves 39,973 acres for new development.

Take is defined in Section 3 of the ESA as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." In relation to an ITP, take must be incidental to the otherwise legal activity for which the ITP is being sought. Section 10(a)(2)(A) of the ESA and federal regulations (50 CFR Parts 17.22(b)(1), 17.32(b)(1), and 222.22) require that any applicant for an ITP also submit a conservation plan that specifies the impact that will likely result from such taking); the steps the applicant will take to minimize and mitigate such impacts and the funding that will be available to implement such steps; what alternative actions to such taking the applicant considered and the reasons why such alternatives were not selected; and such other measures that the Service may require as being necessary or appropriate for purposes of the plan. The ECPO have prepared the "Eastern Collier Multiple Species Habitat Conservation Plan" (ECMSHCP) as part of their ITP applications. The ECMSHCP provides, among other things, additional details of the activities to be covered by each ITP and the actions proposed by the ECPO to minimize and mitigate the effects of the taking of listed species.

The ECMSHCP proposes compact commercial/residential development and mining on up to 45,000 acres within the area covered by the plan. Conservation elements of the ECMSHCP include maintaining existing land uses, habitat preservation, and habitat restoration in an area covering approximately

[1] For this dEIS, acronyms are included in Appendix A, references in Appendix B, and the list of preparers in Appendix C.

107,000 acres; a management plan for preserved lands; a mitigation and monitoring plan for measuring success of the ECMSHCP; and contributions to a funding mechanism for conservation activities. If issued, the ITPs would cover take incidental to development activities within the ECMSHCP area. The ITPs would also include take incidental to land management activities designed to maintain or improve habitat functions; maintain agriculture operations; maintain drainage infrastructure; control exotic vegetation; and control pests and diseases. Finally, the ITPs would consider long-term effects covering the 50-year life of the permit to include more intense use within the ECMSHCP area and other results of the covered activities.

Key details and elements of the ECMSHCP are described in Chapter 2 of this dEIS.

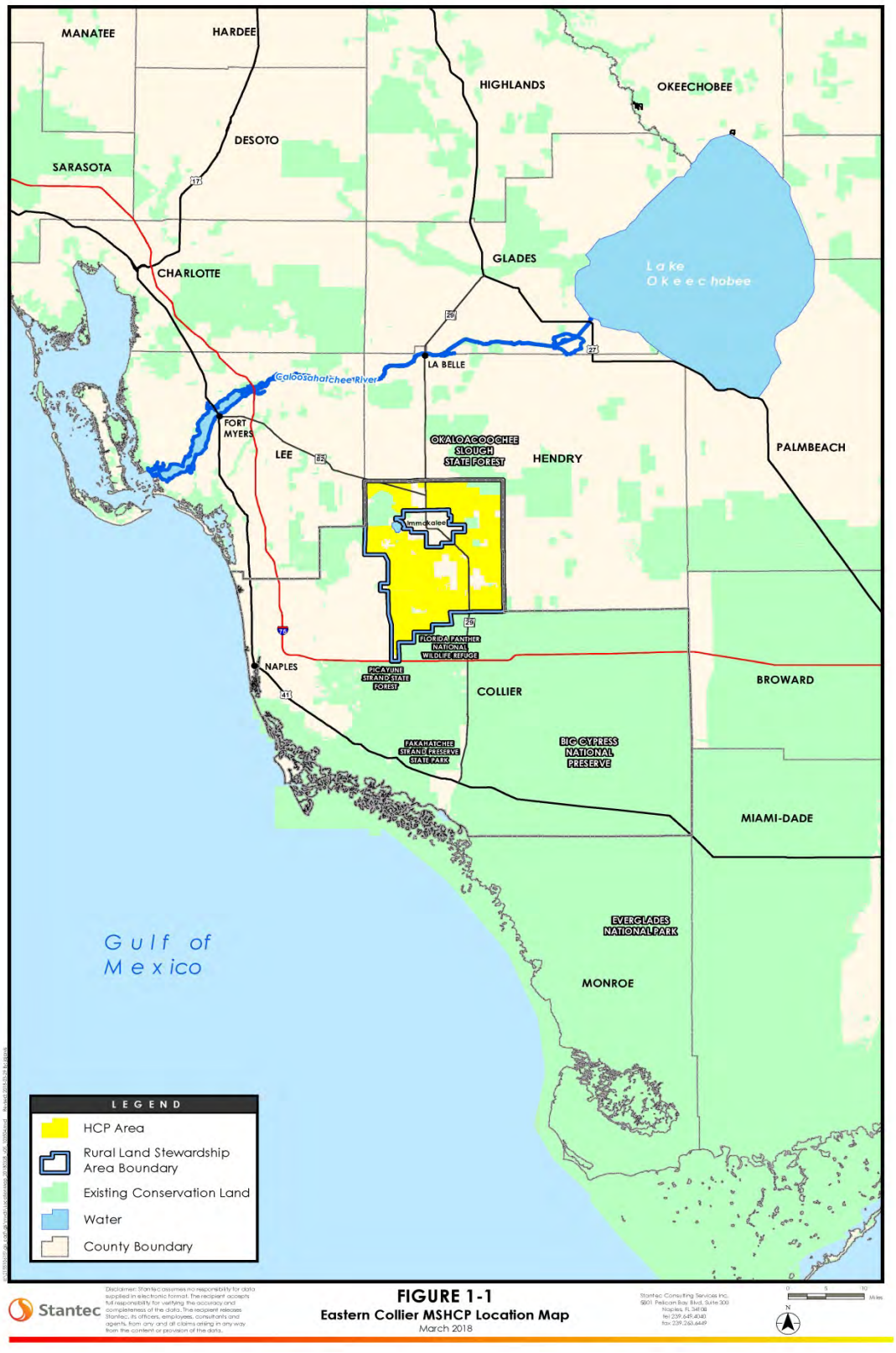


Figure 1.1-1. Project Location Map

1.2 BACKGROUND

In the late 1990s, the State of Florida challenged Collier County's comprehensive plan, contending that the required conservation elements would not sufficiently protect natural resources (including listed species and their habitats). In June 1999, Governor Jeb Bush issued Final Order AC-99-02, which directed Collier County to perform an assessment of 195,000 acres in eastern Collier County (known as the "Immokalee Area Study"). Specifically, the order required that the assessment address long-term planning issues in order to balance natural resource protection, agriculture, and economic development within the 195,000-acre area.

Between 1999 and 2002, the ECPO, conservation groups, consultants, local citizens, and state agencies collaborated with Collier County to complete the assessment, and to develop new comprehensive planning strategies and policies that would satisfy the requirements of the state's Final Order. The initial efforts involved a thorough compilation, mapping, and synthesis of natural resource and land use data for the 195,000-acre area, to serve as an objective and verifiable basis for planning and natural resource protection. A report synthesizing this information was submitted to Collier County in December 2000 (Wilson 2000, Wilson 2001).

Between 2000 and 2002, stakeholders utilized GIS data to develop and test various scenarios for meeting the requirements of the Final Order. This process eventually resulted in a system for calculating "credits" generated by protecting environmentally sensitive lands, and established procedures for calculating how many credits would be required to entitle a proposed development. The transfer of development rights system became the basis for new planning policies and amendments, and was codified as the Collier County Rural Land Stewardship Program (RLSP).[2] The RLSP, approved by Collier County and the state of Florida in 2002, offers landowners a voluntary alternative to existing zoning of one dwelling unit per 5 acres, at the option of the property owner. Since 2002, the RLSP policies have been implemented through the Collier County Land Development Code, which provides the detailed standards, procedures, protection mechanisms, site design criteria, and related program elements (Collier County, 2004). The Collier County Land Development Code may be accessed online at: https://library.municode.com/fl/collier_county/codes/land_development_code (see Section 4.08). A re-study of the RLSP is currently under way and changes may or may not occur in the future.

The Corps, Jacksonville District prepared the Southwest Florida Environmental Impact Statement (SWFEIS) to improve the review process of future 404 permit applications (2000, 2003). The environmental impacts of a proposed project are generally analyzed by the Corps on a case-by-case basis, subject to individual determinations by the district engineer regarding what resources may be affected and which criteria to apply. In the SWFEIS, the USACE looked at a range of potential growth scenarios and developed Permit Review Criteria depending on the location of a project. The ECMSHCP is located within the SWFEIS study area boundary, and is generally consistent with the SWFEIS,

Additional background to the development of the ECMSHCP includes the formation of the Florida Panther Protection Program (FPPP) in 2008, which was the result of a collaborative effort of eight private landowners in eastern Collier County and four non-governmental organizations (NGOs). These parties signed a memorandum of understanding to develop a comprehensive approach to planning for the protection of FP habitat within northeastern Collier County, and specifically within the area covered by Collier County's Rural Lands Stewardship Area (RLSA) overlay program (https://www.colliercountyfl.gov/your-government/divisions-a-e/comprehensive-planning/rural-land-stewardship-area-rlsa-overlay-program). The ECMSHCP is built upon the original RLSP framework and selected recommendations of the FPPP. Additional information regarding the FPPP is available at www.floridapantherprotection.com.

[2] The acronym "RLSP" is used throughout this document to refer to the Rural Land Stewardship Program and its associated elements. The Collier County Land Development Code (LDC), which implements the RLSP, utilizes the acronym "RLSA" to refer to the Rural Land Stewardship Area, the geographic area within which the County's RLSP policies and codes apply.

1.3 PURPOSE AND NEED FOR ACTION

The proposed action being evaluated by this dEIS is the issuance of ITPs by the Service and implementation of the conservation plan in the associated ECMSHCP, pursuant to Section 10(a)(1)(B) and Section 10(a)(2)(A) of the ESA. The ECMSHCP and ITPs (if issued) would cover the incidental take of 19 species—eight federally listed species, three species that are being considered for listing but are not currently federally listed, and eight non-federally listed species that are currently listed as threatened by the state of Florida. See Section 2.1.3, Covered Species, for details.

1.3.1 Purpose of the Federal Action

The Service's purpose in considering the proposed action is to fulfill its authority under the ESA, Section 10(a)(1)(B). Non-federal applicants, whose otherwise lawful activities may result in take of ESA-listed wildlife, can apply to the Service for incidental take authority so that their activities may proceed without potential violations of Section 9.

The Department of the Army, Jacksonville District, Corps is cooperating with the Service in this dEIS to assist in the development of a framework for future section 7 consultations and NEPA analyses on Corps actions within the ECMSHCP area, to build on the analysis in the SWFEIS, and to draw upon and help inform the Corps' exercise of authority under Section 404 of the Clean Water Act to regulate any discharge of dredged or fill material into jurisdictional waters and wetlands. This process will help inform future Corps decisionmaking and environmental analyses, including application of the 404(b)(1) Guidelines. Given the programmatic nature of the ECMSHCP, site-specific development plans for individual covered activities would not become available until prepared by an ECPO member. As ECPO members develop project-specific information for covered activities consistent with the ECMSHCP they would submit an application to the Corps for applicable section 404 permits.

The concurrent conservation objectives and requirements of ESA Sections 7 and 10 create an auxiliary purpose to coordinate the intra-Service Section 7 consultation on the ECMSHCP ESA Section 10 action with the Corps' future Section 7 consultations on individual Clean Water Act Section 404 actions as requested by ECPO members.

To carry out these responsibilities, the Service must comply with a number of environmental laws and regulations, Executive Orders (EO), and agency directives and policies. To fulfill these responsibilities and obligations, the Service will:

- Ensure that issuance of any ITPs and implementation of the ECMSHCP achieve long-term conservation objectives for the covered species and affected ecosystems in southern Florida.
- Ensure that the conservation actions approved with issuance of any ITPs occur within a landscape-scale conservation design capable of maintaining ECMSHCP conservation for the covered species indefinitely.
- Cooperate with the Corps to establish a framework for future Section 7 consultations on Corps wetland regulatory actions that are consistent with the ECMSHCP.
- Ensure that the ECMSHCP meets ITP issuance criteria prior to issuing any ITPs.
- Ensure that the ECMSHCP would not jeopardize listed species or result in destruction or adverse modification of critical habitat prior to issuance of any ITPs.

1.3.2 Need for the Federal Action

Section 10 of the ESA specifically directs the Service to issue ITPs to non-federal entities for take of endangered and threatened species when the criteria in Section 10(a)(2)(B) are satisfied by the applicant. Once the Service receives an application for an ITP, the Service reviews the application to determine if it meets issuance criteria. The Service also needs to ensure that issuance of the ITPs and implementation of the associated habitat conservation plan are in compliance with applicable federal laws, regulations, treaties, and EOs. These include other requirements of the ESA in addition to Section 10, the National Historic Preservation Act (NHPA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA), along with their implementing regulations. Related EOs include: EO 11998

Floodplain Management, EO 11990 Protection of Wetlands, EO 12898 Environmental Justice, EO 13186 Responsibilities of Federal Agencies to Protect Migratory Birds, and EO 12962 Recreational Fisheries.

In April 2018, the Service received a draft of the ECMSHCP in support of the application from ECPO's member landowners for ITPs under the authority of Section 10(a)(1)(B) of the ESA. This dEIS evaluates the April 2018 ECMSHCP that was prepared to support ITP applications.

A broader need for the federal action is to fulfill the Service's mission to work with others to conserve, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. .

To meet these obligations, the Service is authorized (in addition to its authority under ESA Section 10(a)(1)(B)) to facilitate conservation pursuant to EO 13352 – Executive Order Facilitation of Cooperative Conservation and ESA Section 5 – Land Acquisition. ESA Section 5 authorizes the Service to establish and implement a program to conserve fish, wildlife, and plants via land acquisition and other authority under the Fish and Wildlife Act of 1956, as amended, the Fish and Wildlife Coordination Act, as amended, and the Migratory Bird Conservation Act, as appropriate.

In consideration of these obligations and authorities, the Service has prepared this dEIS to inform the public of this proposed action, alternatives to the proposed action, and the effects of the proposed action and alternatives; to seek input from the public; and to use information collected and analyzed to make informed decisions concerning the ITP applications and the Service's efforts to protect, conserve, enhance, and ensure the long-term survival of the species considered in the ECMSHCP. A description of the alternatives is provided in Chapter 2 of this dEIS.

As noted in section 1.3.1, above, the Service and the Corps need to ensure that any future Section 7 consultations on Clean Water Act Section 404 authorizations account for the HCP. The focus of the dEIS is the HCP and the issuance of ITPs. Future Corps regulatory actions in the area have also been addressed by the SWFEIS. In order to meet our need to coordinate section 7 consultations, the Service, Corps, and ECPO are developing a memorandum of agreement that would establish and memorialize Section 7 coordination procedures.

1.4 RELATIONSHIP TO OTHER PLANS

The following projects and plans are described in section 4.15 Cumulative Effects and were considered in the cumulative effects analysis.

- Big Cypress Area of Critical State Concern
- Collier County Rural Lands Stewardship Area Overlay
- Comprehensive Everglades Restoration Plan
- Florida Forever
- Florida Panther Protection Program (FPPP)
- Hendry County Sector Plans
- Multi-Species Recovery Plan (MSRP)
- National Wildlife Refuge Southwest Florida Landscape Conservation Design
- Southwest Florida Comprehensive Watershed Master Plan

1.5 REGULATORY FRAMEWORK

The proposed action is subject to the requirements of multiple federal, state, and local laws and regulations enacted to protect the human and natural environments. These laws and regulations establish the process and define the content of the study the Service is required to undertake in considering the issuance of ITPs. The ESA and NEPA set much of the legal requirements that must be addressed in the Service's consideration of the proposed action. The decision whether to issue the ITPs will be documented in the compliance reviews for the ESA and NEPA processes. The following section provides a summary of the important components of these regulations. Section 1.6 of the ECMSHCP provides descriptions of the applicable laws and regulations and also includes other federal, state, and local laws, regulations, and policies that govern land development and environmental impacts in the ECMSHCP area.

1.5.1 Endangered Species Act of 1973, as Amended (ESA)

The ESA (16 USC 1531 et seq.) is intended to support the protection and recovery of imperiled species and the ecosystems upon which they depend. The ESA mandates that federal agencies seek to conserve endangered and threatened species and use their resources and authorities to further such purposes. The implementing regulations for the ESA are presented in Title 50, Section 17 of the CFR (50 CFR Part 17). The Service, acting on behalf of the Secretary of the Interior, oversees administration of the ESA for terrestrial and freshwater aquatic species. Sections 7, 9, and 10 of the ESA establish the need and process for consideration of an ITP.

ESA Section 7 – Interagency Coordination
Section 7 of the ESA requires that all federal agencies, in consultation with the Service, ensure their activities are not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect critical habitats (ESA 7(a)(1)). Section 7 is the mechanism by which federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of a listed species.

The issuance of an ITP is a federal action subject to the provisions of Section 7 of the ESA and therefore the Service must consult to determine whether issuance of the permit will jeopardize the continued existence of the listed species. Section 7 requires, among other things, an analysis of direct, indirect, and cumulative effects on the listed species, and effects on designated critical habitat. The intra-Service Section 7 consultation must be concluded prior to the issuance of the ITP.

ESA Section 9 – Prohibited Acts
Section 9 of the ESA, in addition to establishing other limitations, prohibits the "take" of any species listed as threatened or endangered unless otherwise authorized by regulation (ESA 9(a)(1)). The term “take” is defined in the ESA as, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Section 9 provides the definition of “take” that serves as the subject of the ITP applications.

ESA Section 10 – Exceptions
Section 10 of the ESA provides a regulatory mechanism to permit the incidental take of federally-listed species by private interests and non-federal government agencies if such take is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity (ESA 10(a)(1)(B)).

The ESA authorizes the Service to issue an ITP for non-federal projects or activities that do not require federal authorization or funding. The ITP allows for the “take” of a listed species, provided specific conditions are met. Section 10(a)(2)(A) of the ESA requires an ITP applicant submit a “conservation plan” that specifies, among other things, the impacts that are likely to result from the taking, the measures the permit applicant will undertake to minimize and mitigate such impacts, and the consideration of alternative courses of action. Pursuant to the requirements of the ESA, the Service may implement one of the following options in evaluating an application for an ITP:

- Issue an ITP conditioned on implementation of the conservation plan;
- Issue an ITP conditioned on implementation of the conservation plan and other specified measures; or
- Deny the ITP application.

1.5.2 National Environmental Policy Act (NEPA)

NEPA (42 USC 4321 et seq.) is the basic national charter for protection of the environment. NEPA is designed to promote consideration of potential effects on the human environment that would result from proposed major federal actions, and to provide the public and decision makers with useful information regarding reasonable alternatives. NEPA requires agencies utilize a systematic approach to ensure the integrated use of the natural and social sciences in evaluating the potential impacts of their actions. The implementation guidelines for NEPA are presented in Title 40, Chapter V, Parts 1500-1508 of the CFR (40 CFR Parts 1500-1508).

The issuance of this ITP under the ESA is a major federal action with the potential to significantly affect the quality of the environment. While compliance with NEPA is not a direct obligation of the Applicant for the ITPs, the Service must comply with NEPA when making its decision whether to issue a permit. Based on the requirements outlined in 40 CFR Part 1501, the Service has prepared this dEIS to evaluate the effects of the issuance of the ITP. The evaluation of effects under NEPA and ESA overlap substantially; however, the NEPA review considers additional effects to the environment, such as air quality, water quality, socioeconomic, and cultural resources (40 CFR Part 1502).

1.6 DECISIONS TO BE MADE

The Service must decide whether to issue, issue with conditions, or deny the ITP applications pursuant to Section 10(a)(1)(B) of the ESA. After considering ECPO's ECMSHCP prepared pursuant to Section 10(a)(2)(A) and public comments, the Service must issue an ITP if it finds that: 1) the taking will be incidental to, and not the purpose of, the carrying out of an otherwise lawful activity; 2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant will ensure that adequate funding for the conservation plan will be provided; 4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and 5) other measures, that the Service may require as necessary or appropriate for purposes of the conservation plan will be met and plan implementation will be assured.

1.7 PUBLIC OUTREACH AND SCOPING

A key element of NEPA is public participation and solicitation of public comments (43 CFR Parts 46.235 and 46.435). NEPA requires public disclosure throughout development of an EIS and allows all citizens and agencies to work with the lead agency to better inform the environmental review.

A project website was developed to provide general information regarding the project and also provides the public with access to most of the USFWS project records that would be releasable under the Freedom of Information Act. Materials on the website include regulatory guidance, project documents, emails, and other correspondence. The project website is located at www.easterncollierhcpeis.com.

1.7.1 Scoping

The first formal step in the NEPA process is scoping, the purpose of which is to identify relevant issues that may influence the scope of the environmental analysis, including potential environmental issues and alternatives, and to guide the process for developing the dEIS.

The scoping process was initiated by publishing the Notice of Intent (NOI) to prepare a dEIS and conduct scoping meetings in the *Federal Register* (FR) on March 25, 2016 (81 FR 16200). In addition, a press release and a newspaper advertisement were prepared and distributed to announce the scoping meetings, explain the project scope, describe the format and goals of the scoping meetings, and to provide meeting information. The NOI directed the public to the project website where they could read a copy of the April 2015 version of the ECMSHCP.

Two meetings were conducted during the scoping period to solicit input. The first scoping meeting was conducted on April 12, 2016, at the University of Florida/Institute of Food and Agricultural Sciences Collier County Extension in Naples, Florida. The public meeting included an online component that broadcast the event live on the Internet. The public scoping meeting was held in an open house format followed by a presentation to provide the public with an overview of the project, answer questions regarding the project, and receive input regarding any issues and alternatives recommended for evaluation in the EIS. Following the presentation, attendees were given the opportunity to provide oral and written comments regarding the scope of the EIS.

A second scoping meeting was held for invited state, local, and federal agency staff, elected officials, Tribal representatives, local officials, and other interested parties on April 19, 2016, at 10:00 am (Eastern) via live online broadcast.

Many comments, the majority of which were from the public, expressed an opinion advocating that the Service not approve the ECMSHCP. Other comments, including many agency and NGO comments, called for improvements to the ECMSHCP. A vast majority of respondents from all groups requested that the ECMSHCP provide additional detail regarding existing conditions and the proposed action.

The most common topics included questions, comments, and concerns regarding the following topics:

- Funding/Financial (20 comments)
- Habitat (446 comments)
- Land use and development (497 comments)
- Farming/extractive/economic interest (196 comments)
- Policy process (116 comments)
- Transportation (75 comments)
- Species (517 comments)
- Water resources (63 comments)
- Additional study needed (33 comments)
- Other (64 comments)

The Service issued the Draft Scoping Report in June 2016.

During their review of the received comments, the Service noted that many commenters raised issues of significant concern and that many of these concerns were shared by multiple commenters. During development of this dEIS, the Service evaluated each issue and corresponding comments and made a determination of how each issue would or would not affect development of the EIS, including the development of alternatives, impact analysis, and required mitigation. As part of this evaluation, the Service finalized a response to each of these issues in the Final Scoping Report (Appendix D).

The NOI to prepare a draft EIS and initiate public scoping for the ECMSHCP was published in the FR on March 25, 2016. A copy of the FR notice is provided in Appendix E (FR 2016-06792).

CHAPTER 2.0 DESCRIPTION OF ALTERNATIVES

2.1 FEATURES COMMON TO ALL ALTERNATIVES

2.1.1 Covered Lands

The land area covered by the ECMSHCP is located in the northeastern corner of Collier County, and surrounds the Town of Immokalee (Figure 1-1). For comparison purposes, the same land area is considered in the No Action Alternative. The ECMSHCP area comprises approximately 152,000 acres of land owned by the ECPO applicants, and does not include existing or future county and state roads within eastern Collier County. The ECMSHCP area is also located within the boundaries of the Collier County RLSA – the approximately 185,000 acre geographical area within which Collier County's RLSP applies[3] (see Figure 2-1). The ECMSHCP designates 50,175 acres of lands, primarily within previously cleared agricultural areas, where up to 45,000 acres of Covered Activities may occur. The remaining approximately 107,000 acres, which contribute to existing regional wildlife corridors that allow for wildlife movement among existing public conservation lands, would be designated for Preservation/Plan-Wide Activities and Very Low Density Use. Further enhancing the ratio of preserved areas to development, the 5,027-acre Town of Ave Maria would be included in the 45,000 acres where Covered Activities may occur, even though federal permitting and Section 7 consultation have been completed for the Town of Ave Maria, reducing the maximum acreage of Covered Activities attributable to the ITPs to 39,973 acres. There are two parcels of land located within the RLSA (and the outer boundaries of the ECMSHCP area) – the Hogan Island Quarry and the Immokalee Sand Mine – that are owned by ECPO members but are not included in the ECMSHCP area or as Covered Activities because the federal permitting process for each, including Section 7 consultations, is either already complete or is expected to be complete by the time the ITPs are issued (depicted on Figure 2-1 as "Prior Federal Permitting Initiated"). Nonetheless, these two parcels are accounted for in the overall configuration and planning for wildlife corridors and other ecologically beneficial features of the ECMSHCP.

2.1.2 Existing Land Uses

The eastern portions of Collier County comprise a variety of land uses. The major existing and traditional land uses and land cover within the ECMSHCP area include agriculture, ranching, native vegetation communities, residential and commercial development, and earth mining. The main urban areas are the unincorporated area of Immokalee and the Seminole Tribe Immokalee Reservation. Much of the public lands surrounding the ECMSHCP area are dedicated conservation lands. The ECMSHCP area borders the Florida Panther National Wildlife Refuge (FPNWR) and Big Cypress National Preserve (BCNP) to the south. The ECMSHCP area also borders the Okaloacoochee Slough State Forest (OSSF) to the north and east. To the west are the privately owned Audubon Corkscrew Swamp Sanctuary and the publicly owned Corkscrew Regional Ecosystem Watershed (CREW). Additional details on the land use and land cover of the ECMSHCP area are found in Section 3.6 of the ECMSHCP.

2.1.3 Covered Species

The ECMSHCP requests take for eight federally listed species: five avian species, one reptile species, and two mammal species. The Plan also covers three species – the gopher tortoise, eastern diamondback rattlesnake, and gopher frog – that are being considered for listing but are not currently federally listed. The gopher tortoise is currently designated as a candidate species for federal listing within its Florida range, and also is listed as threatened by the state of Florida; the eastern diamondback rattlesnake and gopher frog are currently proposed for federal listing. The Plan also covers eight other non-federally listed species that are currently listed as threatened by the state of Florida. All species to be covered by the Plan are included, along with their listing status, in Table 2-1 (the Covered Species).

[3] Please see Section 1.7 in the ECMSHCP for a description of the RLSP.

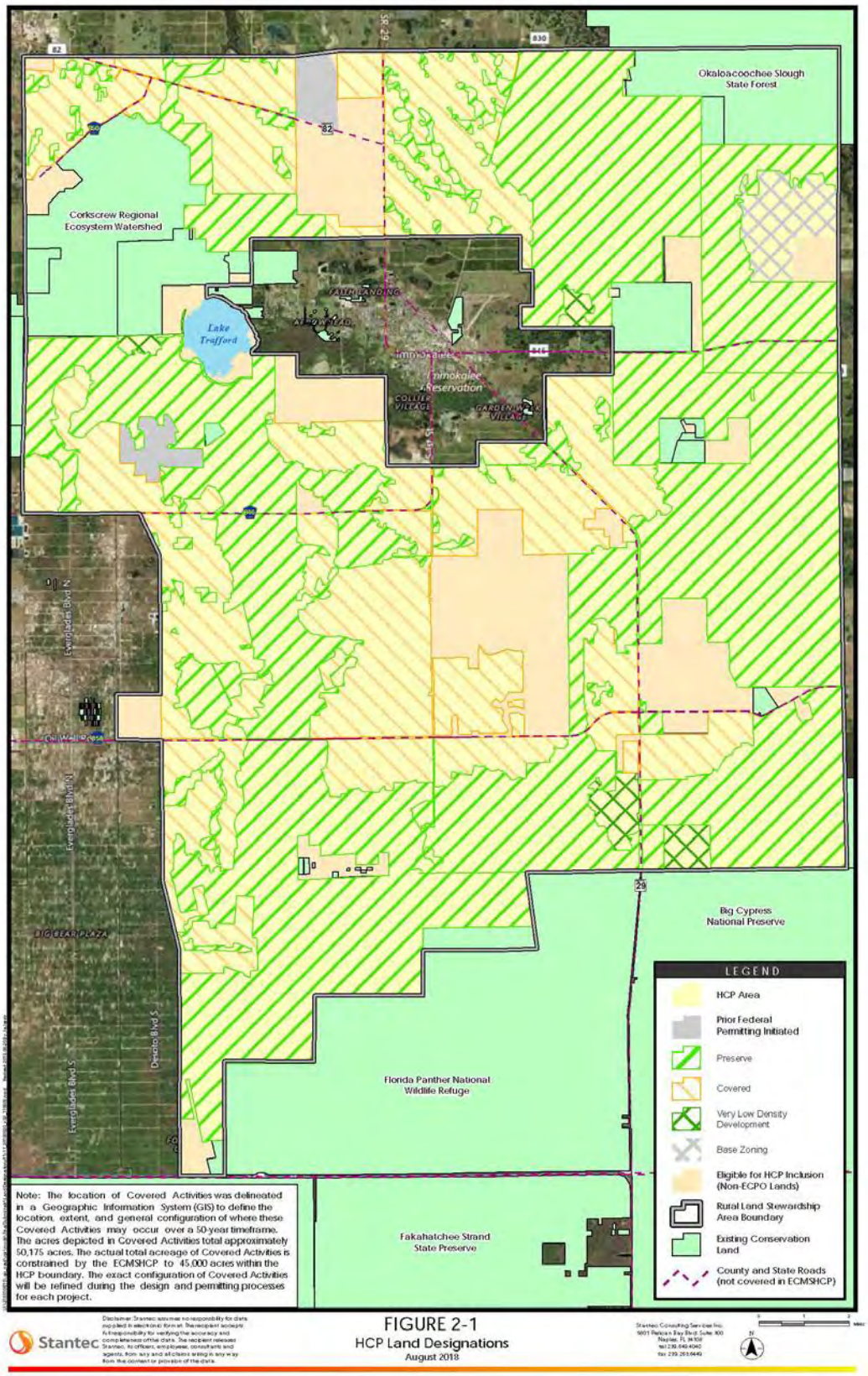


Figure 2.1-1. East Collier Multiple Species Habitat Conservation Plan Land Designations

Table 2.1-1. Covered Species for the Eastern Collier Multiple Species Habitat Conservation Plan

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS[1]
Federally Listed Species		
Birds		
Florida scrub jay	*Aphelocoma coerulescens*	T
Audubon's (=Northern) crested caracara	*Polyborus plancus (=Caracara cheriway)*	T
Wood stork	*Mycteria americana*	T
Red-cockaded woodpecker	*Picoides borealis*	E
Everglade snail kite	*Rostrhamus sociabilis plumbeus*	E
Reptiles		
Eastern indigo snake	*Drymarchon corais couperi*	T
Mammals		
Florida bonneted bat	*Eumops floridanus*	E
Florida panther	*Puma concolor coryi*	E
Candidate Species and Species Under Review for Federal Listing		
Reptiles		
Gopher tortoise	*Gopherus polyphemus*	C[2]
Eastern diamondback rattlesnake	*Crotalus adamanteus*	Under Review
Gopher frog	*Lithobates capito*	Under Review
Species Listed by the state of Florida		
COMMON NAME	**SCIENTIFIC NAME**	**STATE STATUS[3]**
Birds		
Burrowing owl	*Athene cunicularia*	T
Florida sandhill crane	*Antigone canadensis pratensis*	T
Little blue heron	*Egretta caerulea*	T
Roseate spoonbill	*Platalea ajaja*	T
Southeastern American kestrel	*Falco sparverius paulus*	T
Tricolored heron	*Egretta tricolor*	T
Mammals		
Big Cypress fox squirrel	*Sciurus niger avicennia*	T
Everglades mink	*Neovison vison evergladensis*	T

[1] Federal status abbreviations (as of March 2018): E – endangered; T – threatened; C – Candidate species for federal listing; the gopher tortoise is also listed as Threatened by the state of Florida.
[2] This species is federally threatened in western portion of its range.
[3] State status abbreviations (as of March 2018): T –Threatened

2.2 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

The No Action Alternative does not include the issuance of ITPs or the implementation of the ECMSHCP. Under the No Action Alternative, the agricultural, ranching, and other rural activities that have occurred historically throughout the ECMSHCP area could continue indefinitely. These activities include, but are not limited to, the following:

- Crop Cultivation
- Ranching/Livestock Operations
- Forestry and Silviculture
- Recreation
- Exotic and Nuisance Species Control
- Lodges, Hunting/Fishing Camps

- Oil and Gas Exploration and Production
- Mining

In addition to these traditional rural land uses, individual applicants would be free to independently pursue residential or commercial development activities under two scenarios. First, land can be developed under base zoning (one dwelling unit per 5 acres) anywhere within the ECMSHCP area. Alternatively each landowner may develop at greater densities than base zoning within the 71,275 acres of RLSA "Open" lands located within the ECMSHCP area by pursuing SRA Credits through the RLSP. The applicants would also be free to pursue earth mining activities anywhere within the ECMSHCP area, since the RLSP does not place any restriction on where earth mining can occur.[4] Some lands in the ECMSHCP area are within the Big Cypress Area of Critical State Concern, and are subject to State review for consistency with Florida's community planning regulations.

As compared to Alternative 2, the No Action Alternative land owners could opt to develop portions of the RLSA's Open Areas within the ECMSHCP boundary – under base zoning or the RLSP – without requiring ecological monitoring (except for restoration activities undertaken pursuant to the RLSP), provisions for changed or unforeseen circumstances, or other elements required for HCPs. Critically, the No Action Alternative would allow for a mixture of base zoning and optional RLSP- based development. The areas developed according the base zoning requirements would lack the landscape-level planning and conservation benefits of directing development to certain areas of lower habitat value and setting aside large, contiguous tracts for preservation; as well as maintaining areas for historical land uses.

Accordingly, the No Action Alternative could conceivably result in piecemeal development on a project-by-project basis with no predefined development pattern (regardless of whether the proposed RLSP amendments are eventually adopted). Individual projects would likely require federal permits, including under Section 404 of the Clean Water Act for discharges of dredged or fill material to waters of the U.S.; and ESA Section 7 consultations between Corps and USFWS would be undertaken for those permits as required. For projects triggering formal ESA Section 7 consultation, USFWS would consider biological opinions with Incidental Take Statement(s) (ITS) exempting incidental take, as appropriate, for the federally listed species potentially affected.

2.3 ALTERNATIVE 2 – ISSUANCE OF ITPS FOR THE ECMSHCP

Alternative 2 involves an ECMSHCP and ITPs with 50-year durations for the Covered Species and Covered Activities within the ECMSHCP area, implemented as described in the ECMSHCP. Figure 2-1 depicts the extent of the ECMSHCP area within the RLSA, the areas designated for Covered Activities, Preservation/Plan-Wide Activities, Very Low Density Use, and Base Zoning. The ECMSHCP sets forth the acreage and general location for each of the designated uses (Figure 2-1). Precise locations would be determined in the future. The proposed ECMSHCP provides the Applicants' plan to satisfy ITP issuance criteria to minimize and mitigate the effects of their taking to the maximum extent practicable.

The ECMSHCP proposes 50,175 acres of land for Covered Activities, within which up to 45,000 acres of residential/commercial development and/or earth mining could occur. The ECMSHCP was designed to work in concert with the current RLSP and would also work with the proposed RLSP amendments.

Under the ECMSHCP, approximately 107,000 acres would be designated for Preservation/Plan-Wide Activities and Very Low Density Use. Activities that could occur on the 107,000 acres would be deed restricted and no more intensive than the types of agricultural, ranching, and other traditional rural land use activities that have occurred historically throughout the ECMSHCP area. The 107,000-acre area also includes areas that function as regional wildlife corridors, potentially allowing for wildlife movement between publicly owned conservation lands in Southwest Florida. The deeds associated with the land parcels within the 107,000 acres would be designated for either continuation of current land use, very low density development, or possibly conservation, as development within the 45,000 acres occurs.

[4] Proposed amendments to the Collier County comprehensive plan would place a 45,000-acre cap on development within the RLSA (Collier County 2009). The proposed amendments would also allow for the voluntary restoration of panther corridors as a means to generate stewardship credits. These proposed amendments were not adopted during the last comprehensive planning cycle, but are currently undergoing a county restudy in 2018 and could be adopted thereafter.

The exact type, location, and intensity of future land use associated with the ECMSHCP's traditional rural use area remain undefined. Future land use regulations including the County's RLSP allow for future land use that ranges in intensity from conservation to surface mining. Consistent with the RSLA program, these 107,000 acres could be not only designed for Preservation but could also be developed with other Plan-Wide Activities and Very Low Density Use, as described in the ECMSHCP. However, it is important to note that due to the inherent complexities of the RSLA program and the uncertainties in the proposed types, locations, and intensities of ***traditional rural use***, the basis of analysis in determining potential environmental effects in this dEIS makes a conservative assumption that the approximately 107,000 acres of lands would be designated solely for preservation.

In addition to the activities undertaken through the Plan, the Marinelli Fund, founded by the FPPP and funded through implementation of the ECMSHCP, is expected to supplement the proposed ECMSHCP by undertaking additional conservation activities within and around the ECMSHCP area. The Marinelli Fund was originally intended to be used "for panther habitat restoration, including restoration of the functional corridors, buffering against panther-human interaction, locating and construction of panther crossings, and acquisition of habitat demonstrated to be important to panther management within the [RLSP area]" (FPPP 2008). The FPPP has since expanded the mission of the Fund, as described in the ECMSHCP, to include conservation actions to benefit the 18 other Covered Species, in addition to the FP, as well as other wildlife.

2.4 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

2.4.1 Alternative 3 – Issuance of ITP for Panther Only

The Panther-Only ECMSHCP Alternative is similar to the proposed ECMSHCP in terms of the total acreage of Covered Activities; the configuration of lands designated for Covered Activities; and the lands designated for Preservation/Plan-Wide Activities, Very Low Density Use, and Base Zoning (See Section 2.1, Features Common to All Alternatives). However, the Panther-Only ECMSHCP Alternative only addresses the FP. Under this alternative, the FP would be the only species covered under an ITP. Although an integrated long-term plan would be provided for FP conservation, any take of other listed species and conservation measures to benefit the other Covered Species would be determined on a project-by-project basis by the landowners and the relevant permitting authorities for those projects.

The Panther-Only ECMSHCP Alternative would be effective for meeting the primary conservation goal of protecting extensive land areas for the FP through an overall integrated plan and would allow ECMSHCP efforts to focus on the panther. Because this alternative would not include the 18 other Covered Species, however, biological goals and objectives would not be established for those species and an integrated approach to their conservation within the ECMSHCP area would not be included. Monitoring for these other species would not be required, missing a valuable opportunity to collect important data on their status, habitat utilization, and responses to variable environmental conditions on private lands, and similar conservation information. Therefore, this alternative does not meet the stated purpose and need of this dEIS and was not carried forward for detailed analysis in Chapter 4.

2.4.2 Alternative 4 – Issuance of ITP for Florida Panther Protection Program Review Team (PRT) Configuration

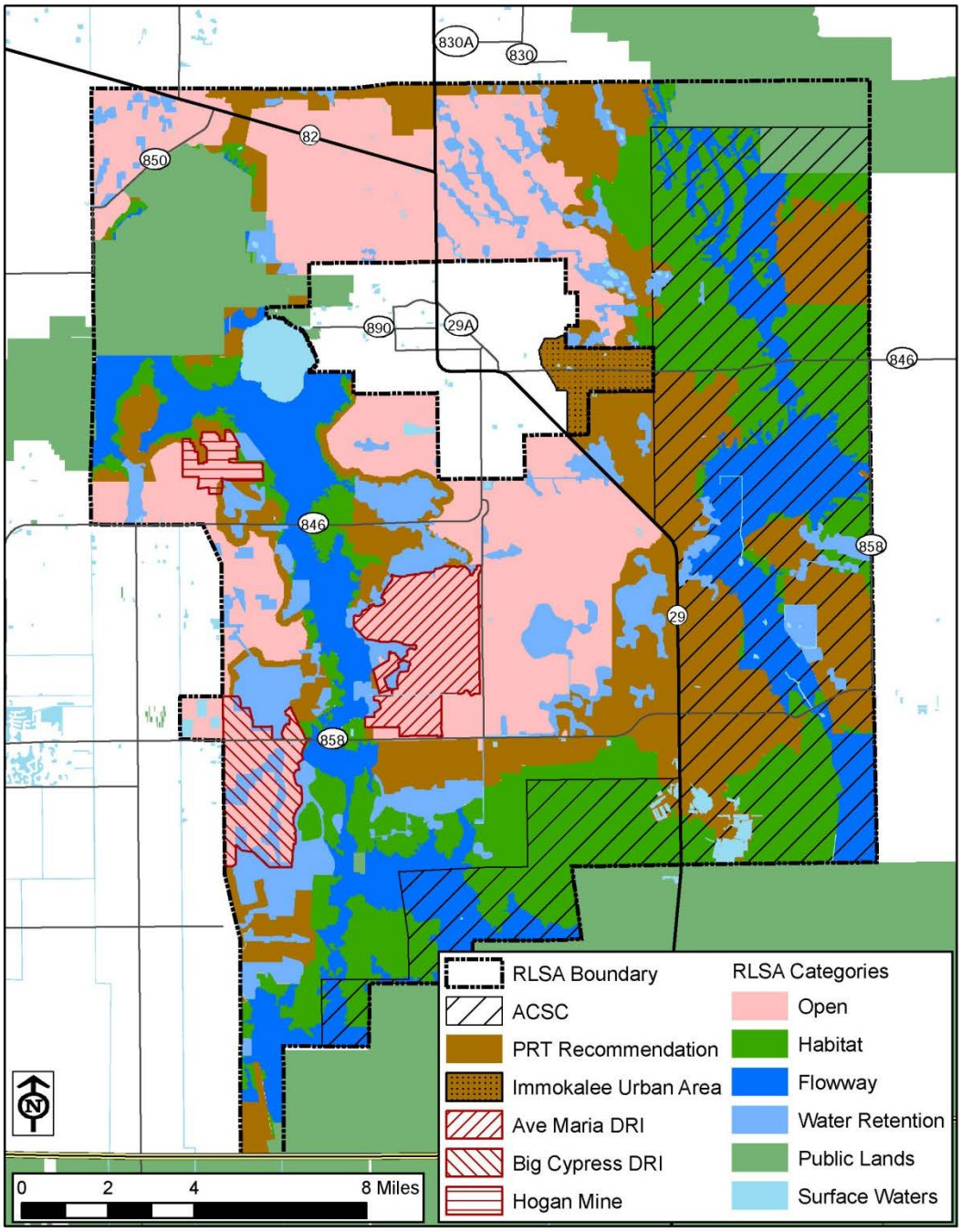
Under the PRT Configuration Alternative, the PRT map (Figure 2-2) would be the basis for configuring the extent of Covered Activities within the ECMSHCP area. Aside from differences in the specific location of Covered Activities, this alternative is very similar to Alternative 2.

The main difference between this alternative and Alternative 2 is the location of areas designated for Covered Activities. Figure 2-3 depicts the PRT recommendations in relation to the RLSA. There is a high degree of overlap in terms of the locations proposed for the Covered Activities under the ECMSHCP and the locations left open for potential future development under the PRT Configuration Alternative. The primary difference between the maps is that the PRT Configuration Alternative includes additional preservation areas south and north of County Road (CR) 858 and southeast of the Immokalee Urban

Area, buffers added along the Camp Keais Strand and Corkscrew system, and different configurations and widths for panther corridors.

Although both the PRT Configuration Alternative and Alternative 2 would provide benefits to the FP and the other Covered Species, the ECPO proposed Alternative 2 over the PRT Configuration Alternative for several reasons. First, the PRT configured the 45,000 acres of potential future development without regard to property ownership within the RLSP "Open" areas. This was reasonable given that the PRT was exploring various scenarios for enhancing panther conservation under the RLSP. However, approximately 13,000 acres mapped by the PRT for potential future development are not owned or controlled by the ECPO, and the owners of those lands have not elected to be included in the ECMSHCP (see Figure 2-1, legend item "Eligible for ECMSHCP Inclusion (Non-ECPO Lands)").[5]

[5] For the lands that are "Eligible for Inclusion (Non-ECPO Lands)," and located outside the 151,779-acre ECMSHCP area, land ownership factors (e.g., fragmented holdings, smaller parcel sizes, legal encumbrances) render it unlikely that many of these areas are practically suited to higher-density development under the RLSP. These land holdings include over 400 parcels with over 250 unique ownership entities, with an average parcel size of 50 acres (Collier County Property Appraiser 2017).



Source: FPPP Technical Review Team 2009

Figure 2.4-1. Panther Review Team Map

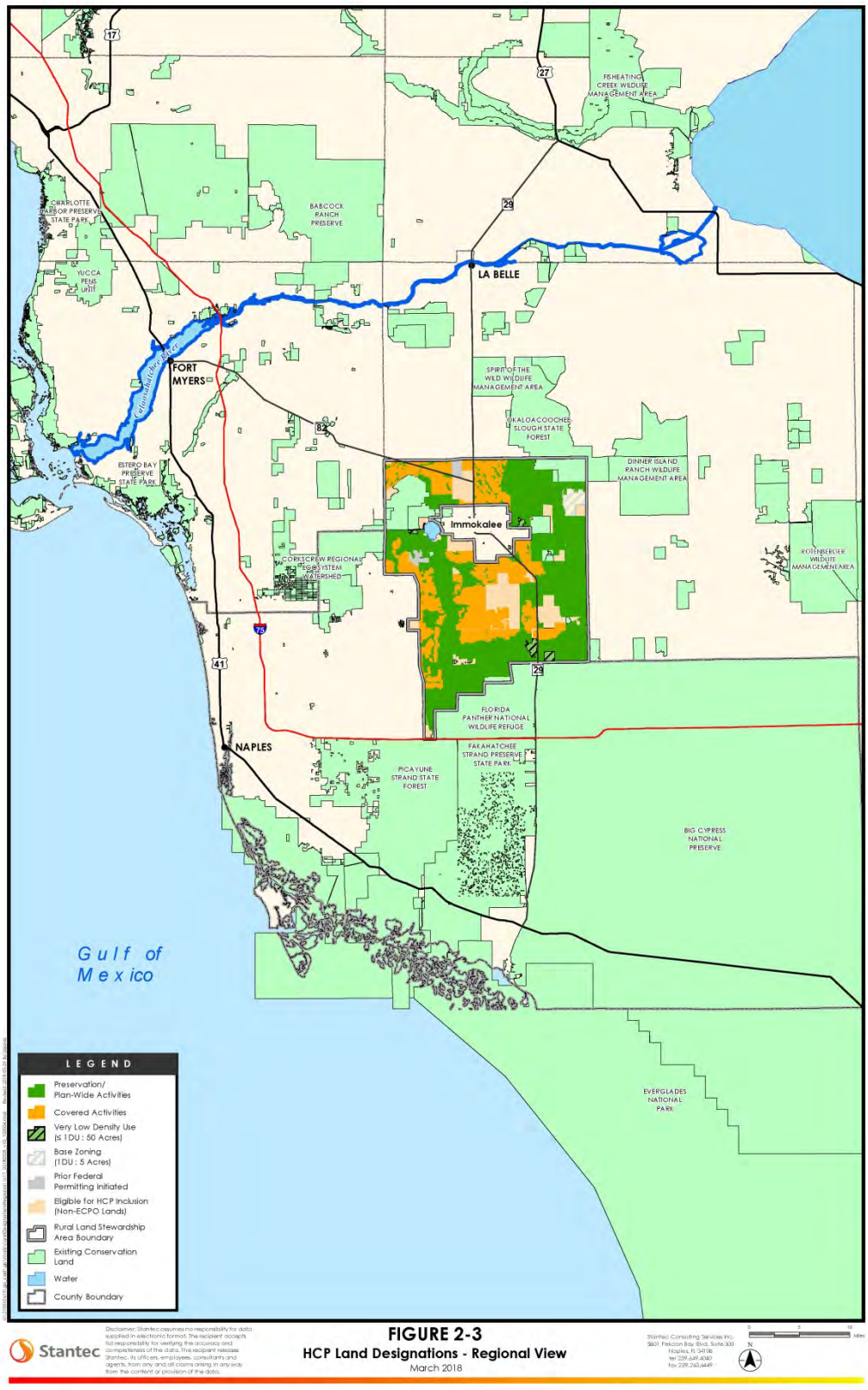


Figure 2.4-2. East Collier Multiple Species Habitat Conservation Plan Land Designations – Regional View

Second, considering the ECPO and their holdings, some of the PRT's recommendations are not logistically feasible based on land ownership configurations. Some applicants maintain holdings only in areas that the PRT recommended for preservation, yet those applicants possess property and zoning rights that allow for development whether or not the proposed ECMSHCP is implemented. Adopting the PRT Configuration Alternative would eliminate the interests of some of the applicants, causing them to withdraw from the ECMSHCP to pursue their interests, and therefore would not achieve the result intended by the PRT.

Third, the PRT's recommendations are outdated in a number of respects. Some of the recommendations are no longer available due to planning and permitting activities that have occurred during the years since the PRT recommendation was made. Therefore, this alternative does not meet the stated purpose and need of this dEIS and was not carried forward for detailed analysis in Chapter 4.

CHAPTER 3.0 AFFECTED ENVIRONMENT

3.1 ENVIRONMENTAL SETTING

3.1.1 Scope of Analysis

This section describes the environmental setting of the area potentially affected by the proposed action and alternatives. The environmental setting refers to the natural attributes of the region such as soils and climate, as well as the relationship of the ECMSHCP area to places where people live, work, and participate in recreational activities.

3.1.2 General Geography

Collier County is bounded by five counties (Hendry, Broward, Miami-Dade, Monroe, and Lee). It is the largest county in Florida by land area (1,998 square miles) and fourth largest by total area. It encompasses 307 square miles (13.3 percent) of which is water (Collier 2016).

Though commonly referred to as eastern Collier County due to its location east of the major population center of Naples, the ECMSHCP area is geographically located in the north-central portion of Collier County between Hendry and Lee Counties. The cities of Naples and Bonita Springs and the Village of Estero are located approximately 14 miles west of the ECMSHCP area. The Southwest Florida International Airport is approximately 12 miles northwest of the ECMSHCP area and the City of Labelle is approximately 15 miles to the north. The BCNP and the adjacent FPNWR are located in the southeastern portion of the county. The ECMSHCP area also surrounds the unincorporated town of Immokalee.

3.1.3 Topography

Ecoregions are broadly defined as geographic areas possessing similar ecosystems, classified either by single factors (e.g., vegetation) or multiple factors (e.g., climate, vegetation, geology, topography, hydrology, and soils).

Most of the ECMSHCP area is located on a regional topographic high known as the Immokalee Rise, which corresponds to the southern limit of the Southwestern Florida Flatwoods ecoregion (Figure 3.1-1, Ecoregion 75b). The Immokalee Rise was described and delineated as a geomorphic unit by White (1970), and was included in the Physiographic Divisions of Florida map (Brooks 1981a) and accompanying geomorphic unit summaries (Brooks 1981b). The Immokalee Rise is bounded on the southeast (outside the ECMSHCP area) by a geomorphic feature that White (1970) mapped as the Big Cypress Spur, an area with elevations lower than the Immokalee Rise but slightly higher than the Everglades ecoregion to the east (Campbell 1988). The southern and southwestern portions of the ECMSHCP area grade into an area termed the Southwestern Slope, which dips generally to the southwest at a very low gradient. The boundary between the Immokalee Rise and Southwestern Slope geomorphic units of White (1970) corresponds closely to the Level IV ecoregions boundary between the Southwestern Florida Flatwoods and Big Cypress ecoregions (Figure 3.1-1).

Figure 3.1-2 depicts the surface elevations within the ECMSHCP area, derived from Light Detection and Ranging data (FDEM 2009). The highest topographic areas within the ECMSHCP area are found on the Immokalee Rise north and northeast of Lake Trafford near the Collier County-Hendry County line, with maximum elevations of 41 feet above sea level (North American Vertical Datum of 1988; USGS 1987; FDEM 2009). From the Immokalee Rise area, elevation generally decreases toward the south and southwest, with slough systems and localized depressions occurring throughout the landscape. The lowest elevations within the ECMSHCP area are found in the southwestern portion of the area, where spot measurements of 12 feet above sea level comprise the minimum recorded land elevation (USGS 1990; FDEM 2009).

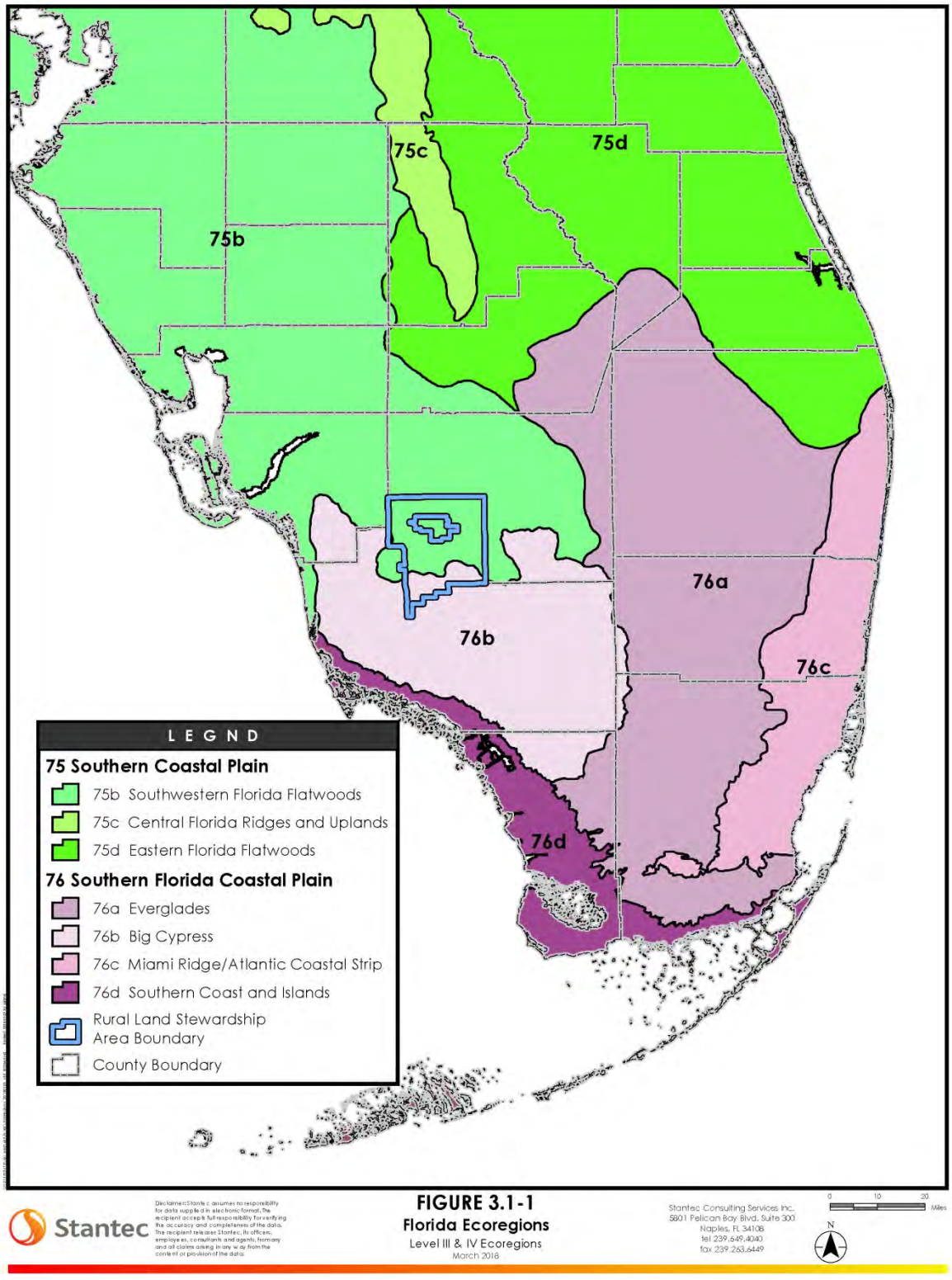


Figure 3.1-1. Florida Ecoregions

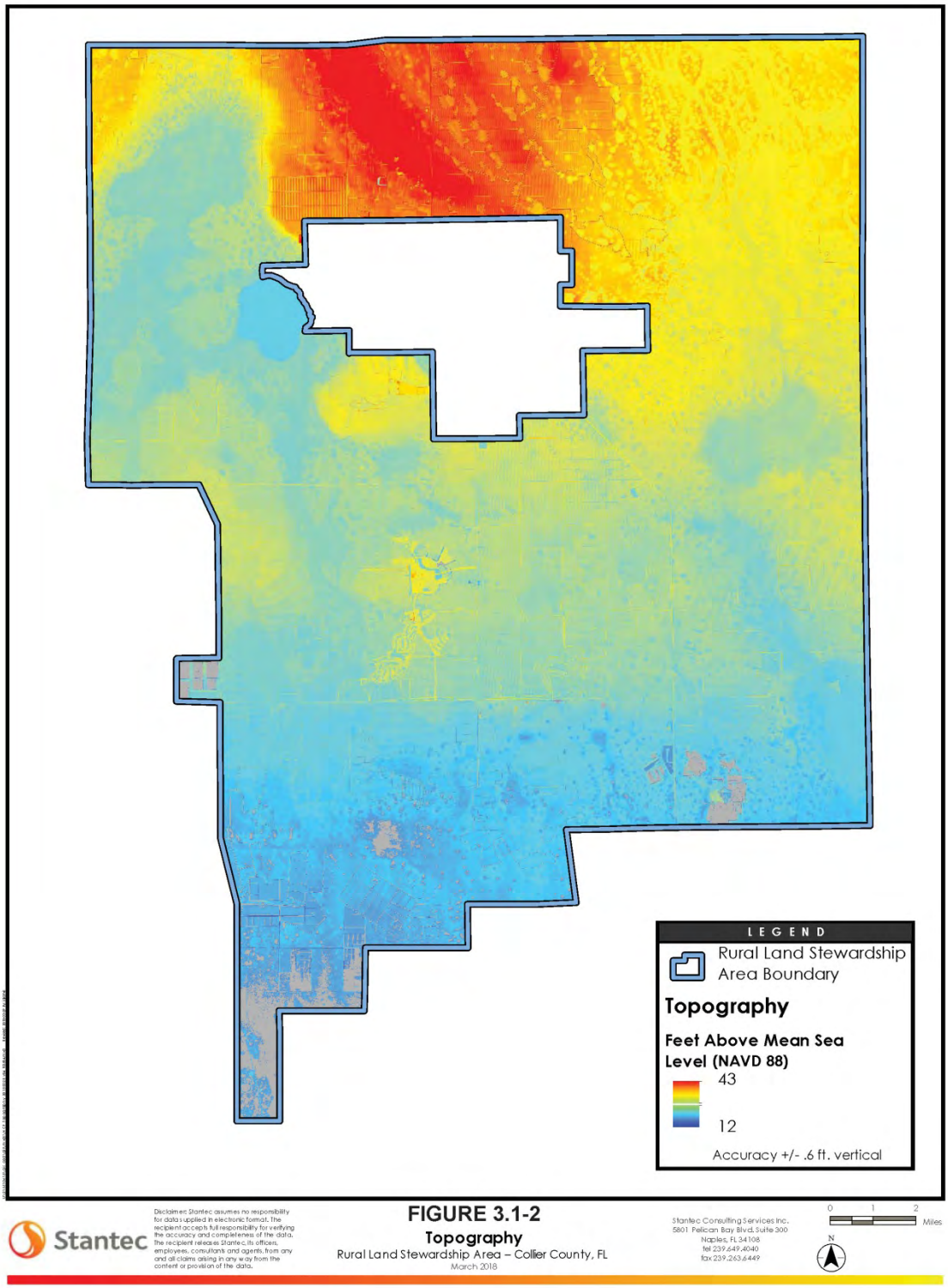


Figure 3.1-2. Topography

3.1.4 Climate

As defined by the Intergovernmental Panel on Climate Change (IPCC), "climate" refers to average weather, typically measured in terms of the mean and variability of temperature, precipitation, or other relevant properties over time; thus "climate change" refers to a change in such a measure that persists for an extended period, typically decades or longer, due to natural conditions (*e.g.,* solar cycles) or human-caused changes in the composition of the atmosphere or in land use (IPCC 2013). Detailed explanations of global climate change and examples of various observed and projected changes and associated effects and risks at the global level are provided in reports issued by the IPCC. Information for the United States at national and regional levels is summarized in the National Climate Assessment (NCA). Because observed and projected changes in climate at regional and local levels vary from global average conditions, rather than using global scale projections, we use "downscaled" projections when they are available and have been developed through appropriate scientific procedures, because such projections provide higher resolution information that is more relevant to spatial scales used for analyses of a given species and the conditions influencing it. In our analysis, we use our expert judgment to weigh the best scientific and commercial data available in our consideration of relevant aspects of climate change and related effects. Climatic changes, including sea level rise (SLR) and shifts in seasonal precipitation, temperature, and tropical storms, are expected to affect South Florida's human population and ecosystems.

Sea Level Rise

The National Oceanic and Atmospheric Administration's (NOAA) 2017 studies have developed scenarios that range from 1 foot to 8 feet of SLR by 2100. Tidal gauges around Florida have shown 10 inches of SLR since 1920. However, in the last 18 years there has been 5 inches of SLR in southeastern Florida. This recent acceleration makes the medium to extreme-high scenarios most probable and the low and intermediate-low scenarios (NOAA 2017) not possible. Under these scenarios, land areas nearer to the coast in southwestern Florida will become partially or completely inundated (*i.e.,* under water) at some point during this century (Figure 3.1-3). However, decades prior to surface inundation, areas nearer to the coast undergo vegetation shifts triggered by changes to hydrology (wetter), salinity (higher), and more frequent storm surge and king tide events (pulse events causing massive erosion and salinization of soils) (Saha et al. 2011). In other words, upland ecosystems such as pine flatwoods and freshwater marsh communities will convert to mangroves earlier than expected due to root zone inundation from saltwater. Recent USFWS South Florida Ecological Services Office climate change training workshops have recommended that the intermediate, intermediate-high, and high scenarios from NOAA (2017) should be considered. Higher fall and winter rainfall (+~20%), lower spring and summer rainfall (-~30%), and warmer temperatures by 3 to 7 degrees Fahrenheit (°F) should also be considered for regions of Florida (USFWS 2018).

The boundary of the ECMSHCP was overlaid on SLR inundation maps predicted for Collier, Lee, and Monroe Counties (Figure 3.1-3). These SLR inundation maps were created by the University of Florida GeoPlan Center (https://sls.geoplan.ufl.edu) using the Corps and NOAA SLR projections. Based on the GeoPlan Center's SLR inundation prediction maps for years 2040 and 2070, the proposed ECMSHCP area is too far inland to be inundated in the foreseeable future by SLR (Figure 3.1-3). In addition, the height of the underground saltwater intrusion under the highest SLR scenario is not predicted to reach the root zone of habitats within the ECMSHCP boundary. Therefore, habitats are not expected to change due to SLR within the ITP time frame.

Temperatures

According to the NCA, projected increases in Florida's average annual temperatures by 2100 vary from +3° to +7°F, depending on the emissions scenario used and the region within Florida. Increasing global temperatures cause more glacier and polar ice sheet melt, which in turn increases the rate of SLR. statewide temperature increases will change levels of humidity and rates of evapo-transpiration, leading to changes in vegetation growth seasons and location. Increasing temperatures can also affect the sex ratio of some species, especially reptiles such as sea turtles, leading to a decline in species populations.

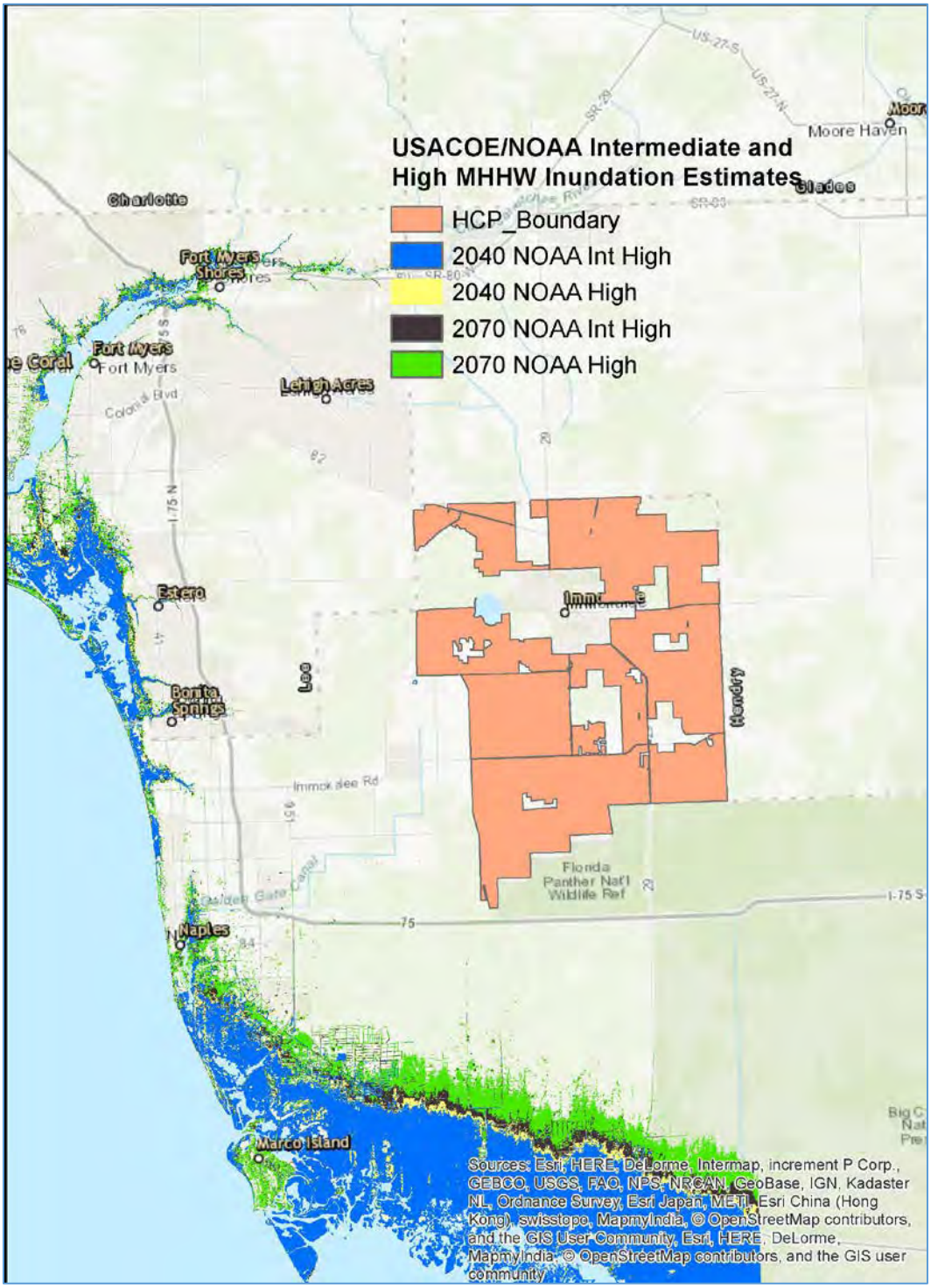


Figure 3.1-3. Years 2040 and 2070 sea level rise inundation predictions (National Oceanic and Atmospheric Administration [2017] Intermediate-High and High) in relation to the East Collier Multiple Species Habitat Conservation Plan location.

Extreme heat events in Florida are projected to increase relative to 1986-2005. By the late 21st century the average temperatures on the hottest days will be 3° to 8°F warmer. Due to human-induced emissions of greenhouse gases (GHGs) that already have occurred, another +0.5°F increase in surface air temperature would be expected even if there was a sudden end to all GHG emissions caused by humans

(NCA 2014). Significantly more hot days (95°F or above) and fewer freezing events are projected. For the state of Florida, this equates to an increase of >50 hot days for western and southwestern Florida, +40 to 50 hot days for the interior of Florida, and +30 to 40 hot days for Florida's coastal areas.

Anticipated Changes in Florida's Precipitation Patterns
Higher fall and winter rainfall (+~20%), lower spring and summer rainfall (-~30%) and warmer temperatures by 3° to 7°F are anticipated for regions of Florida. These increases are linked, in part, to higher sea surface temperatures in the region. Natural variability of the Atlantic Multi-decadal Oscillation (AMO), El Nino South Oscillation (ENSO), human-induced emissions of heat-trapping gases, and particulate pollution all influence the warming or cooling of sea surface temperatures that lead to the annual precipitation trends.

Anticipated Changes in Tropical Storm Frequency and Intensity
There has been a substantial increase in most measures of Atlantic hurricane activity since the early 1980s, the period for which high-quality satellite data are available. These include measures of intensity, frequency, and duration, as well as the number of strongest (Category 4 and Category 5) storms. The recent increases in activity are linked, in part, to higher sea surface temperatures in the region that Atlantic hurricanes form in and move through. Numerous factors have been shown to influence these local sea surface temperatures, including natural variability of the AMO, human-induced emissions of heat-trapping gases, and particulate pollution.

Tropical storms and hurricanes are projected to be fewer in number but stronger in force, with more Category 4 and Category 5 hurricanes. Almost all existing studies project greater rainfall rates in hurricanes in a warmer climate, with projected increases of about 20 percent averaged near the center of hurricanes. Models also project changes in hurricane tracks and where they strike land.

Extreme events are expected to increase in strength and frequency with accelerated climate change. These increases are linked, in part, to higher sea surface temperatures in the region where Atlantic hurricanes form and move through.

Anticipated Changes in Drought Duration
As mentioned in the Precipitation section, dry consecutive days are expected to increase 10 to 20 percent for most of Florida, with up to 30 percent for South Florida.

Anticipated Changes in Wildfire Frequency
In some areas, prolonged periods of record high temperatures associated with droughts contribute to dry conditions that are driving wildfires. Wildfires can cause drastic changes in species composition, changes in tree density, increased flooding and erosion risks, and decreased carbon storage capacity. The effects of climate change weaken the natural protections ecosystems have against these extreme events, making them more vulnerable. However, some areas of southwest Florida are lacking a natural fire regime which results in a reduction in habitat quality for many species. Wildfire could be beneficial in some of these areas.

3.1.5 Regional Ecosystems

USFWS has divided peninsular Florida into two major ecosystem units – North Florida and South Florida – based primarily on regional watersheds and county boundaries (USFWS 2000). The U.S. Environmental Protection Agency (USEPA) has further delineated ecoregions within Florida, determined by the interactions of multiple environmental factors, including climate, vegetation, geology, topography, hydrology, soils, human land use, and other factors (Omernik 1987; Griffith et al. 1994).

Figure 3.1-1 shows the location of the ECMSHCP area relative to the "Level III and IV Ecoregions of Florida" map (USEPA 2012). USEPA "Level IV" ecoregions correspond most closely to the interrelated ecological characteristics and gradients within and around the ECMSHCP area.

The majority of the ECMSHCP area is located within the "Southwestern Florida Flatwoods" Level IV ecoregion (Figure 3.1-1, Ecoregion 75b), specifically within a physiographic division known as the Immokalee Rise (Brooks 1981a; Griffith et. al. 1997). The Immokalee Rise comprises a local topographic high between the Caloosahatchee River valley and the Big Cypress swamp, with extensive uplands, large

slough (flowway) wetland systems, and depressional wetlands. This portion of the ECMSHCP area is largely uplands, with the total acreage of non-hydric soils, undeveloped upland communities, and agricultural land uses exceeding the total acreage of hydric soils and wetlands (FWC and FNAI 2016).

The southern portion of the ECMSHCP area, roughly located south of Oil Well Road and adjacent to the FPNWR, comprises a lower elevation landscape with a higher proportion of hydric soils and native wetland communities (forested wetlands and marsh wetlands). Local topographic highs within this landscape support upland forests and some areas have been historically utilized for agriculture. This southern area falls within the "Big Cypress" Level IV ecoregion, part of the greater "Southern Florida Coastal Plain" ecoregion (Figure 3.1-1, Ecoregion 76b). Topography, soils, vegetation communities, and drainage networks within the Big Cypress Level IV ecoregion are generally similar in nature to those found elsewhere within the ECMSHCP area, but differ primarily in extent and proportion from those found on the Immokalee Rise ecoregion. For example, forested wetlands occur throughout the ECMSHCP area, but comprise a much greater proportion of the land area south of Oil Well Road as compared to areas to the north (see Figure 3.1-4).

The ECMSHCP area is topographically and hydrologically separated from the Everglades ecoregion to the east by the Immokalee Rise in southern Hendry County, and the Big Cypress Spur topographic feature along the Collier, Broward, and Miami-Dade County boundaries (USEPA 2012, Brooks 1981a, White 1970).

3.1.6 Existing Land Uses

The ECMSHCP area was mapped in detail in 1999-2000, as part of the design process for the Collier County RLSP (WilsonMiller 2000). The land cover mapping utilized true color and 1995 USGS color infrared aerial photography as mapping bases, at a field mapping scale of 1:12,000 (1" = 1000'). Land cover map units were delineated by aerial photo interpretation, and classified according the Florida Land Use, Cover and Forms Classification System Level III categories (FDOT 1999). A formal accuracy assessment of the mapping was performed using National Biological Service standard methods (Stadelmann et al. 1994), with polygons in each land cover class selected randomly by a geographic information system (GIS). The statistics for the stratified random sampling of 135 polygons indicated an overall map accuracy of 91 percent, with a 90 percent probability that the true map accuracy was within ±5 percent of this estimate.

The Florida Fish and Wildlife Conservation Commission (FWC) subsequently developed and implemented a state Wildlife Action Plan that highlighted the need for habitat-based land cover mapping and an associated land cover classification system (FWC 2014). FWC partnered with Florida Natural Areas Inventory (FNAI) to develop the land cover mapping from existing data sources and expert reviews of aerial photography, resulting in a statewide Cooperative Land Cover (CLC) Map. The CLC classification schema incorporated classifications from the FWC, FNAI, and Florida Department of Transportation (FDOT) classification systems, and was reviewed and revised by experts knowledgeable of Florida's natural communities and image processing (FWC 2014). For conservation planning purposes, the CLC mapping represents the best available data set for characterizing land cover within the ECMSHCP area, and was therefore used for GIS analyses.

Figure 3.1-4 shows a thematic grouping of the current iteration (version 3.2, vector) of the CLC mapping (FWC and FNAI 2016). Table 3.1-1 provides a breakdown of land use/land cover (LULC) categories grouped by broad CLC classes and ECMSHCP land designations. In terms of LULC, active agriculture (including croplands, groves, sod, pastures, and nurseries) comprises approximately 50 percent of the ECMSHCP area. Native wetlands account for approximately 39 percent of the total ECMSHCP area, and are split roughly evenly between forested and marsh (mainly herbaceous) wetland systems. Undeveloped uplands comprise 9 percent of the ECMSHCP area, with forested uplands comprising over 88 percent of undeveloped uplands. Over 92 percent of the total native vegetation acreage within the ECMSHCP area occurs within land designations slated for protection under the ECMSHCP. Open water, consisting of cultural lacustrine/riverine and natural lakes/ponds total 1,245 acres, or 1 percent of the ECMSHCP area (Lake Trafford is not included within the ECMSHCP area). Approximately 1 percent of the ECMSHCP area consists of existing development, primarily the Town of Ave Maria (depicted on Figure 3.1-4), based on the latest CLC revision (the CLC is now continuously revised, with version updates every 6-12

months). The remaining land uses, including exotic vegetation removal, earth mining, roadways, power transmission lines, and oil and gas facilities, comprise approximately 1 percent of the total ECMSHCP area.

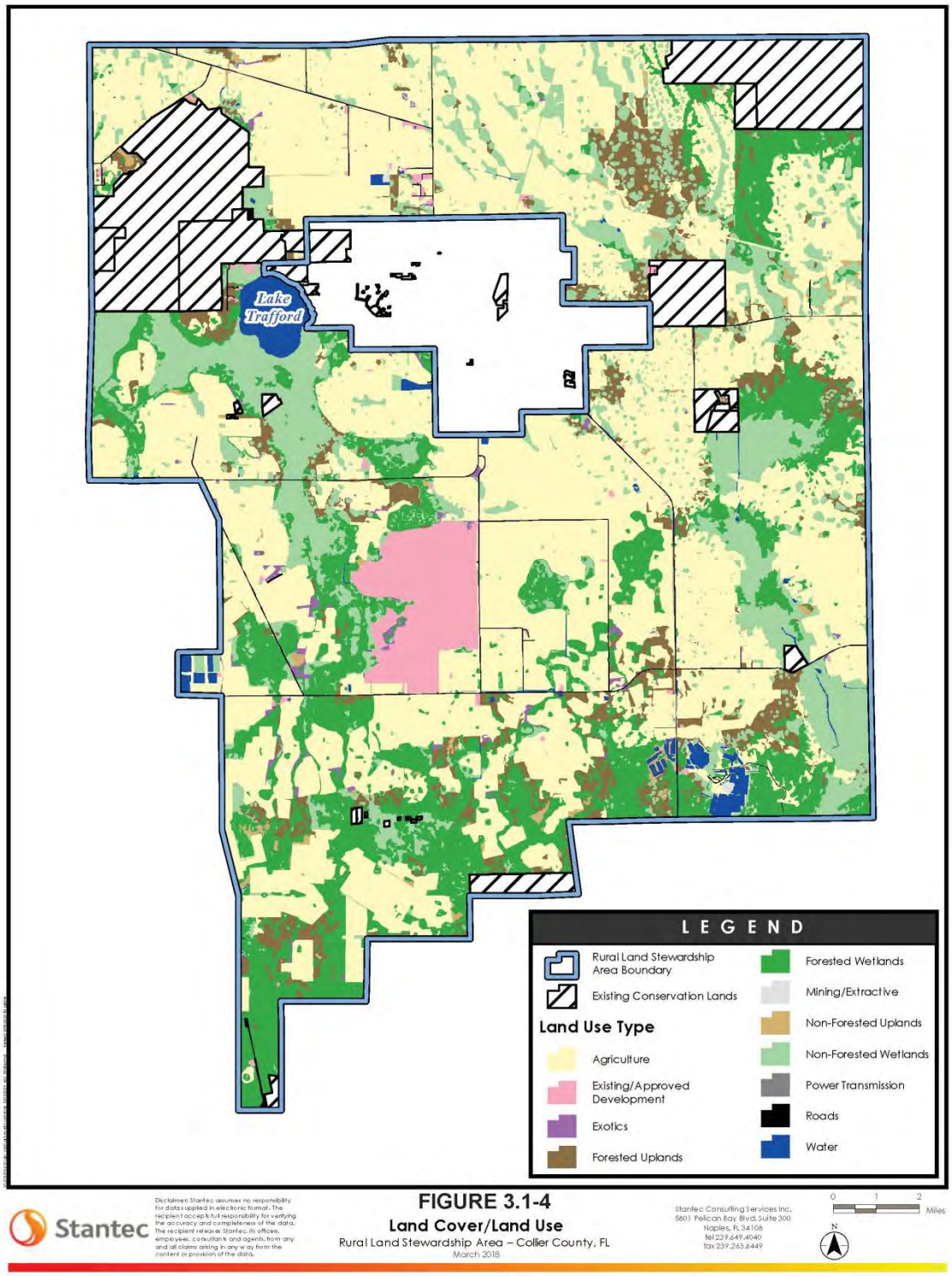


Figure 3.1-4. Land Use/Land Cover

Table 3.1-1. Land use / land cover within the East Collier Multiple Species Habitat Conservation Plan Area, by Cooperative Land Cover (CLC) classes

CLC Code	CLC Class	Covered Activities (acres)*	Plan-Wide/ Preservation (acres)	Very Low Density Use (acres)	Base Zoning (acres)**	Total acres
1120	Mesic Hammock	440	1,194	71	16	1,722
1210	Scrub	0	9	0	0	9
1311	Mesic Flatwoods	1,082	6,217	125	0	7,424
1312	Scrubby Flatwoods	0	29	0	0	29
1340	Palmetto Prairie	1	127	0	0	128
1400	Mixed Hardwood-Coniferous	253	2,342	111	0	2,707
1500	Shrub and Brushland	427	882	138	0	1,448
1800	Cultural - Terrestrial	0	7	0	0	7
1821	Low Intensity Urban	1,175	52	0	0	1,228
1822	High Intensity Urban	336	10	0	0	346
1830	Rural (Rural Open Lands)	1,729	4,410	117	0	6,257
18331	Cropland/Pasture	15,795	9,481	0	568	25,844
183313	Improved Pasture	5,126	9,467	446	1,211	16,250
18332	Orchards/Groves	19,842	8,287	0	1	28,131
18334	Fallow Orchards	1	39	0	0	40
18335	Other Agriculture	0	1	0	0	1
1840	Transportation	304	93	10	4	411
1850	Communication	3	0	0	0	3
1860	Utilities	22	2	0	0	24
1870	Extractive	0	36	33	0	69
1880	Bare Soil/Clear Cut	0	7	0	0	7
2100	Freshwater non-Forested Wetlands	10	103	0	0	114
2110	Prairies and Bogs	908	8,391	102	0	9,400
2120	Marshes	1,174	15,829	67	0	17,060
2121	Isolated Freshwater Marsh	9	1,349	0	536	1,895
2200	Freshwater Forested Wetlands	139	4,467	290	0	4,897
2210	Cypress/Tupelo	143	1,801	67	0	2,011
2211	Cypress	140	12,400	72	0	12,613
2213	Isolated Freshwater Swamp	190	4,020	3	0	4,213
22131	Dome Swamp	0	280	0	37	317
2214	Strand Swamp	0	1,754	0	1	1,755
2220	Other Coniferous Wetlands	11	13	0	0	24
2221	Wet Flatwoods	169	2,414	1	53	2,637
2230	Other Hardwood Wetlands	4	450	9	0	463
2232	Hydric Hammock	0	118	0	2	120
3000	Lacustrine	0	48	9	0	58
3100	Natural Lakes and Ponds	0	21	1	0	22
3200	Cultural - Lacustrine	330	298	412	0	1,050
4200	Cultural - Riverine	33	92	0	0	125
7000	Exotic Plants	377	541	2	0	920
TOTALS* **		**50,175**	**97,086**	**2,087**	**2,431**	**151,779**

Source: Fish and Wildlife Conservation Commission and Florida Natural Areas Inventory 2016

* The actual acreage of Covered Activities at Plan completion will be 45,000 acres. The balance (5,175 acres) will be placed in Preservation/Plan-Wide Activities.

** The Base Zoning acres will be placed in Preservation/Plan-Wide Activities or Covered Activities by Plan completion. If these acres are placed in Covered Activities, an equivalent number of acres that otherwise would have been included in Covered Activities will be placed into Preservation/Plan-Wide Activities to maintain the 45,000-acre cap on Covered Activities.

*** Acreage data entries in this table were rounded to the nearest acre. The subtotals reflect the total acreage of each Plan land designation as calculated by geographic information system.

The amount of land actually used for agriculture within the ECMSHCP area is much greater than the simple acreage quantified by agricultural land cover types. For example, grazing leases exist throughout the ECMSHCP area, across virtually all vegetated cover types. Cattle graze in improved and unimproved pastures, rangeland in varying stages of succession, undeveloped uplands, and native wetland communities. Overall, the distribution of land cover types within the ECMSHCP area creates a landscape-scale matrix of habitats that allow for support of the Covered Species. Large blocks of interconnected native habitats exist, providing an opportunity for the preservation and potential enhancement of regional wildlife corridors. The Camp Keais Strand and Okaloacoochee Slough flowways form the core of the two major wildlife corridors that extend through the ECMSHCP area (Oetting et al. 2014), and are of particular benefit to wide-ranging species, such as the FP.

3.2 GEOLOGY AND SOILS

3.2.1 Scope of Analysis

This section describes the environmental setting with regard to the soils and geologic conditions on and in the vicinity of the ECMSHCP area.

3.2.2 Geology

Peninsular Florida is comprised of a thick sedimentary sequence of predominantly carbonate rocks, which rests on an igneous-metamorphic basement complex known as the Florida Platform (Scott 1992). In Collier County, the sedimentary sequence is approximately 17,000 feet (5.2 miles) thick, and the deepest and oldest sedimentary rocks date to the Jurassic Period (Applegate and Lloyd 1985, Campbell 1988). These basal clastic sedimentary rocks, known as the Wood River Formation, are overlain by more than 10,000 feet of Cretaceous limestone, dolomite, and evaporite deposits (Scott 1992, Pollastro et al. 2000).

At 11,000-12,000 feet below mean sea level, a lower Cretaceous geologic (stratigraphic) unit known as the Sunniland Formation contains scattered fields of petroleum deposits (the Sunniland Trend). The petroleum in the Sunniland Trend was first discovered in the early 1940s near Sunniland, in the southeastern portion of the ECMSHCP area. Since the discovery of petroleum in the area, a total of 11 oil and gas fields have been identified and placed into production in Collier County. Most of those oil and gas fields are still in production (Applegate and Lloyd 1985). Oil and gas exploration and production activities continue within the Sunniland Trend, extending across the ECMSHCP area, BCNP, Hendry County, and Lee County.

The Cretaceous rocks in eastern Collier County are overlain by more than 5,000 feet of Cenozoic strata, predominantly carbonate rocks. Siliciclastic materials (transported sediments like quartz sand, silt, and/or clay) appear more frequently in strata of the Miocene epoch and younger (23 million years ago and younger) than in older Cenozoic strata. Detailed stratigraphic descriptions for various units and geologic interpretations are well documented in several publications (Knapp et al. 1986, Campbell 1988, Camp, Dresser & McKee Inc. [CDM] 2002). Aside from oil and gas deposits at depth, the significance of Collier County's geologic framework for the ECMSHCP is limited to the upper portions of the geologic column. These near-surface strata and deposits are significant because they determine the characteristics of the regional aquifer systems and water supply, serve as substrate (parent materials) for soil formation, and provide construction materials, such as limestone and sand, for human activities. The Tamiami Formation, which has poorly consolidated sands and limestone, is near or at the surface in Collier County (U.S. Geological Survey [USGS] 2018a).

The mined mineral resources in eastern Collier County currently consist of crushed limestone and fill sand, which are excavated by open pit methods from near-surface deposits (Campbell 1988). There are three mines in the area. One active mine (Sunniland Mine) exists in the southeastern portion of the ECMSHCP area (US Mining 2018).

Karst features include Lake Tafford (1,500-acre karstic lake) along with two mapped sinkholes, located in Naples and Immokalee (Florida Center for Instructional Technology [FCIT] 2018).

According to USGS, earthquakes are not probable in the area. There is less than a 1 percent chance of a potentially minor damaging quake (USGS 2018b). No mapped faults are known or anticipated (USGS 2000).

3.2.3 Soils

In general, eastern Collier County consists mainly of poorly to very poorly drained soils, where small changes in ground elevation can influence the range of water table depths and consequently the native vegetation patterns. As discussed in this chapter, extensive ditching and canal excavations for agriculture, roadways, urban stormwater drainage, and other land uses have historically altered the drainage class of many soils.

These soils generally formed in the sandy unconsolidated deposits associated with Pleistocene sea-level fluctuations, nearshore depositional environments, and marine terrace sequences (Liudahl et al. 1998, Scott 1992). Sandy deposits tend to be thicker (20-40 feet) in the northern part of the county (near Immokalee) and become thin or absent in the southern portions of the ECMSHCP area, often exposing the underlying limestone or "caprock" (Campbell 1988).

A complex variety of soil types have been mapped within the ECMSHCP area (NRCS 1998) (Table 3.2-1). Despite the diversity of soils in the ECMSHCP area, nearly all are characterized as poorly to very poorly drained. An exception is the Pomello fine sand, which is a moderately well-drained soil found on low ridges and typically supporting a flatwoods community. As a whole, soils containing less than 41 percent hydric inclusions, and thereby considered "upland" soils for the purpose of this dEIS, make up approximately 39 percent of the ECMSHCP area. Of these, Immokalee fine sand and Oldsmar fine sand are the most common. Most of the citrus and row crops in the ECMSHCP area are located in areas of Immokalee fine sand and Oldsmar fine sand.

Table 3.2-1. Soils in the East Collier Multiple Species Habitat Conservation Plan Area

Hydric Class	Soil Type	Percent Hydric	Hectares	Acres	Percent of Total
Non-Hydric (Upland) Soils	Pomello fine sand, 0 to 2 percent slopes	0	221.4	547.1	0.4
	Urban land-Matlacha-Boca complex	0	225.0	555.9	0.4
	Satellite fine sand, 0 to 2 percent slopes	4	3.4	8.4	0.0
	Myakka fine sand, 0 to 2 percent slopes	6	529.7	1,309.0	0.9
	Chobee, limestone substratum, and Dania mucks, depressional	8	1.7	4.3	0.0
	Urban land-Holopaw-Basinger complex	8	0.6	1.4	0.0
	Ft. Drum and Malabar, high, fine sands	10	1,014.9	2,507.8	1.6
	Immokalee fine sand, 0 to 2 percent slopes	10	9,602.2	23,727.6	15.5
	Oldsmar fine sand, 0 to 2 percent slopes	10	6,063.0	14,982.1	9.8
	Oldsmar fine sand, limestone substratum	10	2,099.2	5,187.2	3.4
	Pineda and Riviera fine sands	10	0.1	0.3	0.0
	Riviera, limestone substratum-Copeland fine sands	11	1.7	4.1	0.0
	Boca sand	12	1.7	4.1	0.0
	Hallandale fine sand, 0 to 2 percent slopes	13	579.6	1,432.3	0.9
	Jupiter-Ochopee-Rock outcrop complex	15	1.2	2.9	0.0
	Wabasso fine sand, 0 to 2 percent slopes	15	2,776.0	6,859.6	4.5
	Hilolo, Jupiter, and Margate fine sands	40	616.1	1,522.3	1.0
	Subtotal Non-Hydric (Upland) Soils		***23,737.4***	***58,656.4***	***38.4***

Table 3.2-1. Soils in the East Collier Multiple Species Habitat Conservation Plan Area

Hydric Class	Soil Type	Percent Hydric	Hectares	Acres	Percent of Total
Hydric Soils	Riviera fine sand, 0 to 2 percent slopes	82	0.0	0.0	0.0
	Tuscawilla fine sand	90	1,644.0	4,062.5	2.7
	Tuscawilla fine sand	91	1.2	3.0	0.0
	Boca fine sand, 0 to 2 percent slopes	92	1,966.7	4,859.9	3.2
	Pineda fine sand, limestone substratum	93	1.7	4.3	0.0
	Urban land	93	5.4	13.4	0.0
	Holopaw fine sand, 0 to 2 percent slopes	95	2,325.6	5,746.8	3.8
	Basinger fine sand, 0 to 2 percent slopes	96	4,106.5	10,147.5	6.6
	Boca fine sand, 0 to 2 percent slopes	96	0.0	0.0	0.0
	Estero and Peckish soils, frequently flooded	96	0.6	1.5	0.0
	Myakka sand, depressional	97	0.9	2.2	0.0
	Basinger fine sand, 0 to 2 percent slopes	100	0.2	0.4	0.0
	Boca, Riviera, limestone substratum, and Copeland fine sands, depressional	100	8,415.4	20,794.9	13.6
	Chobee fine sandy loam, depressional, 0 to 1 percent slopes	100	0.6	1.6	0.0
	Chobee, limestone substratum, and Dania mucks, depressional	100	151.0	373.2	0.2
	Chobee, Winder, and Gator soils, depressional	100	3,856.5	9,529.6	6.2
	Gator muck, frequently ponded, 0 to 1 percent slopes	100	2.0	4.9	0.0
	Gentry fine sand, depressional	100	1.1	2.7	0.0
	Hallandale and Boca fine sands	100	356.6	881.1	0.6
	Holopaw and Okeelanta soils, depressional	100	557.7	1,378.0	0.9
	Holopaw fine sand, limestone substratum	100	1,505.8	3,720.9	2.4
	Malabar fine sand, 0 to 2 percent slopes	100	2,621.0	6,476.7	4.2
	Ochopee fine sandy loam, low	100	2.8	7.0	0.0
	Oldsmar sand, depressional	100	0.1	0.2	0.0
	Pineda and Riviera fine sands	100	2,001.3	4,945.2	3.2
	Pineda fine sand, limestone substratum	100	1,148.0	2,836.8	1.9
	Riviera fine sand, limestone substratum	100	768.5	1,899.0	1.2
	Riviera, limestone substratum-Copeland fine sands	100	243.7	602.1	0.4
	Urban land-Holopaw-Basinger complex	100	0.4	1.0	0.0
	Urban land-Satellite complex	100	0.2	0.5	0.0
	Winder fine sand, depressional, 0 to 1 percent slopes	100	1.3	3.2	0.0
	Winder, Riviera, limestone substratum, and Chobee soils, depressional	100	6,039.5	14,924.0	9.8
	Subtotal Hydric Soils		***37,726.5***	***93,224.2***	***61.1***
	Water		313.5	774.7	0.5
	Total		***61,777.5***	***152,655.3***	***100.0***

Hydric soils make up approximately 61 percent of the ECMSHCP area. These soils include not only the swamp and herbaceous marsh areas, but many of the improved and unimproved pastures in the ECMSHCP area. Extensive ditching in many areas has lowered the groundwater elevation and drained these soils, making them more conducive to cattle grazing.

In terms of soil classification, the eastern Collier County soils classify into the Alfisol, Spodosol, Entisol, Mollisol, and Histosol soil orders. With few exceptions, these soils classify into the "aquic" suborders, reflecting their generally poor natural drainage and seasonally high water tables. Alfisols contain a clay-enriched subsurface horizon, while Spodosols are generally associated with flatwoods and dry prairie landscapes, and possess an organic-enriched subsurface horizon that contains higher amounts of aluminum and/or iron. The Entisols are soils with minimal horizon development that formed in sandy parent materials. Mollisols are mineral soils with a thick dark surface and high base saturation (high percentage of available calcium, magnesium, and potassium), occurring in lower, consistently moist or wet landscapes. Histosols are organic soils, which signify the year-round presence of water at or above the soil surface in normal rainfall years; they are typically found in the deepest marshes and/or adjacent to open water.

Figure 3.2-1 depicts the Natural Soils Landscape Position (NSLP) classification for the ECMSHCP area. The most extensive NSLP units within the ECMSHCP area are the "Flatwoods Soils," which Zahina et al. (2001) characterized as "poorly drained, nonhydric, upland soils with sandy marine sediments throughout the profile…Most of the soils in this category are Spodosols." In the ECMSHCP area, the next most extensive NSLP units are "Sand Depression" soils, which are hydric soils and very poorly drained. The Sand Depression soils depicted on Figure 3.2-1 generally coincide with the locations of the major flowways, cypress strands, and the depressional wetlands that are scattered across the landscape.

The NSLP "Flats Soils" occupy a landscape position between Flatwoods and Sand Depression soils, and are considered transitional between upland and wetland characteristics, tending toward wetland natural communities. Although categorized as hydric soils within the NSLP classification, they include some upland areas because the depth and/or duration of the seasonal high water table may not be sufficient to meet hydric soil and/or wetland hydrology criteria in slightly higher landscape positions.

Three NSLP classifications occupy relatively limited areas within the ECMSHCP area (Figure 3.2-1). "Knolls" are found on small ridges, or knolls, that rise a few feet higher than the surrounding uplands, but possess deeper water tables and support more xeric (drier) vegetation communities, such as upland hammocks, scrubby flatwoods, or scrub vegetation. At the opposite end of the soil hydrology continuum, "Muck Depressions" are found only where year-round soil saturation allows the development and persistence of thick layers of decomposed organic materials (muck). Finally, "Urban or Made Lands" NSLP units correspond to areas where the soils have been altered extensively by human activities, generally for urban development purposes, and such areas no longer function as they did in the natural landscape.

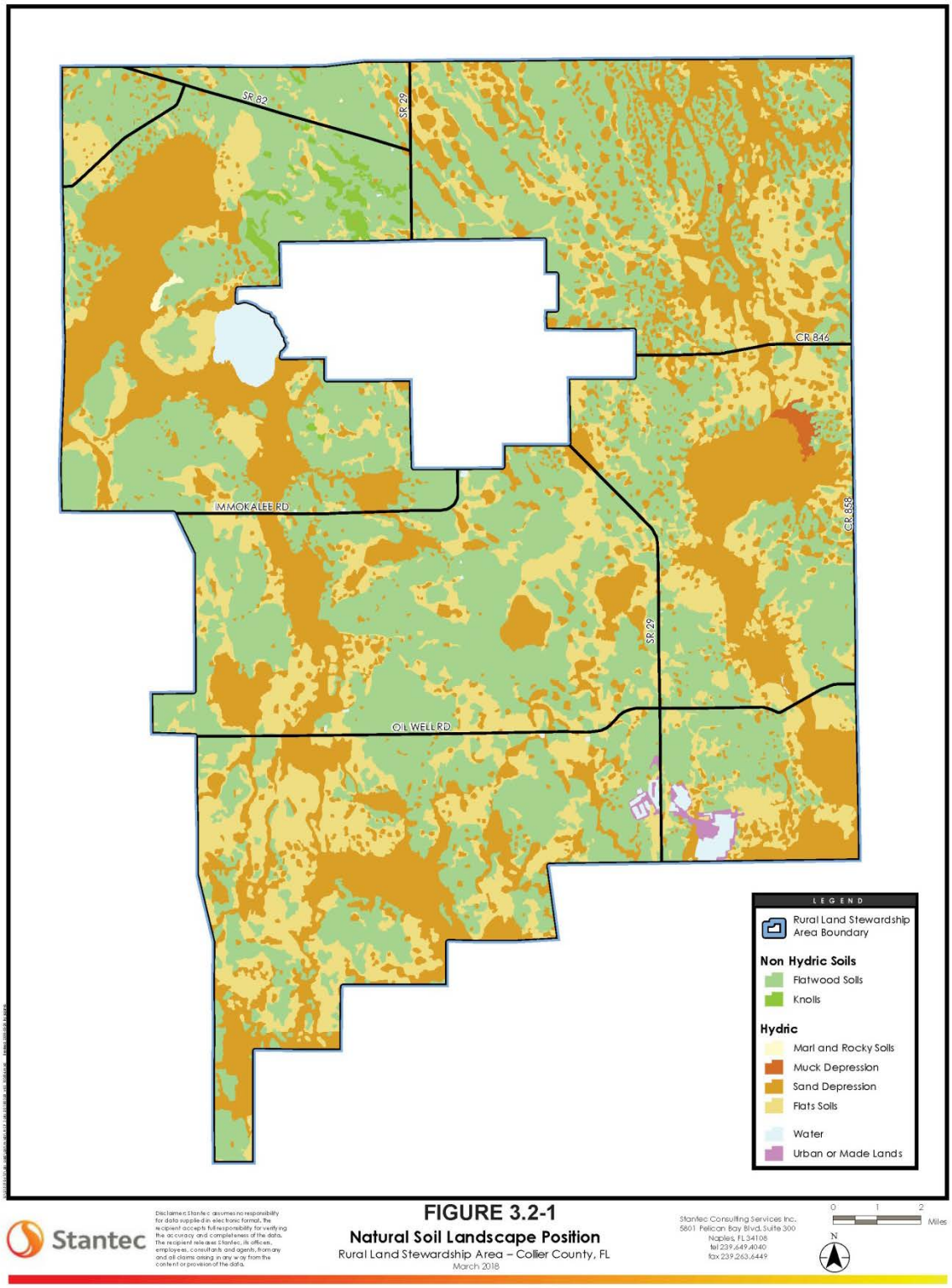


Figure 3.2-1. Natural Soil Landscape Position

3.3 WATER RESOURCES

This section discusses water resources, which for the purposes of this discussion include surface waters, water quality/quantity, and hydrology. Wetlands are discussed throughout this chapter, specifically in Section 3.1 Environmental Setting and Section 3.8.2 Ecological Communities.

The CorpsUSACE, the South Florida Water Management District (SFWMD), the Florida Department of Environmental Protection (FDEP), and other state and local governments issue a variety of permits to manage and protect Florida's water resources. These resources include wetlands, rivers, streams, lakes, ponds, estuaries, coastal systems, springs, navigable waters, and groundwater, and surface water supplies. Where Corps authorization is needed for site-specific discharges of dredged or fill material, the broad analysis in this dEIS will inform the review process for future Clean Water Act section 404 applications, including by better identifying areas where wetlands and waters are likely to be preserved or impacted by future development. The precise location of future impacts to waters subject to Corps jurisdiction will not be known until the nature and configuration of each project has been determined by the project proponent and the jurisdictional impacts have been permitted by Corps. If the ECMSHCP and ITPs are approved, the 50,175 acre area identified for up to 45,000 acres of Covered Activities will more precisely delineate those portions of the ECMSHCP area where future development-related impacts are likely to occur to wetlands and waters subject to Corps jurisdiction. Correspondingly, the areas identified for preservation will more precisely delineate where wetlands and waters are likely to be preserved, including where connected features can serve as important flowways or linked wetland communities.

Authorizations may be needed for activities including construction or abandonment of wells and systems, large volume water usage, development or new construction, stormwater management and wastewater discharges, and activities in, on, or near wetlands and other water resources. Potential impact to water resources will be addressed during the environmental permitting process.

3.3.1 Surface Water

As indicated in Section 3.1.5, the majority of the ECMSHCP area is located within the southern limit of the "Southwestern Florida Flatwoods" Level IV ecoregion, specifically within the Immokalee Rise physiographic division, a local topographic high between the Caloosahatchee River valley and Big Cypress, with extensive uplands, large slough (flowway) wetland systems, and depressional wetlands. South of Oil Well Road, the southern portion of the ECMSHCP area comprises a lower elevation landscape, falling within the "Big Cypress" Level IV ecoregion, part of the greater "Southern Florida Coastal Plain" ecoregion. The low-relief landscape of the ECMSHCP area provides a disjointed drainage pattern without continuous stream or river channel networks. Instead, surface water moves as a broad shallow sheet (sheetflow) across relatively flat terrain or flows across the landscape in shallow depressional flowways (sloughs), marshes, and swamps. Watershed boundaries can be ill defined, with general areas draining to one or more different directions and outfalls at different flood stages (CDM 2002, Atkins 2011).

Major natural surface-water features of the ECMSHCP area are Lake Trafford, Corkscrew Marsh, the Camp Keais Strand flowway system, and the Okaloacoochee Slough flowway system (Atkins 2011). Although ECPO property ownership includes portions of the Lake Trafford shoreline, the lake itself is not included within the ECMSHCP area. Surface water from the Corkscrew Marsh system flows primarily from the northwestern portion of the ECMSHCP area toward the southwest through the Cocohatchee Basin drainage network. The Camp Keais Strand flowway extends southward from Lake Trafford toward the FPNWR, connecting with other large wetland systems (Stumpy Strand, Fakahatchee Strand) at the southern end of the ECMSHCP area, and discharges to the south via the Merritt Canal (HydroGeoLogic et al. 2006, Atkins 2011). The Okaloacoochee Slough flowway extends southward from the Okaloacoochee Slough State Forest in the northeastern corner of the ECMSHCP area, flowing southward beyond the southern boundary of the ECMSHCP area toward the FPNWR.

Approximately 50 percent of the ECMSHCP area is involved in active agricultural operations. Extensive ditching networks in these upland areas provide drainage for agricultural operations, controlling field water levels and discharges into water retention areas, prior to discharge into the flowways. Agricultural

stormwater is extensively regulated and managed by the SFWMD through permits and best management practices (Atkins 2011).

The Collier County Watershed Management Plan provides a comprehensive evaluation of surface water quality conditions in and around the ECMSHCP area. The study area includes portions of four watersheds occurring within the ECMSHCP area (Okaloacoochee/State Road (SR) 29, Cocohatchee-Corkscrew, Fakahatchee, and Faka Union watersheds), which are divided into localized water body identification (WBID) basins for evaluating water quality against state limits. In-stream water quality conditions were evaluated in the context of the FDEP Total Maximum Daily Load impairment criteria, and were based upon FDEP data and previous published reports. Overall, the data analyses indicated that in-stream surface water quality was within FDEP limits for total nitrogen, total phosphorus, chlorophyll-*a*, and total suspended solids concentrations across the ECMSHCP area. The ECMSHCP area contains portions of nine WBID basins. A total of six water quality impairments were designated by FDEP within WBIDs at least partially located within the ECMSHCP area (Atkins 2011).

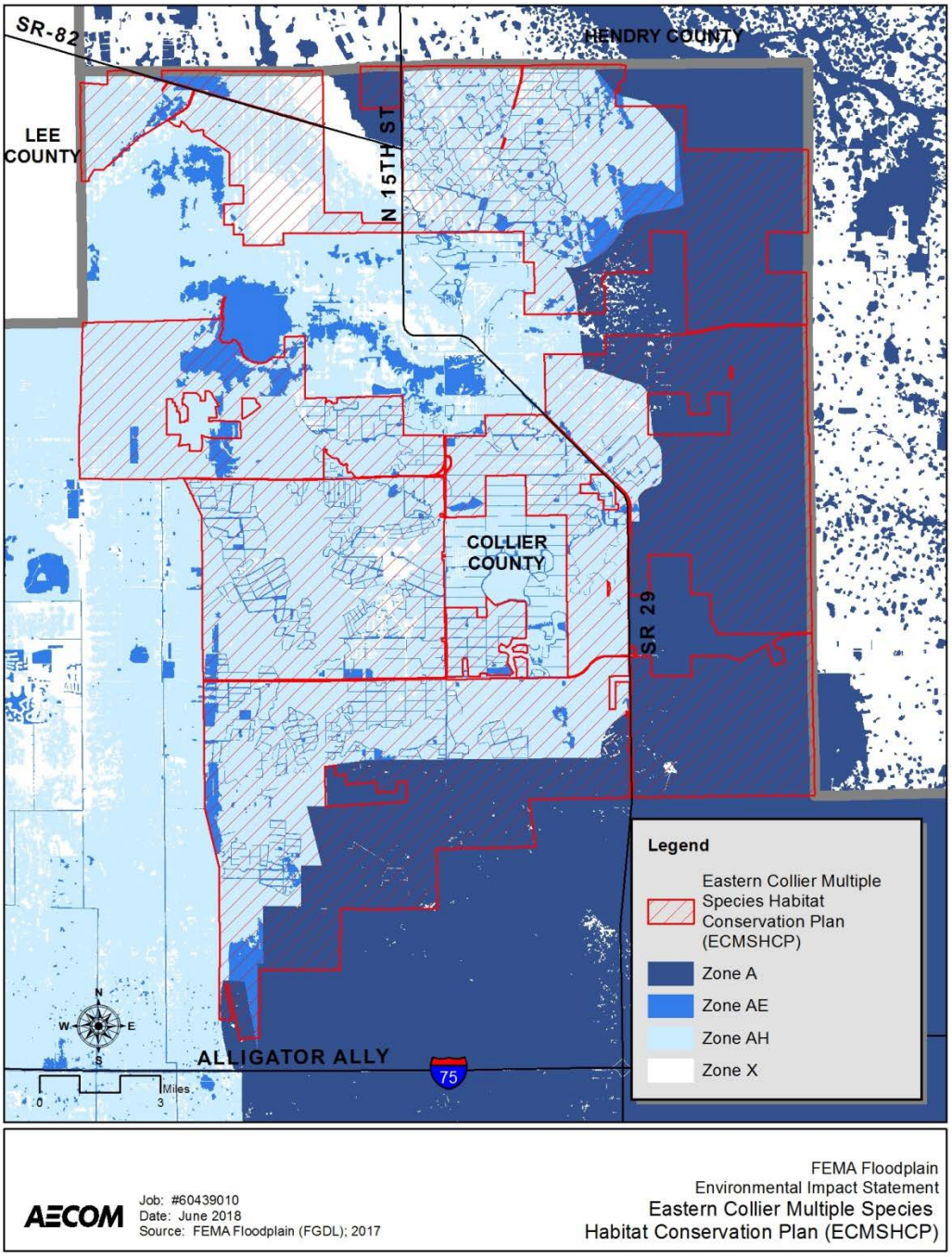
3.3.2 Floodplains

The Federal Emergency Management Agency (FEMA) conducts Flood Insurance Studies (FIS) in communities across the United States participating in the National Flood Insurance Program. The existing FIS for Collier County (FIS No. 12021CV000B) had an initial countywide effective date of November 17, 2005, and was updated May 16, 2012. The FIS and associated Digital Flood Insurance Rate Map (DFIRM) maps provide information to determine areas of inundation and flood elevations resulting from the following magnitude flood events: 10 percent annual chance (10-year); 2 percent annual chance (50-year); 1 percent annual chance (100-year); and 0.2 percent annual chance (500-year). The FIS and DFIRM maps categorize the risk at a particular location in terms of flood zones (FEMA 2012). The definitions of the FEMA flood zones defined within the ECMSHCP area are as follows:

- Zone A: This refers to areas affected by the 1 percent annual chance (100-year) flood, also termed the base flood. No base flood elevations (BFEs) have been determined for areas within Zone A.
- Zone AE: These are areas affected by the 1 percent annual chance flood that were determined by detailed analyses, and have BFEs established. Zone AE will generally extend inland to the limit of the 1 percent annual chance Stillwater Flood Level. Where BFEs are not provided, the depth of flooding in Zone AE exceeds 3 feet above land surface elevation.
- Zone AH: These are areas affected by the 1 percent annual chance flood that experience shallow flooding from rainfall with a constant surface water elevation (in areas of ponding) and flood depths of less than 3 feet.
- Zone X: These are areas that are outside of the 0.2 percent annual chance (500-year) floodplain.

Approximately 30 percent of the ECMSHCP area is located in Flood Zone A (Figure 3.3-1). In the ECMSHCP area, Flood Zone A is generally located east of SR 29 and south of the agricultural fields south of Oil Well Road (CR 858). Portions of the ECMSHCP area located within Flood Zone AE, often depressional areas, are generally concentrated along the western boundary of the ECMSHCP area and on the south shore of Lake Trafford north of Immokalee Road (CR 846). Flood Zone X areas are confined to a very small portion of the ECMSHCP area, located east of Corkscrew Swamp, north of Lake Trafford, and within the town center of Ave Maria. The remainder of the ECMSHCP area is located within Flood Zone AH; base flood depths will be less than 3 feet above land surface.

Collier County officials comprising the Floodplain Management Planning Committee authorized the development and adoption of a Floodplain Management Plan in March 2015 to reduce and eliminate risk to people and property from flood hazards (AMEC Foster Wheeler 2015).



Source: Flood Emergency Management Agency (FEMA) 2012.

Figure 3.3-1. Existing Federal Emergency Management Agency Flood Zones within East Collier Multiple Species Habitat Conservation Plan Area

3.4 AIR QUALITY

3.4.1 Scope of Analysis

This section briefly describes existing air quality in the vicinity of the ECMSHCP area in Collier County and its five neighboring counties (Hendry, Monroe, Lee, Broward, and Miami-Dade) where the Proposed Action would take place.

3.4.2 Existing Air Quality

Ambient air quality is determined by the type and amount (concentration) of pollutants emitted into the atmosphere, the size and topography of the air basin in question, and the prevailing meteorological conditions in that air basin. Through its passage of the Clean Air Act of 1970 (CAA) and its amendments, Congress has mandated the protection and enhancement of our nation's air quality. The USEPA has established the National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants to protect the public health and welfare: sulfur dioxide (SO_2), ozone (O_3), nitrogen dioxide (NO_2), particulate matter whose particles are less than or equal to 10 micrometers (PM_{10}), particulate matter whose particles are less than or equal to 2.5 micrometers ($PM_{2.5}$), carbon monoxide (CO), and lead (Pb).

Collier County monitors for two criteria pollutants: Ozone (O_3) and Particle Pollution ($PM_{2.5}$). Adjacent counties monitor for other criteria pollutants as shown in Table 3.4-1, per Florida's Air Monitoring Network Plan (FDEP 2018). Current standards and 2017 pollutant concentrations for counties in the vicinity of the ECMSHCP area that have air monitors are listed in Table 3.4-1 (USEPA 2017a). Areas in compliance with the NAAQS are designated "attainment" areas. Areas in violation of the NAAQS are designated as "nonattainment" areas, and new sources being located in or near these areas may be subject to more stringent air permitting requirements. Nonattainment areas are usually defined by county. National standards, other than annual standards, are not to be exceeded more than once per year (except where noted). Areas that cannot be classified on the basis of available information for a particular pollutant are designated as "unclassifiable" and are treated as attainment areas unless proven otherwise.

Current NAAQS standards and the pollutant concentration values for the proposed ECMSHCP area and neighboring counties are listed in Table 3.4-1. The ECMSHCP area and the neighboring counties are in compliance with applicable NAAQS (USEPA 2017b). Aside from Ozone (the 8-hour O_3 Standard concentration level is 0.06 parts per minute [ppm] as compared to the 0.07 ppm standard), the monitored pollutant concentrations are well below the standards.

Table 3.4-1. National Ambient Air Quality Standards and Design Values

Pollutant	Averaging Time	Level	Form	2017 Pollutant Concentration			
				Collier	Lee	Broward	Miami-Dade
Carbon Monoxide (CO)	8-hour	9 ppm	Not to be exceeded more than once per year	--	--	1.6	1.1
	1-hour	35 ppm		--	--	2.5	1.6
Lead (Pb) (1)	Rolling 3 month average	0.15 µg/m^3	Not to be exceeded	--	--	--	--
Nitrogen Dioxide (NO_2)	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	--	--	44.0	--
	Annual	53 ppb(2)	Annual mean	--	--	15.0	12.0
Ozone (O_3)	8-hour	0.070 ppm(3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	0.062	0.065	0.067	0.067
Particulate Matter (PM)	$PM_{2.5}$ Annual (primary)	12 µg/m^3	Annual mean, averaged over 3 years	--		9.8	
	$PM_{2.5}$ Annual (secondary)	15 µg/m^3	Annual mean, averaged over 3 years				
	$PM_{2.5}$ 24-hour	35 µg/m^3	98th percentile, averaged over 3 years	--		24.0	23.0
	PM_{10} 24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years	No exceedances			

Table 3.4-1. National Ambient Air Quality Standards and Design Values

Pollutant	Averaging Time	Level	Form	2017 Pollutant Concentration			
				Collier	Lee	Broward	Miami-Dade
Sulfur Dioxide (SO_2)	1-hour	75 ppb[4]	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	--	--	1.0	--
	3-hour	0.5 ppm	Not to be exceeded more than once per year	No exceedances			

ppm = parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per square meter
Sources: U.S. Environmental Protection Agency (USEPA) 2017c, USEPA 2017d, USEPA 2017e, USEPA 2017f.
Notes:
[1] In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 $\mu g/m^3$ as a calendar quarter average) also remain in effect.
[2] The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
[3] Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.
[4] The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a State Implementation Plan call under the previous SO_2 standards (40 Code of Federal Regulations 50.4(3)).

Collier County is part of the Naples-Immokalee-Marco Island, FL Metropolitan Statistical Area (USCB 2013). The CSA meets applicable federal and state air quality standards. Therefore, the Proposed Action would be located in a region with good air quality (USEPA 2017g).

The General Conformity regulations required under Section 176(c) of the CAA (42 USC Section 7506) and codified at 40 CFR Part 93 mandate that a federal agency undertaking, approving, funding, or otherwise supporting any action in areas violating the NAAQS must first prove that undertaking the action does not exacerbate existing violations of the NAAQS, cause new violations, or interfere with an established plan to improve or maintain air quality. The ECMSHCP area and surrounding areas are in compliance with all NAAQS; therefore, the General Conformity regulations of the CAA do not apply to the proposed project.

Fire is a natural occurrence within and around the ECMSHCP area, and many native vegetation communities are adapted to fire. In addition, prescribed fire is included in the covered activities for the ECMSHCP because it will be used for land management. Smoke and ash from wildfires, agricultural burns and prescribed fires temporarily affect air quality in the ECMSHCP area.

3.5 CULTURAL RESOURCES

For the purposes of cultural resources consultation, the Area of Potential Effect (APE) (defined per Section 106 of the NHPA) is defined as the ECMSHCP area. As ECPO members prepare individual project proposals consistent with the ECMSHCP, they will consult with the Florida State Historic Preservation Officer (SHPO) in accordance with state requirements. Conservation of any identified cultural resources that might be affected by an individual project would be implemented in accordance with state requirements.

3.5.1 Cultural Resource Setting

According to Floridahistory.org, Paleo-Indians inhabited Florida from about 12,000 years before Christ (BC) to about 7,500 years BC They were nomadic hunters that followed game animals. From 7,500 BC to 1,500 years anno Domini (AD) Native Americans became better at gathering food and tended to remain in an area for a longer period of time. The relied on bays and streams for fishing in the winter. They also developed pottery and farming, and participated in commerce with other Indian tribes outside

Florida. The Calusa, who dominated southwest Florida, were known to be good hunters and fishermen, and were also known for their sailing ability. As Europeans began to settle Florida in the 16th century, they relied on the same resources. Therefore, the most likely locations for cultural and historic resources are near waterways that provide fish and other aquatic animals for food, are frequented by terrestrial wildlife that can be hunted, and that can be used to travel to other locations. Because some Native Americans created large piles of discarded shells, these "hills" in a mostly low-elevation landscape can also indicate important areas.

3.5.2 Previous Surveys

A cultural resources analysis was conducted to identify the presence of previously recorded archaeological sites and historic resources within the ECMSHCP area that are listed in or eligible for listing in the National Register of Historic Places (NRHP) according to the criteria set forth in 36 CFR Section 60.4, and resources with confirmed or potential human remains. The methods used included a review of the Florida Master Site File (FMSF) GIS database, electronic copies of unpublished manuscripts, previous surveys that included portions of the ECMSHCP area, and FMSF resource forms. The results of this analysis are summarized in this section.

There have been 21 cultural resource studies conducted that have intersected with some portion of the APE (Figure 3.5-1). The majority of these (n=17) have been Cultural Resource Assessment Surveys (CRAS). The remainder of the surveys included one historical/architectural survey of Collier County as a whole, one reconnaissance review for a proposed cellular tower, one radar survey near Lake Trafford for a critical restoration project, and one survey that focused on a littoral area at the same lake. Table 3.5-1 provides a listing of these surveys, which were conducted between 1986 and 2017. The county-wide survey, as well as the earlier survey, may not meet the current state or federal standards for a cultural resource assessment survey.

Table 3.5-1. Previously Conducted Surveys that Intersect the Project Area of Potential Effect

Survey #	Title	Author(s)	Date
1108	Historical/architectural survey of Collier County, Florida	Florida Preservation Services	1986
8141	An Archaeological and Historical Survey of the Proposed DT Immokalee Tower Location in Collier County, Florida	Batategas, Juliet T.	2001
9082	Cultural Resource Reconnaissance Survey/ Section 106 Review Proposed Thorpe Road Cellular Tower (#10030116D) Thorpe Road, La Belle, Hendry County, Florida	Archaeological Consultants, Inc.	2003
9879	Cultural Resource Assessment Survey, Ave Maria Preliminary Development Agreement (PDA) Property, Collier County, Florida	Archaeological Consultants, Inc.	2004
10354	A Cultural Resource Assessment Survey, Ave Maria Development of Regional Impact (DRI) Property; Addendum to Cultural Resources Assessment Survey (CRAS) Ave Maria PDA Property, Collier County, Florida	Archaeological Consultants, Inc.	2004
11014	Cultural Resource Assessment Survey of the FPL Collier-Orange River # 3 230 KV Transmission Line: Segments A, C, and F Collier and Lee Counties	Janus Research	2005
11715	Cultural Resource Assessment Survey of the FPL Collier-Orange River # 3, 230 KV Transmission Line: Segment D, Collier County	Janus Research	2005
12898	Cultural Resource Assessment Survey of the Serenoa DRI Project Area, Collier County	Janus Research	2006
13684	Cultural Resource Assessment Survey Hogan Island Quarry, Collier County, Florida	Archaeological Consultants, Inc.	2006
14027	An Addendum to the Cultural Resource Predictive Model Collier Enterprises, LTD. The Tradeport DRI, Collier County, Florida	Archaeological Consultants, Inc.	2007

Table 3.5-1. Previously Conducted Surveys that Intersect the Project Area of Potential Effect

Survey #	Title	Author(s)	Date
14434	An Addendum to the Cultural Resource Predictive Model Collier Enterprises, LTD. Big Cypress Stewardship District, Collier County, Florida	Archaeological Consultants, Inc.	2007
14587	Lake Trafford Critical Restoration Project - Aquascan Radar Survey Report	Art Engineering, LLC	2004
14907	Cultural Resource Assessment Survey of S R 82 from Lee Boulevard to SR 29 Lee, Hendry and Collier Counties	Janus Research	2007
15050	Littoral Survey of Lake Trafford, Collier County	Hoffman, Kathleen S.	2008
16431	A Phase I Cultural Resource Assessment of the Alico Parcel, Collier County, Florida	Beriault, John G., Matthew Betz, and Robert S. Carr	2008
16907	Cultural Resource Assessment Survey Project Development and Environment (PD&E) Study SR 29 from North of SR 82 to south of CR 80A Collier and Hendry Counties, Florida	Archaeological Consultants, Inc.	2009
20872	Cultural Resource Assessment Survey Lee County Electric Cooperative (LCEC) SR 82 and SR 29 Distribution Line Replacement, Collier County, Florida	Archaeological Consultants, Inc.	2014
21923	Cultural Resource Assessment Survey Technical Memorandum Addendum Preferred Stormwater Treatment Areas, SR 82 from Gator Slough Lane to SR 29, Collier County, Florida. Financial Project ID No.: 430849-1-52-01	Archaeological Consultants, Inc.	2015
22651	Treatment of Cultural Resources Related to 3D Seismic Survey for Hendry Energy Services, Inc. in Hendry and Collier Counties, Florida	Miller, James J. and L. Ross Morrell	2014
23218	Cultural Resource Assessment Survey Tocala-Sunniland 3D Seismic Survey Project Collier and Hendry Counties, Florida	Archaeological Consultants, Inc.	2016
24480	Cultural Resource Assessment Survey Technical Memorandum, Preferred Ponds, Drainage Easements, and Right-of-Way, SR 82 from the Hendry County Line to Gator Slough Lane, Collier County, Florida, Financial Project ID No.: 430848-1-52-01	Archaeological Consultants, Inc.	2017

3.5.3 Previously Recorded Archaeological Sites

A search of the FMSF data identified 32 previously recorded archaeological sites within the ECMSHCP area, as shown in Table 3.5-2 and on Figure 3.5-2. These include 10 sites associated with the Seminole Wars that took place between 1817 and 1858, 18 precontact middens, three precontact mounds, and one collection of precontact canoes associated with Lake Trafford.

The 10 sites from the Seminole Wars period include 8 forts: Fort Simon Drum (8CR78), Fort Doane (8CR660), Fort Keais (8CR669), Fort Loomis (8CR1075), Fort Keais 2nd and 3rd Seminole War (8CR1079), Fort Kneas (8CR1080), Fort Doane 3rd Seminole War (8CR1078), and Fort Doane 2nd Seminole War (8CR1081), in addition to one campsite (Camp Near Depot No. 1 [8CR1076], and one supply depot (Depot No. 1 [8CR1077]). With the exception of 8CR78 (Fort Simon Drum), the locations of the sites associated with the Seminole Wars are uncertain and are based primarily on historical records. The exact locations of these sites have not been identified through archaeological investigations and their NRHP eligibility has not been evaluated.

In the 1940s, a survey marker was placed at the location of 8CR78 (Fort Simon Drum) and the original FMSF form notes the presence of a precontact component consisting of a black dirt midden. Limited archaeological investigations conducted at the site in 2016 identified subsurface evidence suggestive of walls, as well as 19th century artifacts. This site was determined to be NRHP eligible by the SHPO in 2016.

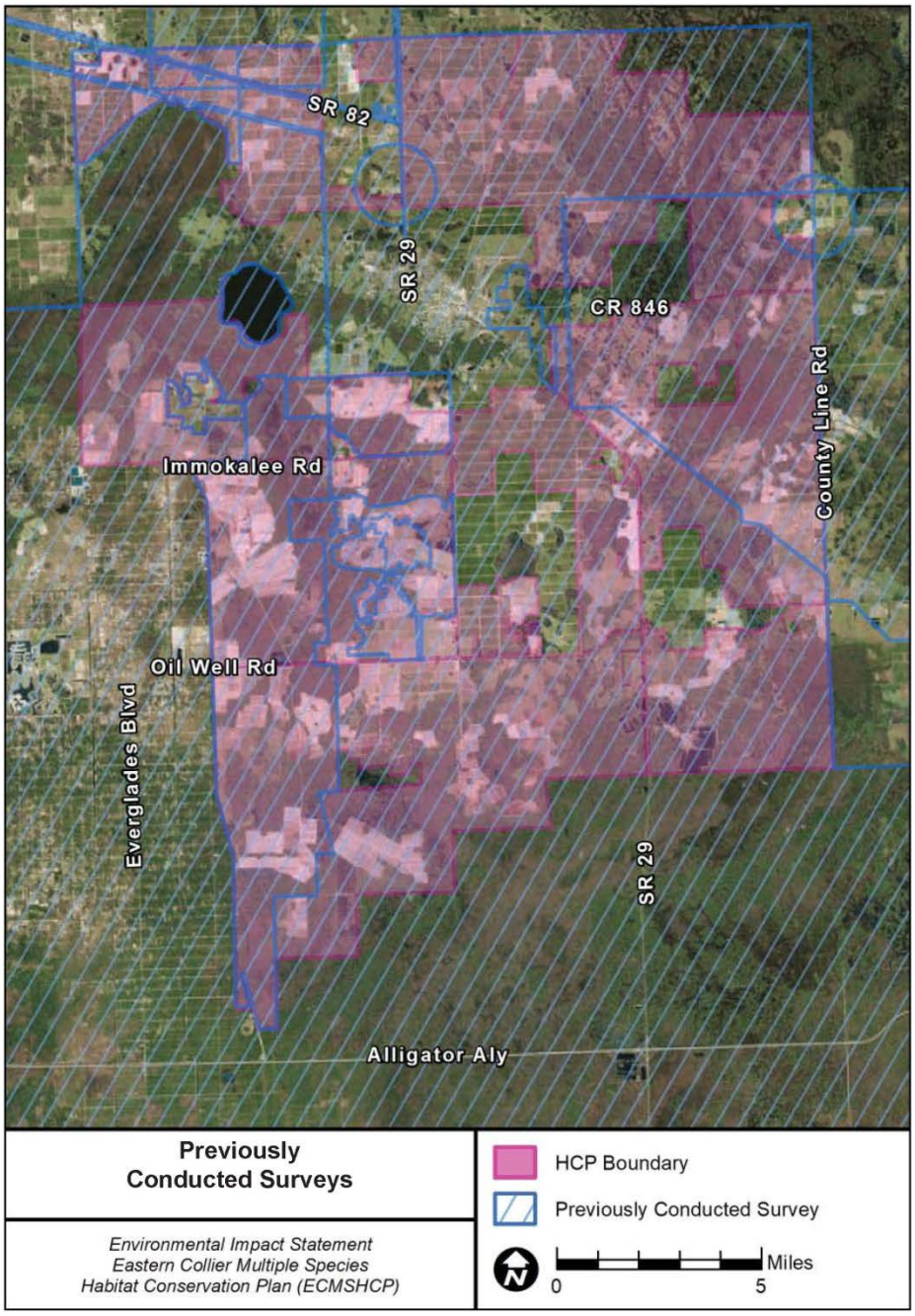


Figure 3.5-1. Previously Conducted Surveys

The majority of the 18 precontact midden sites (n=15) documented in the vicinity are small campsites recorded during a recent survey (ACI 2016). This group of sites (8CR1438-8CR1442 and 8CR1444-8CR1453) represents three general periods of occupation: Prehistoric-aceramic, Glades, and Late Archaic; it should be noted, however, that at least some of the aceramic sites may represent Late Archaic occupation (Janus 2008). Many of these campsites, primarily the ones containing only faunal bone, are very small (i.e., 25 meters in diameter or less). Of this group of 15 campsite middens, 6 have been determined NRHP ineligible, while the remaining 9 require additional testing to evaluate their eligibility status (Table 3.5-2).

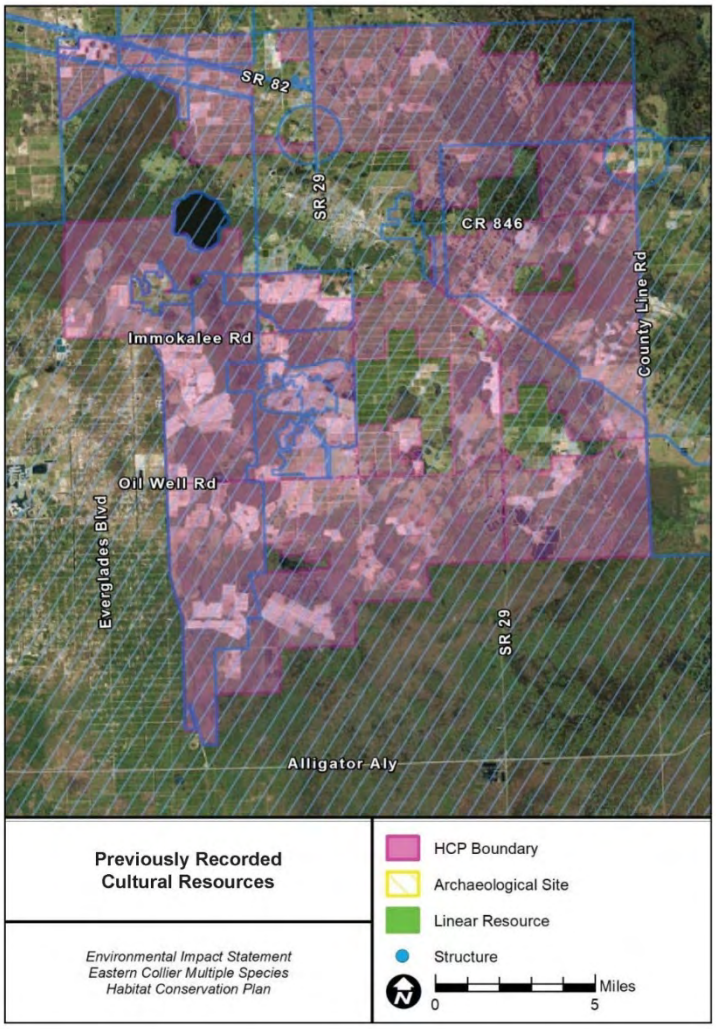


Figure 3.5-2. Previously Recorded Cultural Resources

Table 3.5-2. Previously Recorded Archaeological Sites within the East Collier Multiple Species Habitat Conservation Plan Area

Florida Master Site File (FMSF) #	Site Name	Site Type	National Register of Historic Places Evaluation*
8CR78	Fort Simon Drum	Seminole Wars period fort and pre-Columbian midden	Eligible
8CR86	Mound Crossing	Precontact sand mound	Not Evaluated
8CR563	Carlson's Caprock	Precontact midden and 20th century campsite	Not Evaluated
8CR660	Fort Doane	Seminole Wars period fort	Not Evaluated
8CR669	Fort Keais	Seminole Wars period fort	Not Evaluated
8CR859	Scofield Mound 1	Precontact campsite and mound	Not Evaluated
8CR860	Scofield Mound 2	Precontact mound	Not Evaluated
8CR1065	Lake Trafford Canoes	Precontact canoes	Not Evaluated
8CR1066	Lake Trafford	Precontact campsite and midden	Not Evaluated
8CR1073	Handfern Hammock	Precontact campsite and procurement site	Ineligible
8CR1075	Fort Loomis	Seminole Wars period fort	Not Evaluated
8CR1076	Camp Near Depot No. 1	Seminole Wars period campsite	Not Evaluated
8CR1077	Depot No. 1	Seminole Wars period depot	Not Evaluated
8CR1078	Fort Doane 3rd Seminole War	Seminole Wars period fort	Not Evaluated
8CR1079	Fort Keais 2nd and 3rd Seminole War	Seminole Wars period fort	Not Evaluated
8CR1080	Fort Kneas	Seminole Wars period fort	Not Evaluated
8CR1081	Fort Doane 2nd Seminole War	Seminole Wars period fort	Not Evaluated
8CR1438	Corridor Hammock	Precontact campsite, extractive site, and midden	Ineligible
8CR1439	Walsh Hammock	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1440	Fenno Hammock	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1441	Okaloacoochee Slough Hammock 1	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1442	Walker Hammock	Precontact campsite, extractive site, and midden	Ineligible
8CR1444	Nash Hammock	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1445	Gumbo Limbo Island Hammock 1	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1446	Gumbo Limbo Island Hammock 2	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1447	Gumbo Limbo Island Hammock 3	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1448	Okaloacoochie Point	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1449	Oak Point Hammock	Precontact campsite, extractive site, and midden	Ineligible
8CR1450	Ho Ho Hammock	Precontact campsite, extractive site, and midden	Insufficient Information
8CR1451	Gladys Hammock	Precontact campsite, extractive site, and midden	Ineligible
8CR1452	Godmother Hammock	Precontact campsite, extractive site, and midden	Ineligible
8CR1453	Contested Convention Hammock	Precontact campsite, extractive site, and midden	Ineligible

* As recorded in the FMSF; may require re-evaluation

The remaining precontact midden sites include Handfern Hammock (CR1073), the Lake Trafford site (8CR1066), and Carlson's Caprock (8CR563). Site 8CR1073 consists of a single freshwater snail shell and one sand-tempered plain sherd located on a slightly elevated oak hammock on the edge of Corkscrew Swamp. Although recorded as locally significant, the site was determined to be NRHP ineligible in 2009 by the SHPO. The Lake Trafford site (8CR1066) is a precontact campsite midden that has not been evaluated. Site 8CR563 was recorded as a multi-component site consisting of a precontact midden with faunal bones, shell, and a historic campsite dating between 1920 and 1950. The site was identified on the ground surface during a pedestrian survey, and its NRHP eligibility has not been evaluated.

The three precontact mounds include Scofield Mound 1 (8CR859), Scofield Mound 2 (8CR860), and Mound Crossing (8CR86). Both 8CR859 and 8CR860 were identified based on an informant report and brief site visits. No investigations have been conducted at these mounds, which may date from approximately 1000 BC to AD 750. Site 8CR86 is recorded as a sand mound with an unspecified precontact period origin; it was recorded based on a verbal description by an informant and its exact location is unknown. The NRHP eligibility of these three mound sites has not been evaluated.

The site associated with Lake Trafford includes a collection of canoes and canoe fragments recorded as 8CR1065 (Lake Trafford Canoes). They are located within and along the edges of the lake. Several pieces of canoe, including segments of the hull, as well as bow and stern sections of a vessel, are recorded within the ECMSHCP area, and their approximate locations are shown on Figure 3.5-2. Radiocarbon dates indicate that the canoes and canoe remnants date from A.D. 600 to AD 1200. The NRHP eligibility of this collection of canoes has not been evaluated.

3.5.4 Previously Recorded Historic Resources

The FMSF review identified 13 previously recorded historic resources, including 6 linear resources (8CR965–8CR969 and 8CR1406) and 7 historic structures (8CR668, 8CR670–8CR673, and 8CR1494-8CR1495). These resources are listed in Table 3.5-3 and shown on Figure 3.5-2. There are no resources currently listed in the NRHP.

The six linear resources consist of segments of three historic trams (Collier Enterprise Tram [8CR965], Big Corkscrew Island Tram [8CR968], and Tram Lines [8CR1406]), in addition to portions of three historic trails (Stumpy Strand Island [8CR966], Old Immokalee Naples Road [8CR967], and Tradeport Trail [8CR969]). All that remains of the trams are the grades and one remnant of a wooden bridge associated with the Collier Enterprise Tram (8CR965). All of the trams and trails were constructed in the 1950s. The SHPO noted that there is insufficient information to determine the NRHP eligibility for most of these linear resource segments, although 8CR1406 has been determined NRHP ineligible.

The seven previously recorded historic structures include cattle pens (8CR668) constructed circa 1945, one capped oil well (8CR670), and five 20th century Frame Vernacular buildings (8CR671-8CR673 and 8CR1494-8CR1495) with nonspecific dates of construction (Table 3.5-3). Two of the Frame Vernacular structures are associated with the Humble Oil Company, who established the first oil field (Sunniland) in Florida in the 1940s. These Humble Oil Company resources include one Frame Vernacular commissary (8CR672) and one Frame Vernacular office building (8CR673). A second commissary (8CR671) was associated with the Collier Corporation. The SHPO has not evaluated the NRHP eligibility of any of these resources. The remaining Frame Vernacular structures (8CR1494 and 8CR1495) date to the mid-1960s or later and have been judged NRHP ineligible.

Table 3.5-3. Previously Recorded Historic Resources within the East Collier Multiple Species Habitat Conservation Plan Area

Florida Master Site File (FMSF) #	Name / Address	Resource Type/Style	Year Built	SHPO National Register of Historic Places Evaluation*
8CR668	Cowpens	Cattle pens	Unknown	Not Evaluated
8CR670	Sunniland Field #12	Capped oil well	c1942	Not Evaluated

Table 3.5-3. Previously Recorded Historic Resources within the East Collier Multiple Species Habitat Conservation Plan Area

Florida Master Site File (FMSF) #	Name / Address	Resource Type/Style	Year Built	SHPO National Register of Historic Places Evaluation*
8CR671	Collier Corporation Commissary	Frame Vernacular building	Unknown	Not Evaluated
8CR672	Sunniland Commissary	Frame Vernacular building	c1943 or earlier	Not Evaluated
8CR673	Sunniland Office	Frame Vernacular building	c1943	Not Evaluated
8CR965	Collier Enterprise Tram	Linear resource segment; Historic tram trade segment and wooden bridge	Post-1950	Insufficient Information
8CR966	Stumpy Strand Island	Linear resource segment	Post-1950	Insufficient Information
8CR967	Old Immokalee Naples Road	Linear resource segment	Post-1950	Insufficient Information
8CR968	Big Corkscrew Island Tram	Linear resource segment	Post-1950s	Insufficient Information
8CR969	Tradeport Trail	Linear resource segment	1940s–1950s	Not evaluated in APE; adjacent segment is ineligible
8CR1406	Tram Lines	Linear resource segment	Post-1950	Ineligible
8CR1494	5086 Corkscrew Road	Frame Vernacular building	1964 or later	Ineligible
8CR1495	6081 SR 82	Frame Vernacular building	1965 or later	Ineligible

* As recorded in the FMSF; may require re-evaluation

3.6 VISUAL RESOURCES

Active agriculture (including cultivated crops, citrus, sod, pastures, and specialty crops) comprises approximately 50 percent of the HCP Area. Native wetlands account for approximately 38 percent of the total HCP Area, and are split roughly evenly between forested and non-forested (mainly herbaceous) wetland systems. Native uplands comprise 9 percent of the HCP Area, with forested uplands comprising over 88 percent of native uplands. Over 92 percent of the total native vegetation acreage within the HCP Area occurs within land designations slated for protection. Open water, consisting of major canals, and small lakes/ponds total 1,245 acres, or 1 percent of the HCP Area (Lake Trafford is not included within the HCP Area). Approximately 1 percent of the HCP Area consists of existing development, primarily the Town of Ave Maria.

3.7 SOCIOECONOMIC RESOURCES AND ENVIRONMENTAL JUSTICE

Socioeconomic resources are those that combine economic resources and social resources. Some think of these resources in terms of quality of life. A number of factors are incorporated into quality of life, including: (1) availability of good-paying jobs; (2) access to critical services, such as education and health care; (3) strong communities; and (4) a healthy natural environment (USFWS and Montana Department of Natural Resources 2010).

Environmental justice is the unbiased treatment and meaningful participation of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies (USFWS and Montana Department of Natural Resources 2010).

The HCP area only includes private lands whose landowners want to develop their land in a way that meets their economic goals while streamlining their regulatory requirements and assisting with the conservation of numerous species. Since this HCP does not include public lands or change regulations

for outside entities, this dEIS will not evaluate the alternatives in relation to socioeconomics or environmental justice.

3.8 TRANSPORTATION

This section describes existing and planned roadway networks and summarizes existing transportation conditions present within the Transportation Analysis Area (TAA).

3.8.1 Scope of Analysis

The existing roadway network within the ECMSHCP area is composed of state highways, county roads, and local roads. Interstate 75 passes just to the south of the ECMSHCP area, which is linked to other areas of Collier County and the region principally by SR 29, SR 82, CR 846 (Immokalee Road), CR 858 (Oil Well Road), and CR 850 (Corkscrew Road). The TAA discussed in this section focuses on the state and county regulated roadways within the ECMSHCP area described in the ECMSHCP. Figure 1, Study Area Roadways, and Table 1, Roadway Facility Inventory, presented in Appendix F, highlight the roadway network that is the focus of analysis.

To evaluate existing conditions and to provide a basis for a future traffic analysis, traffic data were collected for major roadway networks in the TAA. This data collection effort included a facilities inventory, review of FDOT traffic counts, roadway Level of Service (LOS) assessment, and the identification of current planned and programmed improvements. Appendix F presents several tables and figures that describe the existing and planned roadway network present within the TAA.

3.8.2 Existing Transportation Conditions

Existing (2017) Annual Average Daily Traffic (AADT) volumes and daily truck percentages for the roadways monitored by FDOT within the TAA are shown in tables included in Appendix F. Daily traffic volumes on roadways within the TAA range from 500 to 17,800 vehicles per day (vpd) and truck percentages from 4.1 to 52.7 percent. Table 2 in Appendix F presents measures of roadway performance including Standard K Factor, Directional Distribution, and Truck Factor. Standard K Factor represents the ratio of peak hour to annual average daily traffic, and provides an assessment of roadway usage during the peak period; the Directional Distribution (D) metric represents the percentage of the total two-way design hour traffic traveling in the peak direction, and provides an assessment of trip flow; and Truck Factor (Tf) which represents the percentage of truck traffic occurring during the peak hours.

3.8.3 Existing Streets and Highways Capacity Analysis

Quality of Service is a traveler-based perception of how well a transportation service or facility operates. LOS is a quantitative stratification of quality of service. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Within the exception of segments of SR 29 and SR 82, all major roadways within the TAA meet LOS targets and operate at LOS A, B, C, or D. Congestion was measured using the ratio of the traffic volume to the capacity of the roadway segment, referred to as the Volume/Capacity (V/C) ratio. A V/C ratio greater than 1.0 is considered "over capacity". Table 3 in Appendix F provides a summary of the existing characteristics compiled for streets and highways in the TAA where it shows that again all roadways with the exception of short segments on SR 29 and SR 82 within the TAA currently operate under capacity.

3.8.4 Traffic Demand and Levels of Service

The information of the assessments of highways based on the travel demand forecast generated by the land uses defined for the year 2040 were considered from the Collier County's 2040 Long Range Transportation Plan (LRTP). The travel demand model is based on the Existing plus Committed (E+C) transportation network. The E+C network is comprised of all existing facilities, plus those that have funding *committed* in the current Transportation Improvement Program (TIP) or other local capital improvement program. The E+C characterizes the transportation network expected to be in place, or nearly so, by the year 2020.

Intersection improvement at SR 82 and CR 580 (Corkscrew Road) has been identified as the committed improvement within the TAA. The travel demand model has assigned future year traffic volumes to the

E+C network. The facilities predicted to experience congestions in 2040 are listed below (Collier County's 2040 LRTP) within the TAA:

- Oil Well Road between Everglades Boulevard and Oil Well Grade Road
- SR 29 north of Immokalee Road
- Immokalee Road south of Carver Street

3.8.5 Regional Roadway Improvement Projects

Local and state planning efforts have identified several roadway improvements within the TAA. The County's 2040 LRTP needs plan identifies 22 roadway improvement projects in the 20-year planning horizon. Appendix F includes Table 4 that summarizes proposed roadway improvements and excerpts from the County's LRTP that identify needs based and cost affordable roadway plans. See Tables 5, 6 and Figures 2, 3 in Appendix F for documentation from the Collier County LRTP.

In addition the County's planning documents, the FDOT's tentative work program for FY 2016/17 – FY 2020/21 identifies roadway improvements on SR 29 and SR 82 within the TAA.

FDOT District One is conducting a Project Development and Environment (PD&E) Study for improvements to SR 29 in Collier County. The project limits extend a distance of approximately 17 miles along SR 29 from Oil Well Road northward to SR 82. The proposed roadway improvement consists of increasing capacity on SR 29 by evaluating the widening of the existing two-lane undivided segment of SR 29 to four lanes, as well as the study of an alternative corridor(s) that bypasses downtown Immokalee. The expansion of SR 29 from Oil Well Road to SR 82 is identified as a needs project within the Collier County Metropolitan Planning Organization 2040 LRTP and is consistent with Collier County's adopted Growth Management Plan. FDOT is also conducting a PD&E study to evaluate the proposed widening of 18 miles of SR 29 from SR 82 in Collier County, north to CR 80A in Hendry County (http://www.sr29.com).

FDOT District One has completed SR 82 PD&E study for the widening of approximately 23 miles of SR 82 from Lee Boulevard (CR 884) to SR 29 in Lee, Hendry, and Collier counties. The 3.2 mile section of SR 82 from Gator Slough Lane to SR 29 in Collier County proposed to be widened from a two-lane undivided roadway to an interim four-lane divided roadway while allowing for a six-lane roadway and intersection improvements at SR 82/SR 29 intersection are in design phase (http://www.sr82design.com).

3.9 BIOLOGICAL RESOURCES

3.9.1 Scope of Analysis

This section describes the existing biological resources of the ECMSHCP area, including ecological communities and the types of land cover, land use, and habitats present within the ECMSHCP area; a general description of common wildlife species likely to occur in ECMSHCP area habitats; and a discussion of wildlife habitat linkages and corridors in the ECMSHCP area.

3.9.2 Ecological Communities

All vegetative cover and land use classes within the ECMSHCP area were classified using the FNAI CLC, a partnership between the FWC and FNAI to develop ecologically based statewide land cover from existing sources and expert review of aerial photography. The land cover classes in the ECMSHCP area can be grouped into the following categories: agriculture, other developed, uplands-undeveloped, wetlands-forested, wetlands-marsh, and water (Table 3.9-1). Based on the CLC, upland developed and undeveloped land uses and habitats cover approximately 61 percent of the ECMSHCP area, while wetlands and other surface waters cover approximately 39 percent of the ECMSHCP area. Table 3.1-1 lists the acreage of each habitat type in the Covered Activities Area, the Plan-wide/Preservation Area, the Very Low Density Use Area, and the Base Zoning Area.

Table 3.9-1: Land Cover/Land Use/Habitat Types within the East Collier Multiple Species Habitat Conservation Plan (ECMSHCP) Area

Florida Natural Areas Inventory (FNAI) Cooperative Land Cover (CLC)[1]	Acres	Percentage of Total ECMSHCP area
Agriculture		
Cropland/Pasture	25,844	17.0
Orchards/Groves	28,131	18.5
Vineyard and Nurseries	40	0.03
Other Agriculture	1	0.001
Improved Pasture	16,250	10.7
Exotic Plants	920	0.6
Subtotal	**71,185**	**46.9**
Other Developed		
Transportation	411	0.3
Communication	3	0.002
Utilities	24	0.02
Extractive	69	0.05
Bare Soil/Clear Cut	7	0.005
Low Intensity Urban	1,228	0.8
High Intensity Urban	346	0.2
Rural	6,257	4.1
Cultural - Terrestrial	7	0.005
Subtotal	**8,353**	**5.5**
Uplands - Undeveloped		
Mesic Hammock	1,722	1.1
Scrub	9	0.01
Mesic Flatwoods	7,424	4.9
Scrubby Flatwoods	29	0.02
Palmetto Prairie	128	0.1
Mixed Hardwood-Coniferous	2,707	1.8
Shrub and Brushland	1,448	1.0
Subtotal	**13,468**	**8.9**
Wetlands - Forested		
Freshwater Forested Wetlands	4,897	3.2
Cypress/Tupelo(including Cy/Tu mixed)	2,011	1.3
Cypress	12,613	8.3
Isolated Freshwater Swamp	4,213	2.8
Dome Swamp	317	0.2
Strand Swamp	1,755	1.2
Other Coniferous Wetlands	24	0.02
Wet Flatwoods	2,637	1.7
Other Hardwood Wetlands	463	0.3
Hydric Hammock	120	0.1
Sub-total	**29,049**	**19.1**
Wetlands - Marsh		
Freshwater Non-Forested Wetlands	114	0.1
Prairies and Bogs	9,400	6.2
Marshes	17,060	11.2
Isolated Freshwater Marsh	1,895	1.2

Table 3.9-1: Land Cover/Land Use/Habitat Types within the East Collier Multiple Species Habitat Conservation Plan (ECMSHCP) Area

Florida Natural Areas Inventory (FNAI) Cooperative Land Cover (CLC)[1]	Acres	Percentage of Total ECMSHCP area
Sub-total	**28,469**	**18.8**
Water		
Lacustrine	58	0.04
Natural Lakes and Ponds	22	0.01
Cultural - Lacustrine	1,050	0.7
Cultural - Riverine	125	0.1
Sub-total	**1,255**	**0.8**
TOTAL	**151,779**	**100**

Notes:
[1] FNAI CLC (CLC is a partnership between the Florida Fish and Wildlife Conservation Commission and FNAI to develop ecologically based statewide land cover from existing sources and expert review of aerial photography). Source: Version 3.2.5 published October 2017.

3.9.3 General Wildlife

Wildlife species, other than Covered Species, that occur within the ECMSHCP area include species characteristic of the types of undeveloped habitats present within the ECMSHCP area and elsewhere in southwest Florida, including wetland forests, marshes, and upland forests and prairies, as well as species that have adapted to the use of habitats associated with crop cultivation, orchards, pasture, and other developed land uses. These species are typical of those found in similar habitats of southwest Florida.

Larger mammal species expected to occur commonly within the ECMSHCP area include American black bear (*Ursus americanus*), white-tailed deer (*Odocoileus virginianus*) and feral hog (*Sus scrofa*). Smaller mammals with the potential to occur in the area include the nine-banded armadillo (*Dasypus novemcinctus*), fox squirrel (*Sciurus niger*), river otter (*Lontra canadensis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), marsh rabbit (*Sylvilagus palustris*), and various mice and rats.

The ECMSHCP area provides suitable habitat for a diversity of bird species, including perching birds such as the northern mockingbird (*Mimus polyglottos*), Carolina wren (*Thryothorus ludovicianus*), cardinal (*Cardinalis cardinalis*), American robin (*Turdus migratorius*), American crow (*Corvus brachyrhynchos*), yellow-rumped warbler (*Dendroica coronata*), and brown thrasher (*Toxostoma rufum*); wading birds such as the green heron (*Butorides virescens*), great egret (*Ardea alba*), and cattle egret (*Bulbulcus ibis*); waterfowl such as the wood duck (*Aix sponsa*); water birds such as the anhinga (*Anhinga anhinga*) and double-crested cormorant (*Phalacrocorax auritus*); raptors such as the turkey vulture (*Cathartes aura*), black vulture (*Coragyps atratus*), red-tailed hawk (*Buteo jamaicensis*), and barred owl (*Strix varia*); and game birds such as the wild turkey (*Meleagris gallopavo*) and bobwhite quail (*Colinus virginianus*).

Reptiles expected to occur in the habitats within the ECMSHCP area include the American alligator (*Alligator mississippiensis*), black racer (*Coluber constrictor*), corn snake (*Pantherophis guttatus*), cottonmouth (*Agkistrodon piscivorus*), Florida box turtle (*Terrepene carolina bauri*), Florida chicken turtle (*Deirochelys reticularia chrysea*), peninsula cooter (*Pseudemys floridana peninsularis*), Florida softshell turtle (*Apalone ferox*), and brown anole (*Anolis sagrei*). Amphibians likely to occur in the area include the common toad (*Bufo terrestris*), pine woods treefrog (*Hyla femoralis*), green treefrog (*Hyla cinerea*), Florida cricket frog (*Acris gryllus dorsalis*), greater siren (*Siren lacertina*), and two-toed amphiuma (*Amphiuma means*).

Fish species that occur in water bodies within the ECMSHCP area are expected to include common native and introduced species such as the black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), redear sunfish (*Lepomis microlophus*), tilapia (*Tilapia* spp.), mosquito fish (*Gambusia holbrooki*), flagfish (*Jordanella floridae*), and various species of catfish.

3.9.4 Wildlife Habitat Linkages and Corridors

Habitat fragmentation occurs when areas of habitat used by particular species are separated by development, clearing, or other activities, which prevent or inhibit the movement of individuals between habitats. The maintenance of a network of habitat linkages, or corridors, facilitates the movement of individuals between larger areas of suitable habitat, supports the ability of species to migrate to areas of better habitat, promotes gene flow and genetic diversity in populations, and allows for a more natural process of migration and colonization than is possible when habitat areas are isolated.

The FPNWR and BCNP that border the ECMSHCP area to the south are public conservation lands that support the core population area for the FP. The Okaloacoochee Slough State Forest (OSSF) that borders the ECMSHCP area to the north and east, is heavily utilized by panthers, and serves as a landscape linkage in a panther dispersal corridor leading to the Caloosahatchee River and then northward into central Florida. Adjacent to the ECMSHCP area to the west are the privately owned, 13,000-acre Audubon Corkscrew Swamp Sanctuary, containing the largest breeding colony of threatened wood storks in South Florida, and the publicly owned conservation lands of the CREW. Thus, the ECMSHCP area occupies a strategic location that currently provides important, landscape-scale habitat linkages of high value to the FP and other species. Specifically, these regional linkages connect the BCNP, FPNWR, Fakahatchee Strand Preserve State Park (FSPSP), and Picayune Strand State Forest (PSSF) south of the ECMSHCP area to the CREW, OSSF, Dinner Island Ranch Wildlife Management Area, and Spirit of the Wild Wildlife Management Area to the west, north, and northeast. These linkages also allow the dispersal of panthers from the core population south of the ECMSHCP area to a dispersal zone north of the ECMSHCP area and south of the Caloosahatchee River, facilitating potential panther expansion into areas north of the river.

3.9.5 Migratory Birds

Several bird species that occur within the ECMSHCP area are not listed under ESA, but are subject to the MBTA. The Service's *Information for Planning and Consultation* website identifies up to 26 non-listed bird species that may occur within the ECMSHCP area and are subject to MBTA regulations. Many of these species primarily use coastal habitats (e.g., beaches, mangroves) and occur infrequently in the ECMSHCP area. Others, such as the swallow-tailed kite, limpkin, and red-headed woodpecker, occur consistently in the area and could potentially be impacted by ECMSHCP-related activities. While a permit is required under the MBTA only when take is purposeful, the Service encourages landowners to incorporate conservation measures for MBTA species into their projects.

3.9.6 Bald Eagles

Although the bald eagle (*Haliaeetus leucocephalus*) was removed from the endangered species list in 2007, it remains protected under federal law by the MBTA and the BGEPA, and under Florida State law (68A-16.002, Florida Administrative Code [F.A.C.]). At least two bald eagle nests are currently documented within the ECMSHCP boundary, and another five eagle nests are documented within a mile of the ECMSHCP area boundary. The two bald eagle nests documented within the ECMSHCP boundary are located in areas designated for preservation.

3.10 FEDERALLY LISTED AND CANDIDATE SPECIES

This section describes the federally listed species, other federal species of concern, and state-listed species potentially occurring in the ECMSHCP area. These species include eight federally listed species, nine state-listed species including one candidate for federal listing, and two other federal species of concern that have been petitioned for federal listing and currently are under status review (Table 3.10-1). Species profiles for each of these species are provided in the ECMSHCP and on the Service's websites (https://www.fws.gov/verobeach/; https://ecos.fws.gov/ecp/), and relevant aspects of each species profile are briefly summarized below. The detailed profiles include tables of major land cover and habitat types within the ECMSHCP area related to species requirements for activities such as breeding, foraging, and nesting.

Table 3.10-1: Federal and State Listed and Candidate Species and Other Species of Concern

Scientific Name	Common Name	Federal Status[1]	State Status[2]
Federally Listed			
Aphelocoma coerulescens	Florida scrub jay	T	FT
Drymarchon corais couperi	Eastern indigo snake	T	FT
Eumops floridanus	Florida bonneted bat	E	FE
Mycteria americana	Wood stork	T	FT
Picoides borealis	Red-cockaded woodpecker	E	FE
Polyborus plancus (= Caracara cheriway)	Audubon's (= Northern) crested caracara	T	FT
Puma concolor coryi	Florida panther	E	FE
Rostrhamus sociabilis plumbeus	Everglade snail kite	E	FE
State Listed			
Athene cunicularia	Burrowing owl	NL	ST
Egretta caerulea	Little blue heron	NL	ST
Egretta tricolor	Tricolored heron	NL	ST
Falco sparverius paulus	Southeastern American kestrel	NL	ST
Gopherus polyphemus	Gopher tortoise	C[3]	ST
Grus canadensis pratensis	Florida sandhill crane	NL	ST
Neovison vison evergladensis	Everglades mink	NL	ST
Platalea ajaja	Roseate spoonbill	NL	ST
Sciurus niger avicennia	Big Cypress fox squirrel	NL	ST
Other Species of Concern			
Crotalus adamanteus	Eastern diamondback rattlesnake	NL[4]	NL
Lithobates capito	Gopher frog	NL[4]	NL[5]

[1] As listed by the U.S. Fish and Wildlife Service in 50 Code of Federal Regulations 17. Federal status: E = endangered, T = threatened, C = candidate for listing, NL = not listed

[2] As listed by the Florida Fish and Wildlife Conservation Commission (FWC) pursuant to Rule 68A-27, Florida Administrative Code. State status as designated by the FWC (May 2017): FE = federally designated as endangered, FT = federally designated as threatened, ST = state designated as threatened, NL = not listed

[3] Candidate in the eastern part of the range and listed in the western part

[4] Not listed but petitioned for federal listing and currently under status review

[5] No longer listed as of January 11, 2017, but part of the Imperiled Species Management Plan

3.10.1 Florida Bonneted Bat

The Florida bonneted bat (FBB) (*Eumops floridanus*) is federally listed as endangered under the ESA of 1973. Its state status is "federally designated as endangered" under Florida's Endangered and Threatened Species rule. The FBB is a member of the Molossidae (free-tailed bats) family, and is the largest bat in Florida. Critical habitat has not been designated for this species. Endemic to Florida, the FBB has one of the most restricted distributions of any bat species in the New World (Belwood 1992; Timm and Genoways 2004). Acoustical data, known roosts, and other information indicate that the species uses forests and a variety of other natural and developed areas in south, southwest, and south-central Florida (see Life History, Habitat, and Table 1 of listing rule, USFWS 2014a). Population size is not known, but is thought to be less than that needed for optimum viability (USFWS 2014a).

Roosting habitat includes forest and other areas with tall, mature trees or other areas with suitable roost structures (e.g., utility poles, artificial structures) The FBB roosts singly or in colonies consisting of a male and several females (Belwood 1992; Ober et al. 2016). FBBs feed on flying insects (Belwood 1981, 1992). Various morphological characteristics (e.g., narrow wings, high wing-aspect ratios) make Eumops species well-adapted for efficient, rapid, and prolonged flight in open areas (Findley et al. 1972; Freeman 1981; Norberg and Rayner 1987 Data on other Eumops showed foraging bouts ranged up to 15 miles from roost sites, and that bats traveled 12.4 to 18.6 miles or more (Tibbitts et al. 2002). Based upon new data recovered from GPS satellite tags on FBB, the maximum distance an individual bat has been detected from its capture site is 24.2 miles (Ober 2016). Habitat loss and alteration in forested and urban areas are substantial threats to the FBB (USFWS 2014a; Bailey et al. 2017). FBB has been documented

in Collier County and it uses a diverse array of habitat types (USFWS 2014a); therefore, it is likely to occur within the ECMSHCP area and all of Collier County areas located within the (USFWS 2014a). The ECMSHCP area is located within the FBB Consultation Area.

3.10.2 Audubon's Crested Caracara / Northern Crested Caracara

The Florida population of the Audubon's (=northern) crested caracara (*Polyborus plancus* [= *Caracara cheriway*]) is federally listed as threatened, and its state status is "federally designated threatened." Federal protection also is provided by its listing under the MBTA. The Audubon's crested caracara (ACC) is a large raptor with a crest, naked face, heavy bill, elongated neck, and long legs (USFWS 2014a). Critical habitat has not been designated for this species. The ACC is a resident, non-migratory species. Florida's population of caracara is found in the prairie area of the south-central region of the state, from about Polk and Osceola Counties southward to Collier and Broward Counties. The size of Florida's ACC population remains in question; statewide population is estimated to be between 400 and 500 birds (USFWS 2014a). The Florida population of ACC is isolated and habitat specific. Critical habitat has not been designated for the ACC.

ACCs are highly opportunistic in their feeding habits, eating carrion and capturing live prey (Morrison 2001). The ACC in Florida historically inhabited native dry or wet prairie areas containing scattered cabbage palms, their preferred nesting tree. Within agricultural lands, regular mowing, burning, and high-density grazing may maintain low vegetative structure, an important habitat characteristic of the caracara's nest stand area (USFWS 2014a). The ACC appears to be exploiting pastures, ditches, and impounded wetlands that have replaced the historic land (Morrison 2001; USFWS 2014a). The vegetation structure of open grasslands (short-stature vegetation, scattered shrub cover, and nest trees) may be preferred by the caracara, due to its tendency to walk on the ground during foraging activities. Adult ACCs are generally territorial. The great majority of caracara breeding territories occur primarily within the ranchlands of central and southwest Florida. Nesting occurs during the winter months. ACCs generally flush from nests during incubation or early nestling stages when the disturbance source is within 1,000 feet of the nest (Morrison 2001). The ECMSHCP area falls within the USFWS Consultation Area for the ACC. In addition, a "gathering" area has been identified in the north-central portion of the ECMSHCP area.

3.10.3 Wood Stork

The wood stork (*Mycteria americana*) is federally listed as threatened, and its state status is "federally designated as threatened." The wood stork (WS) also is afforded protection under the MBTA. No critical habitat has been designated for the WS. The WS is a large, long-legged wading bird. Only the population segment that breeds in the southeastern United States is listed as threatened. In the United States, wood storks were historically known to nest in all coastal states from Texas to South Carolina (USFWS 2016a). In southwest Florida, both adult and juvenile storks consistently disperse northward following fledging. Adults and juveniles return southward in the late fall and early winter months. Wetlands are heavily used by a large portion of the southeastern United States WS population and sub-adult storks from throughout the species' range. Recent population estimates indicate the WS population has reached its highest level since it was listed as endangered in 1984.

WS nesting habitat consists of mangroves as low as 3 feet, cypress trees as tall as 100 feet, and various other live and dead shrubs or trees located in standing water, in permanently inundated wetlands, or on islands surrounded by relatively broad expanses of open water. Frequently used roosting locations include cypress domes or swamps, mangrove islands, expansive willow thickets or small isolated willow islands in broad marshes, and on the ground either on levees or in open marshes (Ogden 1990). The USFWS recognizes the area within 18.6 miles of the nesting WS colony as the Core Foraging Area (CFA) (USFWS 2014a). The ECMSHCP area is located within the CFA of at least six active WS colonies, three of which are directly located in the ECMSHCP area. WS forage in a wide variety of wetland types where fish are available and the water is shallow and open enough to hunt successfully (USFWS 2016a). The primary cause of the WS population decline in the United States was the loss of wetland habitats or loss of wetland function that resulted in reduced prey availability.

3.10.4 Red-Cockaded Woodpecker

The red-cockaded woodpecker (*Picoides borealis*) is federally listed as endangered, and its state status is "federally designated as endangered." The red-cockaded woodpecker (RCW) also is afforded protection under the MBTA. No critical habitat has been designated for the RCW. The current distribution of this territorial species (endemic to open, mature and old growth pine ecosystems) is restricted to the remaining fragmented parcels of suitable pine forest in 11 southeastern states, including Florida (USFWS 2014b). In southwest Florida, there are an estimated 85 active RCW clusters; 51 percent are on federal lands, 35 percent are on state lands, and 14 percent are on private lands. This non-migratory species is a local, year-round resident of Florida (USFWS 2014b). Home range size in central Florida is 319 acres and 269 acres in northwestern Florida (USFWS 2003).

RCWs require open pine woodlands and savannahs with large old pines for nesting and roosting habitat (clusters). The RCW is the only North American woodpecker that exclusively excavates its roost and nest cavities in living pines. Minimum age of cavity trees for nesting (pines) is 60 to 80 years depending on the tree and site factors. Cavity trees must be in open stands with little or no hardwood midstory and few or no overstory hardwoods. Suitable foraging habitat consists of mature pines with an open canopy, low densities of small pines, little or no hardwood or pine midstory, few or no overstory hardwoods, and abundant native bunchgrass and forb groundcovers. RCW populations are unusually resistant to environmental and demographic variation, but highly sensitive to the spatial arrangement of habitat. If groups are isolated in space, dispersal of helpers to neighboring territories is disrupted and populations become much less likely to persist through time (USFWS 2003). The southwestern portion of the ECMSHCP area falls within the USFWS Consultation Area for the RCW. Based on the USFWS's available GIS data, no active RCW clusters have been documented within the ECMSHCP area. However, several active clusters have been documented within 6 to 7 miles of the ECMSHCP area.

3.10.5 Florida Panther

The Florida panther (*Puma concolor coryi*) currently exists as a single breeding population located in southern Florida and represents the only breeding population of puma east of the Mississippi River. The Florida panther (FP) is federally listed as endangered, and its state status is "federally designated as endangered." Critical habitat has not been designated for the FP. The core range occupied by breeding adults comprises approximately 1.38 million acres south of the Caloosahatchee River (Frakes et al. 2015). A larger area south of the Caloosahatchee River covering approximately 3.11 million acres includes the core adult breeding area, lower quality landscapes used by transient panthers, and a small wildlife corridor leading into central Florida (Kautz et al. 2006). This area was mapped as three distinct regions by Kautz et al. (2006): The Primary Zone (approximately 2.3 million acres) was defined as lands essential to the long-term viability and survival of the FP; Secondary Zone (approximately 810,000 acres) was defined as "natural and disturbed lands in south Florida that may be important to transient sub-adult male panthers and have the potential to support an expanding panther population"; and the Dispersal Zone (approximately 28,000 acres) was defined as a small wildlife corridor east of LaBelle, Florida, intended for protection to facilitate long-term movements of panthers out of southwest Florida and into central Florida north of the Caloosahatchee River (Figure 3.10-1). Two adult females, one with kittens, were documented in Charlotte and Highlands County in March 2017, the first time since 1973 that females have been confirmed north of the Caloosahatchee River, but it is premature to conclude that this marks an expansion of the breeding range.

Habitat of the FP is an extensive landscape comprised of a mix of natural, semi-natural, and agricultural uses. Highest ranking habitats are pinelands, upland hardwood forests, hardwood swamps, and cypress swamps (Comiskey et al. 2002, Kautz et al. 2006, Land et al. 2008, Onorato et al. 2011, Frakes et al. 2015); Females consistently select den sites in areas with extremely dense understory vegetation, such as palmetto thickets, shrub, or vines (USFWS 1999). Primary prey species are white-tailed deer, wild hogs, marsh rabbits, raccoons, and armadillos (Onorato et al. 2010).

FPs have occurred within the ECMSHCP area for more than three decades. Approximately 117,452 acres of the ECMSHCP area are in the Primary Zone, and the ECMSHCP area comprises 5.2 percent of the total area of this zone. The most abundant Primary Zone cover types in the ECMSHCP area are wetland forests, herbaceous and shrub-dominated wetlands, croplands, and citrus groves. Approximately

35,210 acres of the Secondary Zone are within the ECMSHCP area, which accounts for 4.3 percent of this zone. Agricultural lands (excluding pasture lands) dominate the area of the ECMSHCP within the Secondary Zone. The primary pathways, or corridors, used by panthers in the vicinity of the ECMSHCP area are Okaloacoochee Slough between BCNP and OSSF, and Camp Keais Strand between FPNWR and CREW. Approximately 80,600 acres of adult breeding range habitat are within the ECMSHCP area. Approximately 53 percent of the ECMSHCP area has been mapped as adult breeding range habitat (Primary Zone) as defined by Kautz et al. 2006, and the mapped habitats within the ECMSHCP area comprise approximately 5.85 percent of these adult breeding range habitats.

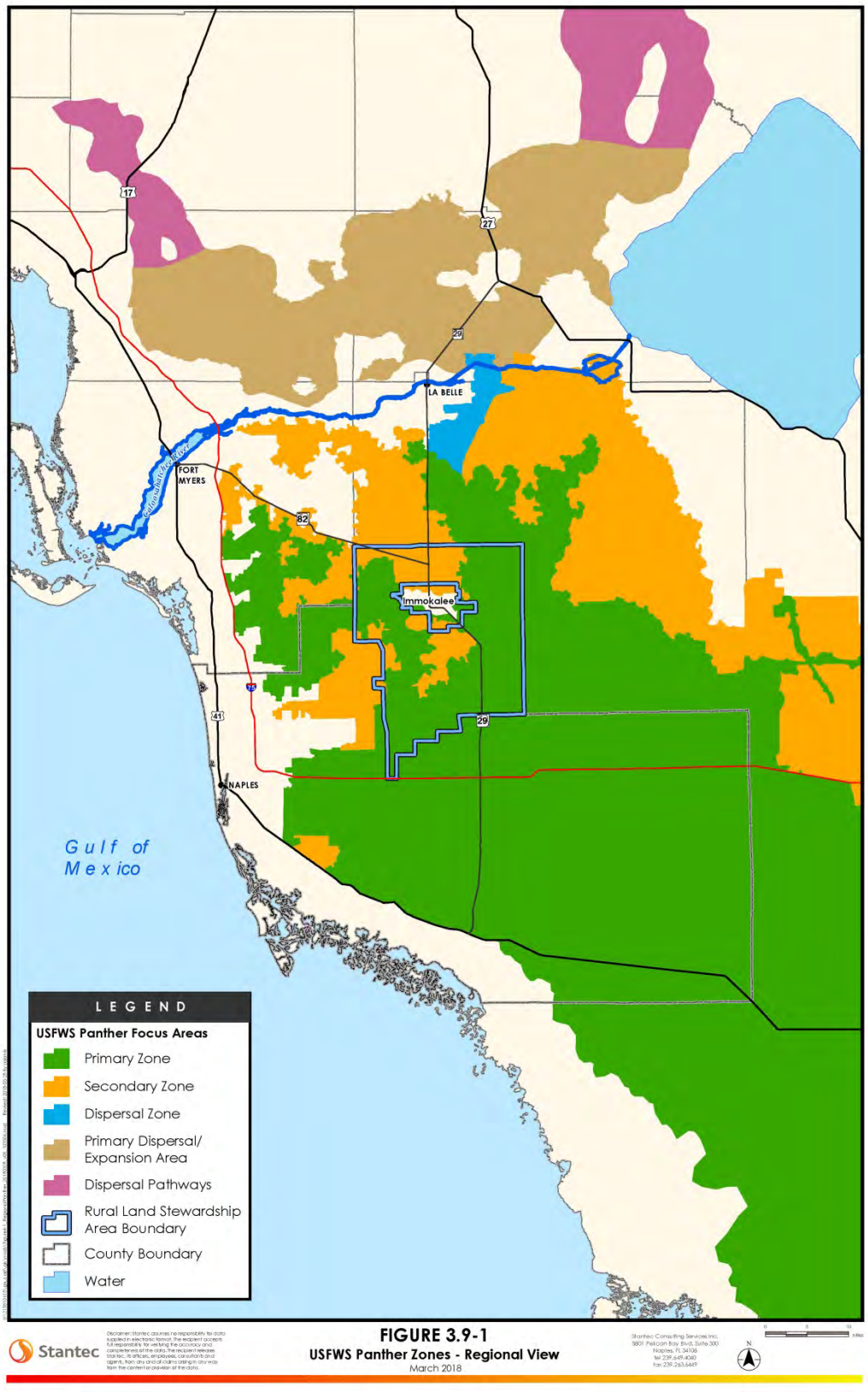


Figure 3.10-1. U.S. Fish and Wildlife Service Panther Zones – Regional View

VHF-telemetry data and GPS-telemetry data from FWC show that collared panthers primarily use natural and agricultural lands south of CR 858 to the FPNWR and BCNP, habitats associated with Okaloacoochee Slough east of Immokalee and SR 29, and natural habitats associated with Camp Keais Strand in the western half of the ECMSHCP area. Most records of panther dens in the ECMSHCP area are south of CR 858 within 2 to 3 miles on either side of SR 29 north of FPNWR and BCNP.

The Service recognizes that both panther telemetry locations and panther den locations, derived from telemetry, have telemetry bias. This bias stems from the fact that panthers that have been collared were collared on public land. These panthers used adjacent private lands, but do not provide the entire record of private land use in the ECMSHCP area. The dens that have been recorded in the ECMSHCP area can be seen as confirmation that denning does occur, but not as an indication that these are the only areas where denning occurs. Likewise, telemetry locations indicate the major corridors for panthers through the ECMSHCP area, but should not be used to conclude that the reduced number of telemetry locations in the rest of the ECMSHCP area indicates these areas are used infrequently.

Recent studies have estimated panther densities in the vicinity of the ECMSHCP area. Sollmann et al. (2013) generated panther density estimates using a capture-recapture model based on two different 9-month camera trap surveys conducted in the Picayune Strand Restoration Project. They estimated a density of 1.51 panthers per 100 square kilometers (km^2) in the first 9-month period and 1.46 panthers per 100 km^2 in the second 9-month period. Dorazio and Onorato (2015) did a similar analysis based on one set of camera traps placed in the FPNWR and adjacent portions of the FSPSP and the PSSF; and another set places in the Addition Lands of the BCNP. The cameras were out for six 30-day periods and one 19-day period, and the model was a modified version of the one used by Sollmann et al. (2013). The density estimate for the BCNP was 1.37 panthers per 100 km^2, and the estimate for the FPNWR and adjacent area was 5.91 panthers per 100 km^2.

A review of panther mortality information maintained by FWC reveals that vehicle strike mortalities are the number one cause of panther mortality. Panther injuries and mortality due to vehicle strikes are also another source of information about areas that are used by panthers. Panther vehicle strike records along SR 29, CR 846, and CR 858 within the ECMSHCP area transect areas of highest use by panthers. Within the ECMSHCP area, 28 vehicle strike mortalities (6 from beginning of 2013 to now) have occurred along SR 29 south of Immokalee and 2 north of Immokalee (1 from beginning of 2013 to now), 6 vehicle strike mortalities (2 from beginning of 2013 to now and one of these in 2018) have occurred along CR 846 west of Immokalee and 10 east of Immokalee (4 from beginning of 2013 to now and 1 of these in 2018), and 6 vehicle strike mortalities (3 from beginning of 2013 to now) and 1 injury have occurred along CR 858 (all east of Camp Keals Road). There is one wildlife underpass on the west side of CR846 and one on the east side, both in areas where a number of mortalities occurred. There are also two underpasses along the western side of CR 858 west of Camp Keals Road, but not near recorded mortalities.

3.10.6 Florida Scrub-jay

The Florida scrub jay (*Aphelocoma coerulescens*) is federally listed as threatened, and its state status is "federally designated as threatened." The Florida scrub jay (FSJ) also is afforded protection under the MBTA. Critical habitat has not been designated for this species. The FSJ is restricted to peninsular Florida. The FSJ is similar in size and shape to the blue jay (*Cyanocitta cristata*), but differs significantly in coloration and lacks the crest (USFWS 2015). Historically, oak scrub habitat used by the FSJ occurred as numerous isolated patches in peninsular Florida. A statewide FSJ census was last conducted in 1992 and 1993, at which time there were an estimated 4,000 pairs of FSJ s left in Florida; within Collier County, the census resulted in 53 FSJ s among 19 total groups (mean group size = 2.79) (Fitzpatrick et al. 1994). The FSJ is non-migratory and permanently territorial. Dispersal distance is approximately 5 miles (USFWS 2015). Brushy pastures, scrubby corridors along railway and road rights-of-way, and open burned flatwoods offer links for colonization. Territory size averages 22 to 25 acres, with a minimum size of about 12 acres.

FSJ nests are typically constructed in shrubby oaks. FSJs forage mostly on or near the ground, often along the edges of natural or man-made openings. Habitat occurs as patches of oak scrub within a matrix of little-used habitat of saw palmetto and herbaceous swale marshes. These native matrix habitats supply prey for FSJ s and habitat for other species of conservation concern (USFWS 2015). Acorns are the

principal plant food. The FSJ prefers xeric oak scrub habitats within the ancient dune systems of peninsular Florida. The ECMSHCP area is located within the USFWS Consultation Area for the FSJ. However, no FSJ s have been documented within the ECMSHCP area since the 1992-1993 census survey. The ECMSHCP area also falls within a portion of the Lee-Collier metapopulation, which was shown to be highly vulnerable to quasi-extinction if no additional habitat was acquired (USFWS 2015).

3.10.7 Everglade Snail Kite

The Everglade snail kite (*Rostrhamus sociabilis plumbeus*) is federally listed as endangered, and its state status is "federally designated as threatened." The Everglade snail kite (ESK) also is afforded protection under the MBTA. Critical habitat for the ESK was designated in 1977. The ESK is a medium-sized raptor with a slender, decurved bill (USFWS 2016a). The Florida subspecies also occurs in Cuba and northwestern Honduras, but there is no evidence of movement of birds between Cuba and Florida. The current distribution of the ESK in Florida is limited to six large freshwater systems in central and southern portions of Florida. In 2014, the population estimate was approximately 1,754 birds (USFWS 2016a). Non-breeding snail kites may fly long distances while tracking prey resources across the landscape, while nesting birds often forage within approximately 1 mile of their nests under favorable conditions.

The ESK and apple snails, its food source, depend on wetland habitats for all aspects of their life histories. Primary wetland habitat types consist of freshwater marshes and the shallow, vegetated littoral zones along the edges of lakes where apple snails occur in relatively high abundance and can be found and captured by kites (USFWS 2016a). Nesting almost always occurs over water and in the proximity of favorable foraging areas. Outside of the breeding season, snail kites may roost communally, usually over water, in groups of up to 400 or more individuals, typically in taller vegetation among low-profile marshes. The principal threat to the snail kite is the loss, fragmentation, and degradation of wetlands in central and southern Florida resulting from urban and agricultural development, and alterations to wetland hydrology through ditching, impoundment, and water level management. No critical habitat occurs within the ECMSHCP area. However, the ECMSHCP area lies within the USFWS Consultation Area for the ESK. Currently, there are no documented nests within the ECMSHCP area or within Collier County based on the USFWS's publicly available GIS data.

3.10.8 Eastern Indigo Snake

The eastern indigo snake (*Drymarchon corais couperi*) is federally listed as threatened, and its state status is "federally designated as threatened." Critical habitat has not been designated for this species. The eastern indigo snake (IS) can reach lengths of up to 8.5 feet and is one of the largest North American snake species (USFWS 2014a). Georgia and Florida currently support the remaining endemic populations of the IS. Due to difficulties of observing and capturing ISs existing populations are unknown (USFWS 2008). The IS ranges over large areas and into various habitats throughout the year (USFWS 2014a). In peninsular Florida, data on territory size for females vary from 4.75 to 375 acres; male home ranges vary from 4 to 818 acres (USFWS 2008).

Throughout their range, the IS uses burrows for nesting, mating, and sheltering (USFWS 2008). ISs shelter in gopher tortoise burrows, hollowed root channels, hollow logs, or the burrows of rodents, armadillos, or land crabs. The IS frequents diverse habitats. The IS is most commonly observed in hardwood hammocks and pinelands where they can easily find cover. However, ISs also use dry prairie, edges of freshwater marshes, agricultural fields, and human-altered habitats. Because the IS uses a diverse array of habitat types, it is presumed to occur throughout the ECMSHCP area (USFWS 2014a). Based on the USFWS's publicly available GIS data, the IS has been observed within 0.15 mile of the ECMSHCP area.

3.10.9 Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is a candidate for federal listing in the eastern portion of its range including Florida (USFWS 2014b), and is state listed as threatened. The gopher tortoise (GT) is larger than any of the other terrestrial turtles in the region (USFWS 2016b). The current range for the eastern population of the GT aligns with the historic range. The core of the current distribution of the GT in the eastern portion of its range includes central and north Florida and southern Georgia (USFWS 2016b). It is estimated that there are approximately 785,000 individuals in Florida. Home range size and

movements increase with age and body size, and home range area tends to vary with habitat quality. Mean home ranges of individual GT in Alabama, Florida, and Georgia vary from 1.3 to 5.2 acres for males and 0.2 to 2.5 acres for females (USFWS 2016b). GTs spend most of their time within burrows and emerge during the day to bask in sunlight, to feed, and reproduce.

The GT requires well-drained, sandy soils for burrowing and nest construction, an abundance of herbaceous ground cover for food, and a generally open canopy that allows sunlight to reach the forest floor (USFWS 2016b). GT females excavate a shallow nest to lay and bury eggs, typically between early May and late June, and usually in the apron of soil at the mouth of the burrow. Average clutch size varies from about 4 to 10 eggs per clutch, and incubation lasts 85 to 100 days. The GT prefers grassy, open-canopy microhabitats, and their population density directly relates to the density of herbaceous biomass and a lack of canopy. Grasses and grass-like plants are important in their diets. The GT burrows are the habitat and center of normal feeding, breeding, and sheltering activity. The GT has been observed in the ECMSHCP area. The GT has a commensal relationship with the gopher frog (See Section 3.11.2).

3.11 STATE-LISTED SPECIES

3.11.1 Burrowing Owl

The Florida burrowing owl (*Athene cunicularia floridana*) is state listed as threatened, and is protected under the MBTA and Rule 68A-27.005, F.A.C.. The Florida burrowing owl (FBO) is a small bird that spends most of its time the on ground. The FBO occurs primarily in peninsular Florida (FWC 2013b). Its distribution is localized and patchy, especially in the northern part of its range. The current population status of the FBO is unknown. The FBO is often associated with high densities of other burrowing animals such as prairie dogs, ground squirrels, and tortoises. The FBO has adapted to human activity and now occupies urban areas, sometimes in high densities.

The FBO typically digs burrows but will use GT or armadillo burrows, as well as structures such as manholes, sewer drains, and concrete pipes (FWC 2013b). The FBO mainly eats insects, especially grasshoppers and beetles. Based on FWC GIS data, the FBO has been documented within and adjacent to the ECMSHCP area. Potential foraging habitat within the ECMSHCP area may include wet prairie and depression marsh. Preferred breeding and sheltering areas are sandy, well-drained areas with low vegetation height and good visibility.

3.11.2 Little Blue Heron

The little blue heron (*Egretta caerulea*) is state listed as threatened, and is protected under the MBTA. The little blue heron (LBH) is a medium-sized heron with a slate-blue body. LBH occur throughout the entire state of Florida except for the extreme western panhandle and north-central region of the state (i.e., Columbia, Clay, and Union Counties and adjacent region) (FWC 2011a). LBH typically nest and roost in multi-species colonies, but usually forage singly. There has been at least a 30 percent decline of LBH populations since 1974 and declines in population are expected to slowly continue as a result of sea level rise and reduced freshwater discharge into coastal estuaries that will reduce primary estuarine foraging habitat. The statewide population currently is unknown but it is estimated to be between 5,000 and 15,000 individuals (FWC 2011a).

LBH depend on healthy wetlands, mangrove and other islands, and vegetated areas suitable for resting and breeding and which are near foraging habitat (FWC 2013d). LBH typically nests in multi-species colonies of various sizes in a variety of woody vegetation including cypress, willow, red maple, buttonwood, mangroves, and Brazilian pepper (FWC 2013d). LBH forage in shallow marine, brackish, or freshwater areas, including tidal ponds and sloughs, mudflats, mangrove-dominated pools, freshwater sloughs and marshes, and human-created impoundments, and rely on freshwater forage sites to raise young until they become more salt tolerant (FWC 2013d). The areas of potentially suitable habitat included the major regional flowway systems (Corkscrew Marsh, Camp Keais Strand, and Okaloacoochee Slough) and major wetland areas bordering the FPNWR. Extensive areas of potentially suitable habitat for imperiled wading birds exist within the ECMSHCP area, and this species is routinely observed within the ECMSHCP area.

3.11.3 Tricolored Heron

The tricolored heron (*Egretta tricolor*) is state listed as threatened species, and is protected under the MBTA. The tricolored heron (TCH) is a medium-sized heron with a slender neck. TCH occurs throughout most of Florida in both freshwater and estuarine habitats (FWC 2013d). About 1,144 pairs of TCH nested in the three Water Conservation Areas and mainland Everglades National Park in 2009. The population is expected to continue a slow decline (FWC 2011b).

TCH typically nests in multi-species colonies of various sizes and are primarily found nesting in coastal habitat, but also nest in a variety of woody vegetation including cypress, willow, red maple, buttonwood, mangroves, and Brazilian pepper (FWC 2013d). TCH forage in shallow marine, brackish, or freshwater sites and depend on healthy wetlands, mangrove and other islands, and vegetated areas suitable for resting and breeding and which are near foraging habitat. Extensive areas of potentially suitable habitat for imperiled wading birds exist within the ECMSHCP area, but no occurrence data are publically available. FNAI maintains occurrence records for the tricolored heron within Collier County, and this species is routinely observed within the ECMSHCP area.

3.11.4 Roseate Spoonbill

The roseate spoonbill is state listed as threatened, and is protected under the MBTA. The roseate spoonbill (RS) is a large, long-legged wading bird with a dorso-ventrally flattened, spatulate bill (NatureServe 2018a). RSs are residents locally in southern Florida (as far north as Tampa Bay on Gulf Coast) and typically nest, roost, and feed in multi-species groups or flocks. Ground surveys by FWC and Audubon Society biologists determined that the RS population was between 550 and 750 pairs in Tampa Bay and Florida Bay during the late 1980s but less than 500 pairs during the 2000s (Lorenz et al. 2009, Cook and Baranski 2018).

RS depend on healthy wetlands, mangrove and other islands, and vegetated areas, and primarily nests on coastal islands in mangroves or Brazilian pepper but also are found nesting on spoil islands (FWC 2013d). RSs forage in shallow waters for crustaceans such as shrimp, prawns, aquatic insects, and fish (Cornell 2018). RSs are social birds that gather in small to large groups (from 2 to about 400 individuals) when feeding and roosting. Extensive areas of suitable habitat for imperiled wading birds exist within the ECMSHCP area, and numerous sightings of RSs have been recorded from roads throughout the ECMSHCP area according to eBird.org. Hotspots for observations occur at the Oil Well Road tomato field and in Ave. Suitable habitat includes the major regional flowway systems (Corkscrew Marsh, Camp Keais Strand, and Okaloacoochee Slough) and major wetland areas bordering the FPNWR.

3.11.5 Southeastern American Kestrel

The Southeastern American kestrel (*Falco sparverius paulus*) is state listed as threatened, and is protected under the MBTA. The southeastern American kestrel (SAK) is the only subspecies that is a permanent resident in Florida. American kestrels are the smallest falcon in North America (FWC 2013e). The SAK was once widely distributed throughout seven southeastern states. Today, the subspecies occurs primarily in Florida and is patchily distributed elsewhere in the coastal plain of South Carolina and Georgia (FWC 2013e). Within Florida, the SAK was once distributed as far south as Dade County but now breeds no farther south than Highlands and Lee Counties (FWC 2011c). Estimates of population declines for SAK during the last half century range from 82 percent in north-central Florida to 95 percent for the Floridian physiographic region. SAKs have high territory fidelity (FWC 2013e).

SAK uses a variety of natural communities in Florida, including scrub, scrubby flatwoods, dry prairie, pastures, parks, golf courses, and orange groves (FWC 2013e). Open ground cover such as typical sandhill landscape consisting of a widely spaced canopy of longleaf pine or slash pine with wiregrass and forb-dominated groundcover are used for feeding and foraging, and the species depends on natural or manmade cavities for sheltering (FWC 2013e). The FNAI depicts Lee and Hendry Counties as part of SAK's range in Florida, but not Collier County (Hipes et al. 2001). No occurrence data were available for this species. The FWC Species Action Plan (FWC 2013d, Figure 3) identified no SAK breeding records within the ECMSHCP area.

3.11.6 Florida Sandhill Crane

The Florida sandhill crane (*Grus canadensis pratensis*) is state listed as threatened, and is protected under the MBTA. Florida sandhill cranes (FSC) are heavy-bodied gray birds with long necks and legs (FWC 2013c, Hipes et al. 2001). FSC are non-migratory and occur from southern Georgia, primarily in the Okefenokee Swamp, to the Everglades. However, most of the population is in peninsular Florida. In 2008, the population was estimated using habitat data at just under 4,600 individuals (FWC 2013c). Dispersal distances for this species average 7.2 miles, with a maximum observed dispersal of 29.8 miles. Females disperse farther than males from their natal territory.

FSC rely on shallow marshes for roosting and nesting (FWC 2013c). FSC prefer wetlands that are dominated by pickerelweed and maidencane (Hipes et al. 2001). They forage in wet and dry prairies, freshwater marshes, and pasture lands and typically avoid forests and deep marshes, but use transition zones and edges between these and prairies or pasture lands. Sandhill cranes often use agricultural areas like feed lots and crop fields, and also golf courses and other open lawns, especially in winter and early spring (Hipes et al. 2001). FSC nest primarily from February through April. In peninsular Florida, the FSC ranges from Alachua County in the north to the northern edge of the Everglades in the south, where there is an abundance of shallow marshes for roosting and nesting and open upland and wetland habitats for foraging on which FSCs rely (FWC 2013c). FSCs have not been recorded within the ECMSHCP area.

3.11.7 Everglades Mink

The Everglades mink (*Neovison vison evergladensis*) is state listed as threatened. Currently, four subspecies of mink reside in Florida (FWC 2011d). The Everglades mink (EM) is uniformly dark brown, but some individuals have a white chin spot and a few have a white chest patch. The EM is a disjunct population of the American mink. Population size, territory, and extent of occurrence are poorly known. Some researchers have speculated that EMs are locally common and several have noted that EM are more common in the Big Cypress Swamp than in the Everglades (FWC 2011d). Males have larger home ranges than do females, and EM are typically solitary except during the breeding season (FWC 2013h).

EM use spikerush marshes and salt marshes between the mangroves and freshwater habitats during the wet season, and swamp forests during the dry season. As water levels recede, the EM may relocate to more permanent ponds and concentrated food sources (FWC 2013h). EM is believed to breed in the fall in conjunction with the late wet season. EM may use fallen logs or debris, standing snags, hollows of trees, or any suitable, isolated natural or manmade structure for shelter within various types of wetland areas (NatureServe 2018b). Although no EM occurrences have been documented in the ECMSHCP area, it is included as a covered species within the ECMSHCP as a contingency due to the proximity of the FSPSP to the ECMSHCP area, the presence of wetland habitats within the ECMSHCP area, and the lack of knowledge regarding the mink's current population status and distribution.

3.11.8 Big Cypress Fox Squirrel

The Big Cypress fox squirrel (*Sciurus niger avicennia*) is state listed as threatened. The Big Cypress fox squirrel (BCFS) is a large tree squirrel, highly variable in color and patterning. The extent of occurrence for the BCFS, endemic to Florida, is limited to southwestern peninsular Florida, south of the Caloosahatchee River, in Hendry, Lee, and Collier Counties. Overall, the range occupies "the mangrove, the pinelands, and the Big Cypress west of the Everglades and south of the Caloosahatchee River." Home ranges of individuals typically overlap, although adults, often females, defend exclusive core areas (FWC 2013a). Within the natural habitat of BCNP, the mean home range size for male BCFS was 187 acres and 26 acres for female BCFS. Approximate estimates of BCFS local population densities have been calculated at 0.00036 squirrels/acre in typical cypress swamp habitat in Corkscrew Swamp Sanctuary and 0.0078 squirrels/acre in ranchland woodlots.

Natural habitats for BCFS include South Florida slash pine forests, cypress forests, live oak woods, tropical hardwood forests, coastal broadleaf evergreen hammocks, and mangrove swamps. Developed habitats for the BCFS include urbanized and agricultural lands. BCFS require cypress forest for nest sites, adjacent to good foraging habitat, typically in slash pine flatwoods (FWC 2013c). Their diet is varied and included seeds and nuts, fruit, flowers, and berries. Suitable nesting and foraging habitat exists in the ECMSHCP area.

3.12 OTHER SPECIES OF CONCERN

3.12.1 Eastern Diamondback Rattlesnake

The eastern diamondback rattlesnake (*Crotalus adamanteus*) is currently not state or federally listed; it has been petitioned for federal listing and is currently under status review. There is no critical habitat designated for the eastern diamondback rattlesnake (EDR). EDR is the largest venomous rattlesnake in the world (USFWS 2012). The remaining intact range, supporting large populations of the EDR, is now located only in northern Florida and southern Georgia (USFWS 2012). The home ranges for females average 114.9 acres, home ranges for males average 208.3 acres, and the EDR does not defend a territory and does not den communally (USFWS 2012). Adult population size is unknown but presumably exceeds 100,000. The EDR is locally common in suitable habitat in Florida.

The EDR inhabits pine and wiregrass and pine-palmetto flatwoods, longleaf pine-turkey oak hills, rosemary scrub, mesophytic and coastal maritime hammocks, xeric hammocks, barrier islands and coastal scrub habitats, vicinity of wet savannas and wet prairies (during dry periods), dry prairie, mixed pine-hardwood successional woodland, and abandoned farms and fields (especially near pine-dominated habitats) (NatureServe 2018c). Most young are born in retreats such as GT burrows or hollow logs. The EDR uses GT and armadillo burrows as well as fire-burned pine stump holes and cavities at the bases of hardwood trees (USFWS 2012). The open-canopy habitats of the EDR favor the development of an herbaceous groundcover on which its primary prey depends.

3.12.2 Gopher Frog

The gopher frog (*Lithobates capito*) is not state or federally listed; it has been petitioned for federal listing and is currently under status review. This species is part of the Florida Imperiled Species Management Plan. The gopher frog (GF) is a stubby frog with short limbs, a large head, and dorsolateral ridges (NatureServe 2018d). The historical range of the GF extends eastward from the Mobile River delta in Alabama across the southeastern Coastal Plain into North Carolina. The GF maintains a small home range in the vicinity of its burrow when not breeding. As discussed in the ECMSHCP, the GF have been known to travel more than a mile to a breeding pond, typically during the summer breeding season in South Florida. Recent surveys suggest that healthy populations of GF exist on public lands in peninsular Florida. Based on the lack of activity at many historical breeding sites, Franz and Smith (1999) concluded that GF populations had declined east of the Apalachicola River in the 20 years from 1975 to 1995, particularly in coastal counties and in areas where human population is concentrated.

When not breeding the GF is generally associated with longleaf pine-xeric oak sandhills, but also occurs in upland pine forest, scrub, xeric hammock, mesic and scrubby flatwoods, dry prairie, mixed hardwood-pine communities, and a variety of disturbed habitats (FWC 2011e). Breeding has been observed in depression marshes, basin marshes, wet prairies, dome swamps, upland Sandhill lakes, sinkhole ponds, ditches, and borrow pits. In Florida, GF primarily use GT burrows, although they will use other refugia such as pocket gopher and small mammal burrows, crayfish burrows, stump holes, leaf litter, hollow logs, and clumps of grass (FWC 2013g). No publicly available GIS occurrence data exist currently for the GF, which is included as a covered species within the ECMSHCP as a contingency due to its commensal relationship with the GT.

3.13 FARMLANDS

NRCS's FPPA and its implementing regulations (7 CFR § 657.5) define prime, unique, statewide, and locally important farmlands. Only soils classified as unique farmland occur in the ECMSHCP area. Unique farmland is land that is used for producing high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture necessary to produce high quality crops or high yields of crops when using acceptable farming methods.

According to NRCS, there are about 58,050 ac of soils (38.4 percent of soils) within the ECMSHCP Area that are categorized as unique farmland soils. Some of these soils may not currently be in active agriculture. Active agriculture (including cultivated crops, citrus, sod, pastures, and specialty crops) comprises approximately 50 percent of the ECMSHCP Area. The 50,175-acre envelope of land

designated for Covered Activities (including residential/commercial development and mining) contains an estimated 35,638 acres in intensive agricultural production (row crops, citrus groves, and sod farms).

CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES

4.1 DEFINITION OF TERMS

Determining impact thresholds provides an idea of the intensity of a given impact on a specific topic. Impacts on a resource area may result from a variety of direct or indirect effects. *Direct effects* are caused by an action and are effects that occur at the same time and place as the action. *Indirect effects* are caused by the action and occur later or farther away, but are still reasonably foreseeable. This document discloses and analyzes both direct and indirect effects, but does not differentiate between them in the discussions.

The environmental consequences for each resource were identified and characterized by impact intensity. *Impact Intensity* refers to the severity of the impact. Intensity definitions used in this document are provided below:

- No Impact – The action would result in no effect or environmental consequences to the resource.
- Below Significant Impacts – The action would result in only minor changes in the current condition of the resource and their capacity to support established uses would not be substantially altered.
- Mitigated to Below Significant Impacts – Actions or project design features would reduce the degree or magnitude of the environmental impacts by avoiding, minimizing, or compensating for the impact, reducing the impact over time, or rectify the impact. If mitigation measures were not implemented, the potential for resource impacts and the magnitude of those impacts would increase.
- Adverse Impact – The action would result in a change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.
- Significant Impacts – The action would result in major changes in the current condition of the resources or their capacity to support established uses.

Cumulative effects are discussed in Section 4.11, Summary of Cumulative Impacts, and Appendix G.

4.2 ENVIRONMENTAL SETTING

The environmental setting refers to the natural attributes of the region such as soils and climate, as well as the relationship of the ECMSHCP area to places where people live, work, and participate in recreational activities. Section 3.1 describes the environmental setting (geography, topography, climate, regional ecosystem and existing land uses) of the area potentially affected by the proposed action and the preferred alternative.

4.2.1 General Geography

See Section 3.1.2 for a general description of the existing conditions of the ECMSHCP area's general geography. The Service does not anticipate impacts to general geography from the No Action Alternative or Alternative 2. Therefore, effects to general geography are excluded from further analysis and are not included in this chapter.

4.2.2 Topography

See Section 3.1.3 for a general description of the existing conditions of ECMSHCP area topography. The Service does not anticipate impacts to topography from the No Action Alternative or Alternative 2. Therefore, effects to topography are excluded from further analysis and are not included in this chapter.

4.2.3 Climate

4.2.3.1 Alternative 1 – No Action

Changes in hurricane intensity, seasonal precipitation, and temperature are anticipated in the ECMSHCP area. However, SLR is not expected to inundate the ECMSHCP area or cause increases in salinity in the root zone. The No Action Alternative is expected to develop under a combination of base zoning (low-

density 5-acre single-family ranchettes), but could have higher density development or earth mining, within the RLSP SRAs. The development of individual 5-acre lots (base zoning) within the ECMSHCP boundary would not facilitate community-scale stormwater management infrastructure. This, in turn, would increase the risk of flooding in base zoning areas. During severe weather events such as fire, flooding, and hurricanes, the remoteness of single-family residences in the base zoning area would impede rescue and disaster recovery efforts. Comprehensive wildfire fuel management efforts, centralized emergency management services, and stormwater utilities may be less effective and more costly in remote low-density residential areas. In summary, the ability to mitigate human risk from climate change is greatly reduced within areas that comply with base zoning. This form of low-density development would be more vulnerable to the effects of climate change than the Proposed Action Alternative, but still below significant impacts. Development within the RLSP SRAs would implement modern zoning practices that mitigate human risk, described above, from climate change.

In summary, Alternative 1 is anticipated to have below significant impacts, but is expected to have greater risk to human life, property and natural resources caused by the effects climate change than Alternative 2.

4.2.3.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Changes in hurricane intensity, seasonal precipitation, and temperature are anticipated in the ECMSHCP area. However, SLR is not expected to inundate the ECMSHCP area or cause increases in salinity in the root zone. Alternative 2 is expected to result in modern zoning practices within the Covered Activities area. These zoning and development practices would mitigate human risk from climate. The covered activities area would include centralized stormwater and centralized emergency management services. The stormwater utilities would lessen the flood damage from tropical storm events and prevent recurrent flooding associated with seasonal rain events. Additionally, the communities in the covered activities area would have centralized emergency services and infrastructure that would facilitate faster responses to disasters.

Alternative 2 is also expected to mitigate the risk to natural areas from threats posed by climate change. Implementation of best management practices for forested areas is the most effective method to reduce the potential for adverse impacts from unplanned burning. The management of natural areas under the ECMSHCP would include fuel load reduction by prescribed burning and mechanical vegetation control. Fire breaks would also be maintained where needed. Although lightning-induced fires are a natural occurrence and no methods are reasonably available to directly prevent such fires, reduction of fuel loads may limit fire frequency and intensity.

In summary, Alternative 2 is anticipated to have below significant impacts, and is expected to have less risk to human life and property and natural resources caused by the effects climate change than the No Action Alternative.

4.2.4 Regional Ecosystem

See Section 3.1.5 for a general description of the existing conditions of the area's regional ecosystem. Impacts to the regional ecosystem include multiple components (e.g. water resources, biological resources, fish and wildlife, etc.) that are addressed individually throughout this chapter. .

4.2.5 Land Uses

Present major land use categories are agricultural (50 percent), native wetlands (39 percent), and native uplands (9 percent). The remaining land uses include earth mining, roadways and utilities infrastructure, open water, and residential and commercial uses (related to the Town of Ave Maria).

4.2.5.1 Alternative 1 – No Action

Under Alternative 1, land conversion from present use to other uses (such as earth mining, oil and gas exploration, residential and commercial development) under the base zoning is likely anywhere within the ECMSHCP, or at greater densities within the RLSP "Open" lands.

Under Alternative1, land development conducted according to base zoning would be dispersed throughout the RLSA open lands. This low-density, disjointed pattern of land use, would likely emerge, resulting in fragmentation of valuable habitat and reduction of connectivity between adjacent public lands. This land use pattern would require a dispersed transportation and municipal infrastructure similar to the adjacent Golden Gate Estates. Land owners could also voluntarily participate in the RLSP; where they would be free to pursue development at greater densities than are permitted under base zoning. This optional participation in the RLSP requires transfer of development rights within the RLSA's Stewardship Sending Areas (SSAs) to the RLSA's Stewardship Receiving Areas (SRAs). Landowners participating in the RLSP can also pursue earth mining activities with a SRA. Under the No Action Alternative, any land use action taken by land owners could be done with, or without the following: coordination among landowners, landscape-level planning, monitoring or mitigation. Projects would be evaluated individually on a project-by-project basis to ensure compliance under federal, state, and local laws.

4.2.5.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

The ECMSHCP provides a long-term (50-year) conservation and land use planning framework involving the restricted use of approximately 107,000 acres of privately held land while setting aside 45,000 acres for development within the ECMSHCP area. Using conservation design and planning, the ECMSHCP seeks to create a long-term balance among the goals of environmental preservation, species protection, continued agricultural use of lands, and economic development. With the use of economic incentives, regulatory mechanisms, and science-based land management, the ECMSHCP seeks to provide a balanced, sustainable future for the region.

Under Alternative 2, land use would be implemented using a regional landscape strategy. Land use would evolve according to the permitted use of land within the defined areas of the ECMSHCP, thus avoiding piecemeal development scenarios. Large expanses of land would be set aside for open space, providing habitat and interconnection with adjacent lands, thus facilitating the current agricultural and natural character of the area. Therefore, the impacts to land use could still be adverse, but less than the No Action Alternative. Under this Alternative, the Service would request on-site or off-site mitigation for unavoidable impacts to the FP or the eighteen other Covered Species as a condition of our ITP, if issued.

4.3 GEOLOGY AND SOILS

This section addresses the potential environmental consequences of the no action and action alternatives on geology and soils.

4.3.1 Alternative 1 – No Action

Under the No Action Alternative, ITPs would not be issued and the ECMSHCP would not be implemented. Agricultural, ranching, and other activities that have occurred historically would continue until such time that landowners, including the ECPO, decide to develop the land or conduct soil-disturbing activities such as mining and oil and gas exploration throughout the ECMSHCP area.

The RLSP does not place any restriction on where earth mining or oil and gas exploration can occur. Therefore, under the No Action Alternative, any landowner could pursue earth mining activities anywhere within the ECMSHCP area, regardless of habitat or connectivity. Landowners would also be free to pursue land development under base zoning (one dwelling unit per 5 acres) anywhere within the ECMSHCP area, or development at greater densities within the approximately 71,275 acres of RLSP "Open" lands located within the ECMSHCP area. Therefore, under the No Action Alternative, development would likely occur on a project-by-project or individual basis, with no overarching plan, which could result in a disjointed pattern of development.

The creation of impervious surfaces, in the form of access roads, footings, and foundations, would increase potential for stormwater runoff and soil erosion. Under the No Action Alternative, ground disturbing activities would still remain subject to permitting requirements.

The direct impacts of earth mining and oil and gas exploration and production are soil disturbance, habitat loss, noise, and loss of scenic views. These activities may be conducted day and night, and eventually lead to residential development on the site after operations have ceased.

Potential impacts to geology and soils under the No Action Alternative may result from an individual approach to agricultural, mining, and development activities. Lack of cohesive planning may lead to disjointed development, which may have an adverse impact on area geology and soils.

4.3.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Under this alternative, conservation planning and design provided by the ECMSHCP would direct development to certain areas of lower habitat value, while limiting development in other areas of higher habitat value. The general approach to landscape-level planning is systems thinking, for the purpose of maximizing resources such as open space, habitat, and connectivity while minimizing adverse impacts. Benefits would accrue on many levels to resources, habitat, and species, while still providing for development. Commercial and residential development are anticipated to be more compact, as would earth mining activities, oil and gas exploration and production, and agriculture uses on the approximately 45,000 acres designated by the ECMSHCP as compared to the No Action Alternative.

Concentrating the area available for future mining operations would limit adverse geologic and soil impacts resulting from off-road equipment, along with construction of access roads, structures, and infrastructure. Similarly, under Alternative 2, residential and commercial development would occur in a more targeted fashion, with landscape-level planning, thus concentrating the required excavation and grading work to more centralized areas and minimizing the sprawl of the attendant infrastructure. The 50-year integrated framework of the ECMSHCP provides targeted development, resulting in an overall smaller footprint, as compared to the No Action Alternative.

The creation of impervious surfaces, in the form of access roads, footings, and foundations, would increase potential for stormwater runoff and soil erosion. As discussed in Section 3.2.3, eastern Collier County consists mainly of poorly to very poorly drained soils, with hydric soils comprising approximately 61 percent of the ECMSHCP area. A coordinated planning approach to development contemplated under Alternative 2 is anticipated to result in less displacement and disturbance of soils, and avoidance of hydric soils, as compared to the No Action Alternative.

While both the No Action and Action Alternatives would involve displacement and disturbance of earth and soils, Alternative 2 is anticipated to reduce adverse impacts to geologic and soil resources in the ECMSHCP area as compared to the No Action Alternative.

4.4 WATER RESOURCES

This section addresses the potential environmental consequences of the No Action and ECMSHCP Alternative on wetlands, flowways, and water quantity and quality.

4.4.1 Alternative 1 – No Action

Under the No Action Alternative, owners of 5-acre ranchettes or larger developments would need to apply for SFWMD ERPs, and possibly Corps dredge and fill permits. Commercial developments would also occur with the no action and may conform to the base zoning development pattern (one residence per 5-acre platted lot). The road and infrastructure system needed to serve the 5 acre lots, and associated commercial developments, would be built in a rectangular grids, and would have few alignment alternatives. Therefore, it would have more unavoidable impacts to wetlands than the roads constructed under Alternative 2. Landowners choosing to participate in the RLSP and develop in SRAs would likely have less impacts to water resources due the current land use in the SRAs. Development in SRAs would also be higher density, and therefore would require less wetland fill and water resources.

According to the Florida Department of Health, about 30 percent of residences in Florida use individual wells for water supply and onsite wastewater treatment systems (septic systems). Well and septic systems are more common in lower-density residential areas throughout Florida. Under the No Action Alternative, some of the homes in the ECMSHCP boundary are anticipated to include individual well and septic systems. These water systems would require SFWMD well permits as well as Collier County septic system permit prior to construction.

Row-crop farming is currently the largest user of surface and ground waters in the ECMSHCP boundary. Under the No Action Alternative, current agricultural water uses and water management practices can be expected to continue in some areas.

Surface mining is also expected to occur with the No Action Alternative. Mining activities that affect water resources include dewatering of materials and use water to refine mined materials. Mining′s effects to water resources are highly regulated by the SFWMD and require consumptive use permits specific to mining operations. Surface mining, and its effects to water resources, can occur over a broader area than in the ECMSHCP Alternative.

In summary, surface water resources, such as wetlands and flowways, will be adversely affected under Alternative 1. However, regulatory requirements will be applied to any actions affecting wetlands and surface waters on a case-by-case basis. Water and waste water treatment and distribution will be less centralized and more costly to regulate. Therefore, we anticipated significant effects to water resources under Alternative 1

4.4.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Under the Alternative 2, the Covered Activities (residential and commercial development, and earth mining) development plan leaves the regional flowways, described above, largely intact. This would be accomplished by concentrating the Covered Activities in areas that are currently row crops.

The residential and commercial development would have centralized water distribution, wastewater collection, and treatment services. The ECPO also plan to reuse wastewater for irrigation of landscapes in the Covered Activities areas. Because the Covered Activities would replace most of the row crop areas within the ECMSHCP boundary, and would reuse wastewater for irrigation, the Service anticipates that these aspects of Alternative 2 would use less surface and groundwater than the No Action Alternative and water quality is expected to be better than the No Action Alternative.

Surface mining under Alternative 2 would affect water resources in the same way as in the No Action Alternative. It would also be regulated by SFWMD in the same way. The possible locations for surface mining, and its effects on water resources, are more limited in the ECMSHCP than in the No Action Alternative.

The ECMSHCP includes hydrologic restoration of the Camp Keais Strand. This proposed restoration includes conversion of the row crop lands in the southern part of Camp Keais Strand to wetlands, and removal of a berm in the northern portion of the flow way to allow additional southward flow volumes. Okaloacoochee Slough and Corkscrew Marsh system would also remain largely intact in the Preserve Areas.

In summary, some wetlands will be adversely affected under Alternative 2. As in alternative 1, any affects to wetlands will require mitigation. However, the clustering of the higher-density developments in existing farmlands will reduce the impacts to wetlands by avoidance. Flow ways within the ECMSHCP boundary are expected to be improved by perpetual maintenance and restoration via removal of existing barriers to surface water flow. Water and waste water treatment and distribution will be centralized in the higher density areas. Therefore, we anticipate that effects to water resources will be mitigated to less than significant levels under Alternative 2.

4.5 AIR QUALITY

This section addresses the potential environmental consequences of the No Action and ECMSHCP Alternatives on air quality related to emissions resulting from development and habitat management.

4.5.1 Alternative 1 – No Action

Under the No Action Alternative, the short-term impacts from residential and commercial construction may temporarily increase particulate dust in the vicinity of construction projects. Mining activities are anticipated to create particulate dust daily that may drift away from the mine site depending on wind

conditions. The effects of construction and mining on air quality would be reviewed on a case-by-case basis, as necessary, by the FDEP.

Air pollutant emissions are expected to increase in Collier County, with or without the ECMSHCP in place, due to increased vehicle use over an expanded road network as the human population grows. All future development in the County is subject to existing air quality regulations. However, without the ECMSHCP, future development in Eastern Collier County could become more fragmented and spread out. More circuitous transportation routes would develop in order to accommodate the dispersed development, leading to emissions being spread out over the area. Increased trip lengths could increase air pollutant emissions relative to current conditions and those that would occur under Alternative 2. Therefore, this alternative could have an adverse effect on air quality.

Wildfire fuel management and other burning activities will continue to be carried out by individual property owners of 5-acre ranchettes (base zoning) under this alternative. Agricultural burns will also continue to be used extensively in row crop areas to remove dead plant matter from fields. Habitat restoration associated with the RLSP includes prescribed burning to maintain the habitat value of the RLSP's SSAs. Smoke and ash from burns will continue to significantly impact air quality in the burn areas and downwind areas. These effects are expected to be temporary. Effects of individual burning activities upon air quality would be reviewed on a case-by-case basis, as necessary by the FDEP.

In summary, air quality under Alternative 1 will continue to be significantly affected by human activities such as prescribed burns, construction, mining and vehicular traffic. These effects to air quality are short-lived.

4.5.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Under Alternative 2, the short-term impacts from residential and commercial construction may temporarily increase particulate dust in the vicinity of construction projects. Mining activities are anticipated to create particulate dust daily that may drift away from the mine site depending on wind conditions. The effects of construction and mining on air quality would be reviewed on a case-by-case basis, as necessary by the FDEP.

Air pollutant emissions are expected to increase in Collier County, with or without the ECMSHCP in place, due to increased vehicle use over an expanded road network as the human population grows. All future development in the County is subject to existing air quality regulations. The issuance of the ECMSHCP permit would decrease the amount of development fragmentation in the ECMSHCP area because the ECPO are planning compact communities which are largely self-contained. This type of community could lead to localized emissions around these communities. More self-contained development could result in reduced trip lengths relative to those which would occur if development was dispersed over a larger area, and would result in reduced air emissions overall. Therefore, although air emissions are anticipated to increase within the County, implementation of Alternative 2 is not expected to accelerate the rate of increase of air pollutant effects relative to Alternative 1.

Under Alternative 2, habitat restoration associated with the ECMSHCP would include prescribed burning to maintain the habitat value of the conservation lands. Smoke and ash from prescribed burns are expected to significantly impact air quality in the burn areas and downwind areas. These effects are expected to be temporary. For many decades the ECPO have reduced forest fuel loads, where needed, through such methods as prescribed burning and mechanical vegetation control, and they have installed fire breaks where needed. These are the most effective methods to reduce the potential for adverse impacts from unplanned burning, and are expected to continue for the duration of the ECMSHCP. Although lightning-induced fires are a natural occurrence, reduction of fuel loads may limit fire frequency and intensity. The ECMSHCP would educate new residents within the ECMSHCP Covered Activities area regarding the use and effects of prescribed fires. The effects of prescribed burning on air quality would be reviewed on a case-by-case basis, as necessary by the FDEP. The effects to air quality from prescribed burning and wildfires under the ECMSHCP Alternative are expected to be no greater than current effects of burning in the ECMSHCP area.

In summary, air quality under Alternative 2 is expected to be affected by human activities such as prescribed burns, construction, mining and vehicular traffic. These effects to air quality are short-lived. We anticipated that vehicle trip distances and durations will be reduced overall; thereby reducing the amount of vehicle emissions relative to Alternative 1. Additionally under Alternative 2, residences and businesses will be educated regarding the use and effects of prescribed fires. Therefore, the overall effects of Alternative 2 to air quality are expected to be significant, but less than Alternative 1.

4.6 CULTURAL RESOURCES

Adverse impacts to cultural resources are defined as any changes to a site, its boundaries, or contents that detract from its historical integrity or eligibility for listing on the NRHP. Federal agencies have a duty to consider potential impacts to cultural resources for actions that are determined to be "undertakings." The USFWS decision to issue an ITP has been determined to be an undertaking. Commercial and/or residential development, timber harvesting, and other management operations can result in impacts to individual cultural resources, as well as resource groups.

Impacts to cultural resources can result from noncompliance with existing regulations intended to protect cultural resources. Cultural resource impacts fall under two categories: direct effects and indirect effects. Direct effects to historic properties include physical destruction of the property and damage, alteration, or removal of a portion of the historic property. Examples of activities resulting in direct effects to cultural resources include commercial and/or residential development, and any activities that disturb the soil, including felling of trees and clearing of land.

Indirect effects to cultural resources include longer-term loss of historic integrity from alterations, modifications, destruction, or removal of cultural resources. Such indirect effects may result from risk of fires caused by heavy equipment access, human destruction caused by increased access, ongoing degradation of subsurface deposits caused over time by unstable or shifting soils, and reforestation efforts. Potential impacts to cultural resources under all alternatives are viewed within this framework.

Secondary and cumulative effects can include loss of resources prior to the development of better research techniques, loss of interpretive value, and incremental loss of the cultural resource inventory due to development activities and natural processes. Alternatives that result in a larger amount of acreage available for activities not subject to federal or state historic preservation laws and regulations are likely to have greater cumulative negative impacts. Those alternatives subject to federal and state laws and regulations would lead to the identification and evaluation of resources, as well as consultation with affected parties, which could reduce potential cumulative and secondary effects.

4.6.1 Alternative 1 - No Action Alternative

The No Action Alternative does not include the issuance of ITPs or the implementation of the ECMSHCP program. Under the No Action Alternative, the agricultural, ranching, and other rural activities that have occurred historically throughout the ECMSHCP area could continue indefinitely throughout the ECMSHCP area.

In addition to traditional rural land uses, under the No Action Alternative, the ECPO could conduct residential or commercial development activities under base zoning (one dwelling unit per 5 acres) anywhere within the ECMSHCP area, or development at greater densities within the 71,275 acres of RLSP "Open" lands located within the ECMSHCP area. The ECPO could also conduct earth mining activities anywhere within the ECMSHCP area, since the RLSP does not place any restriction on where earth mining can occur. The No Action Alternative would leave open the option to develop 93,100 acres, Landowners, as they propose individual projects, would be required to comply with Florida cultural resource laws and consult with the SHPO to ensure that cultural resources would be protected from any future development impacts. The preservation and maintenance of these areas and habitats are anticipated to benefit South Florida's cultural heritage and create opportunities for additional future conservation activities.

Landowners, as they propose individual projects, would be required to comply with Florida cultural resource laws and consult with the SHPO to ensure that cultural resources would be protected from any future development impacts. The preservation and maintenance of these areas and habitats are

anticipated to benefit South Florida's cultural heritage and create opportunities for additional future conservation activities. Overall, impacts to cultural resources would be mitigated to below significant levels under Alternative 1.

4.6.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

The ECMSHCP area is located within the approximately 195,000-acre area covered by Collier County's RLSP, a voluntary program that allows participants to develop certain lands at densities higher than base zoning allows, in exchange for placing restrictions on the use of other lands within the RLSA. Under this alternative, only 45,000 acres of these lands could be developed. Moreover, the 45,000 acres of land available for development under the ECMSHCP would be located within areas that have relatively lower habitat values, and areas of higher habitat values would be preserved.

Under the ECMSHCP, approximately 107,000 acres would be designated for Preservation/Plan-Wide Activities and Very Low Density Use. Consistent with the RSLA program, future land use within the 107,000 acres could include conservation/preservation along with the types of agricultural, ranching, and other traditional rural land use activities that have occurred historically throughout the ECMSHCP area. ECPO members, as they propose individual projects, would be required to comply with Florida cultural resource laws and consult with the SHPO to ensure that cultural resources would be protected from any future development impacts. The preservation and maintenance of these areas and habitats are anticipated to benefit South Florida's cultural heritage and create opportunities for additional future conservation activities.

Landowners, as they propose individual projects, would be required to comply with Florida cultural resource laws and consult with the SHPO to ensure that cultural resources would be protected from any future development impacts. The preservation and maintenance of these areas and habitats are anticipated to benefit South Florida's cultural heritage and create opportunities for additional future conservation activities. Overall, impacts to cultural resources would be mitigated to below significant levels under Alternative 2.

4.7 VISUAL RESOURCES

4.7.1 Alternative 1 – No Action

Under the No Action Alternative, conservation lands included in the RLSP sending areas will remain visually intact; but may be smaller and/or more fragmented. Lands developed under the RLSP, in receiving areas, are likely to include modern development aesthetics practices including wildlife friendly lighting. Land owners not participating in the RLSP may develop their properties in a piecemeal manner visually similar to nearby Golden Gate Estates. Mining will change the visual resources to resemble existing mines in the ECMSHCP area. Agricultural lands are expected to remain visually similar to their current state.

4.7.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Under the ECMSHCP Alternative, residential and commercial development will incorporate water management lakes, berms, structural buffers, fencing, and directional and/or low-level lighting along the periphery of Covered Activities areas to visually separate developments from preservation areas, and minimizing the effects of light. Mining will change the visual resources to resemble existing mines in the ECMSHCP area. Preserved lands and undeveloped agricultural lands are expected to remain visually intact.

4.8 TRANSPORTATION

4.8.1 Scope of Analysis

The ECMSHCP area includes a network of roadways that support both regional connectivity and local access. Section 3.7 of this document describes existing condition of the roadway network. This section identifies the long-term operational changes likely to be associated with projected development within the ECMSHCP. Though the ECMSHCP area incorporates approximately 152,000 acres (237 square miles) of eastern Collier County, a wider area was selected to comprise the TAA. The TAA includes approximately

1,400 square miles, and fully incorporates the ECMSHCP area. See Appendix F for a depiction of the TAA relative to the ECMSHCP area and subject roadways.

The transportation changes associated with projected development within the ECMSHCPn was assessed by evaluating traffic produced by two alternative future conditions described in the ECMSHCP, the Existing Zoning and Proposed ECMSHCP Alternatives. The future condition for each alternative was evaluated through use of the Florida Department of Transportation District 1, Regional Planning Model (D1RPM) to estimate growth through year 2040 and a linear growth projection to extend the model projections from the base year (2010) to year 2060.

Each development scenario considered and the projected traffic conditions are described in the sections below.

4.8.2 Alternative 1 - No Action Alternative

The condition under the No Action Alternative draws from the ECMSHCP's description of a future condition in which available land present within the ECMSHCP is developed at a rate established by the existing zoning allowance (Base Zoning) of one housing unit per 5 acres. Developable land estimates taken from the "Florida 2060" report, depicted in Figure 1-2 of the ECMSHCP, were used to identify the total area within the ECMSHCP available for development. When intersected with the ECMSHCP area, the developable lands accounted for approximately 112,000 acres.

Socioeconomic data supporting D1RPM was modified to reflect the No Action Alternative (base zoning scenario) and a linear growth projection was performed to extend the analysis to 2060. Application of a base zoning scenario resulted in a total of approximately 30,000 residential development units and 4,100 jobs within the ECMSHCP area in year 2060. These figures reflect a 131 percent increase in residential development and 105 percent increase in employment within the TAA from the model's base year. The projected growth in population and employment were then used to project future traffic volumes. Table 4.9-1 presents AADT estimates for the major roadway network present within the TAA. Results show traffic volumes on most roadway segments would more than double over the 50 year time period. Overall, the No Action Alternative, if implemented, would result in a 300 percent (6 percent annual) increase in Vehicle Miles Traveled (VMT) within the TAA from the base year (2010) to 2060. Table 4.9-2 shows the effect that the projected VMT will have on roadway operations.

Appendix F includes the methodology used in development of the D1RPM for the No Action Alternative (base zoning scenario).

As shown in Table 4.9-1, most roadways within the TAA will operate at much higher volumes in the future No Action condition and would result in significant impacts to traffic and transportation. Additional roadway capacity will be required to support projected future travel demand in the area of the ECMSHCP.

4.8.3 Alternative 2 – Issuance of ITPs for the ECMSHCP

Alternative 2 draws from the description of a future condition in the ECMSHCP in which the Covered Activities area is developed in accordance with the ECMSHCP. Although a 50,000 acre envelope is identified within which up to 45,000 acres of covered activities may occur over a 50 year period (minus the acreage of the already permitted Ave Maria project for a total maximum of 39,973 acres of potential new development), the precise location and timing of these activities is not yet determined. Accordingly, the Town of Ave Maria was used as a reference development to estimate future use. The Town of Ave Maria was selected as a development within Collier County representative of the type of use that would occur within the Covered Activities area. The density of development and employment rate observed in Ave Maria in D1RPM were identified and translated to the Covered Activities area defined in the ECMSHCP.

Socioeconomic data supporting D1RPM was modified to reflect the ECMSHCP Alternative and linear growth projection performed to extend the analysis to 2060. Implementation of Alternative 2 would result in 72,200 development units and 21,300 jobs within the Covered Activities area in year 2060. Figures that reflect a 165 percent increase in residential development and 126 percent increase in employment from conditions observed in the base year. Overall, Alternative 2 would result in a 339 percent (6.8 percent

annual) increase in VMT within the TAA from the base year (2010) to 2060. As discussed, Table 4.8-1 presents AADT estimates by roadway segment and Table 4.9-2 operating characteristics. Appendix F includes the methodology used in development of the D1RPM for Alternative 2.

Table 4.8-1. Base and Projected Bi-directional volume Estimation

Corridor	Roadway Segment	2010 Model AADT		2017 AADT		2060 No Action Alt (Base Zoning)			2060 Alt 2 (ITP Issuance)		
		Segment Volume	Corridor Average	Segment Volume	Corridor Average	Segment Volume	Corridor Average	Percent Increase 2010-2060	Segment Volume	Corridor Average	Percent Increase 2010-2060
Everglades Blvd	I-75 to Golden Gate Blvd	2,501	3,281	5,000	5,100	15,360	15,359	201.2%	15,443	16,293	219.5%
	Golden Gate Blvd to CR 846 (Immokalee Rd)	4,061		5,200		15,358			17,144		
SR 29	I-75 to CR 858 (Oil Well Road)	2,475	9,778	3,000	10,123	16,439	26,567	162.4%	19,715	29,179	188.2%
	CR 858 (Oil Well Road) to1st St	5,493		7,800		24,619			30,172		
	1st St to Immokalee Dr.	19,763		17,800		24,896			26,511		
	Immokalee Dr. to Lk Trafford Rd	17,779		17,700		20,965			22,219		
	Lk Trafford Rd to CR 29A	12,223		13,800		20,846			22,267		
	CR 29A to SR 82	16,808		17,355		41,536			46,045		
	SR 82 to Church Rd	5,553		6,200		26,184			31,233		
	Church Rd to CR 832	4,459		5,600		33,714			36,454		
	CR 832 (Keri Rd) to Sears Rd	4,261		5,500		31,794			33,308		
	Sears Rd to Helms Rd	6,850		5,600		26,425			27,729		
	Helms Rd to Truck Route 29/80A	11,894		11,000		24,817			25,313		
CR 846 (Immokalee Road)	I-75 to SR 29	13,917	4,897	7,400	3,467	22,028	11,585	234.2%	27,504	13,510	289.7%
	SR 29 to Hendry County Line	645		1,900		8,055			7,979		
	Collier County Line to CR 833	129		1,100		4,671			5,045		
CR 858 (Oil Well Road)	CR 846 to SR 29	6,650	3,523	5,100	2,800	27,341	14,642	422.9%	30,885	16,022	472.2%
	SR 29 to Hendry Co Line	396		500		1,943			1,158		
Camp Keais Road	Camp Keais Road between CR 858 and CR846	3,493	3,493	1,325	1,325	8,153	8,153	515.4%	12,368	12,368	833.5%
Corkscrew Road	Ben Hill Griffin to Alico Rd	8,778	5,121	3,600	3,525	11,956	13,726	289.4%	12,508	14,324	306.4%
	Alico Rd to SR82	1,464		3,450		15,495			16,140		
Alico Road	Ben Hill Griffin to Corkscrew Rd	1,102	1,102	7,400	7,400	31,164	31,164	321.1%	31,451	31,451	325.0%
SR 82	I-75 to Buckingham Rd	33,680	19,168	32,000	22,054	115,749	78,568	256.2%	116,728	81,388	269.0%
	Buckingham Rd to CR 884 (Colonial Blvd)	28,439		32,000		105,200			106,133		
	CR 884 to Griffin Dr	19,951		26,000		94,984			96,033		
	Griffin Dr to Daniels Pkwy	13,754		18,300		79,329			80,517		
	Daniels Pkwy to Unsigned (Alabama Rd S)	23,774		28,500		98,357			99,987		
	Unsigned to Mine Ent (Alexander Graham Bell Blvd)	10,638		12,200		48,285			51,463		
	Mine Ent to Corkscrew Blvd	11,551		13,233		46,354			54,007		
	CR 850 (Corkscrew Blvd) to SR 29	11,553		14,200		40,284			46,234		
Church Rd	Collier Co Ln to SR 29	734	734	450	450	4,529	4,529	906.4%	6,143	6,143	1265.0%
CR 832 (Keri Rd)	SR 29 to CR 833	82	82	600	600	1,135	1,135	89.2%	1,302	1,302	117.0%

Transportation Analysis Area Condition Summary	304,850	330,813	1,087,965	229%	1,157,139	250%

AADT = Annual Average Daily Traffic; Alt = Alternative; ITP = Incidental Take Permit

Table 4.8-2. Projected Roadway Volume to Capacity Ratio, Year 2060

Corridor	Roadway Segment	2060	
		Volume to Capacity No Action Alt (Base Zoning)	Volume to Capacity Alt 2 (ITP Issuance)
Everglades Blvd	I-75 to Golden Gate Blvd	1.24	1.25
	Golden Gate Blvd to CR 846 (Immokalee Rd)	0.93	1.05
SR 29	I-75 to CR 858 (Oil Well Road)	0.91	1.09
	CR 858 (Oil Well Road) to1st St	1.30	1.60
	1st St to Immokalee Dr	1.45	1.55
	Immokalee Dr to Lk Trafford Rd	1.79	1.89
	Lk Trafford Rd to CR 29A	1.71	1.83
	CR 29A to SR 82	2.51	2.78
	SR 82 to Church Rd	0.87	1.04
	Church Rd to CR 832	1.76	1.90
	CR 832 (Keri Rd) to Sears Rd	1.66	1.74
	Sears Rd to Helms Rd	1.59	1.68
	Helms Rd to Truck Route 29/80A	1.76	1.80
CR 846 (Immokalee Road)	I-75 to SR 29	0.78	1.04
	SR 29 to Hendry County Line	0.49	0.48
	Collier County Line to CR 833	0.29	0.32
CR 858 (Oil Well Road)	CR 846 to SR 29	1.14	1.30
	SR 29 to Hendry Co Line	0.12	0.07
Camp Keais Road	Camp Keais Road between CR 858 and CR846	0.45	0.69
Corkscrew Road	Ben Hill Griffin to Alico Rd	0.44	0.46
	Alico Rd to SR82	1.14	1.19
Alico Road	Ben Hill Griffin to Corkscrew Rd	1.55	1.57
SR 82	I-75 to Buckingham Rd	2.01	2.03
	Buckingham Rd to CR 884 (Colonial Blvd)	1.65	1.66
	CR 884 to Griffin Dr	2.31	2.33
	Griffin Dr to Daniels Pkwy	1.92	1.96
	Daniels Pkwy to Unsigned (Alabama Rd S)	2.38	2.43
	Unsigned to Mine Ent (Alexander Graham Bell Blvd)	1.19	1.26
	Mine Ent to Corkscrew Blvd	1.14	1.32
	CR 850 (Corkscrew Blvd) to SR 29	2.19	2.50
Church Rd	Collier Co Ln to SR 29	0.27	0.37
CR 832 (Keri Rd)	SR 29 to CR 833	0.07	0.08

Similar to the No Action Alternative, under Alternative 2, most roadways within the TAA will operate at much higher volumes in the future and would result in significant impacts to traffic and transportation. Additional roadway capacity will be required to support projected future travel demand in the ECMSHCP area. The ECMSHCP increases are anticipated to be greater than those of the No Action Alternative

4.9 BIOLOGICAL RESOURCES

4.9.1 Scope of Analysis

Under the ECMSHCP, approximately 107,000 acres would be designated for Preservation/Plan-Wide Activities and Very Low Density Use. Activities that could occur on the 107,000 acres would be deed restricted and no more intensive than the types of agricultural, ranching, and other traditional rural land use activities that have occurred historically throughout the ECMSHCP area. The 107,000-acre area also includes areas that function as regional wildlife corridors, potentially allowing for wildlife movement between publicly owned conservation lands in Southwest Florida. The deeds associated with the land parcels within the 107,000 acres would be designated for either continuation of current land use, very low density development, or possibly conservation, as development within the 45,000 acre Covered Activities area occurs.

The ECMSHCP proposes clustering and directing development toward areas of less valuable habitat, while avoiding wildlife dispersal corridors that provide linkages between existing public conservation lands. Under the ECMSHCP, the form of "take" anticipated to occur would be incidental to otherwise lawful activities and would generally be limited to unintentional "harassment" (e.g., a development activity that unintentionally annoys a species to the extent that normal behavioral patterns are disrupted) or "harm." It is anticipated that no intentional take would occur. The ECMSHCP is directed toward landscape-scale planning for future development, avoiding piecemeal development that could fragment valuable habitat and would also provide contributions to the Marinelli Fund for species conservation activities to benefit the Florida panther and other covered species (see Section 2.7 and Chapter 9 of the ECMSHCP).

4.9.2 Ecological Communities

As shown in Table 3.8-1, the ECMSHCP area comprises a variety of ecological community types and land cover/land use classes that can be categorized as follows: agriculture, other developed land uses, undeveloped uplands; forested wetlands, marsh wetlands; and water. Upland land uses and ecological communities cover approximately 61 percent of the ECMSHCP area, while wetlands and surface waters cover approximately 39 percent of the ECMSHCP area.

4.9.2.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Some landowners may opt to develop lands according to base zoning. Ecological community types and land cover/land use classes would likely change incrementally as a result of future piecemeal development expected under base zoning. And the lack of additional planned preservation areas within the ECMSHCP area. As developed areas expand, the acreage of undeveloped uplands and agriculture likely would be reduced. Wetland acreage also may be reduced; however, the loss of wetland habitats would be minimized by existing wetland regulations and associated permitting and mitigation requirements. Because the majority of the ECMSHCP area is used for agriculture, and these lands no longer support natural communities, development conducted under the RLSP would likely occur mainly on agricultural lands and would have lesser impacts on natural ecological communities. Accordingly, direct and indirect impacts on ecological communities from development within the ECMSHCP area under the No Action Alternative are expected to significantly impacts to existing ecological communities.

4.9.2.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, the ECMSHCP would be implemented and the acreages covered by the ecological community types and land cover/land use classes that currently exist within the ECMSHCP area would likely change minimally as a result of future planned development within the ECMSHCP area. The areas designated for Covered Activities would predominantly be located on agricultural lands, which no longer support natural ecological communities. As these areas are developed, the acreages of agriculture land would be reduced, and relatively small areas of undeveloped uplands also may be reduced. The acreages of wetland communities may be reduced slightly; however, the loss of wetland habitats would be minimized by existing wetland regulations and associated permitting and mitigation requirements. Because the majority of the ECMSHCP area currently is used for agriculture and development associated

with Covered Activities predominantly would occur on agricultural lands, this alternative would have limited impacts on natural communities. Overall, direct and indirect effects on ecological communities from Alternative 2 are expected to have significant impacts, but less than the No Action Alternative.

4.9.3 General Wildlife

Wildlife species that occur within the ECMSHCP area include species characteristic of the types of undeveloped habitats present within the ECMSHCP area and elsewhere in southwest Florida, including wetland forests, marshes, and upland forests and prairies, as well as species that have adapted to use other habitats associated with crop cultivation, orchards, pasture, and other developed lands. These species are typical of those found in similar habitats of southwest Florida.

4.9.3.1 Alternative 1 - No Action Alternative

As described in Chapter 2, under the No Action Alternative, no ITPs for the covered species would be issued, and the ECMSHCP would not be implemented as proposed. As a result, general wildlife would not have the benefit of using habitats preserved for the protection of the covered species. Historical land uses would continue, and residential or commercial development activities, including earth mining, could proceed under the base zoning in the RLSA's open lands that have not been designated as SSAs. This development in the RLSA's open lands may occur with no predefined development pattern, ecological monitoring, or preservation of conservation areas. Potential impacts on general wildlife from disjointed development and lack of planned conservation areas within the ECMSHCP area would have a substantial effect on general wildlife. Landowners may also opt to participate in the RLSP and develop within SRAs. Because the SRAs are located primarily on agricultural land where natural habitats already are absent, development within the SRAs would have lesser effects to wildlife that base zoning development. Under Alternative 1, we expect that land development will include a mixture of base zoning and RLSP actions. This mixture of development planning would have significant impacts to wildlife in the ECMSHCP area.

4.9.3.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

The ECMSHCP proposes 50,175 acres of land for Covered Activities, within which up to 45,000 acres of residential/commercial development and/or earth mining could occur. The ECMSHCP was designed to work in concert with the current RLSP and would also work with the proposed RLSP amendments.

Under the ECMSHCP, approximately 107,000 acres would be designated for Preservation/Plan-Wide Activities and Very Low Density Use. Activities that could occur on the 107,000 acres would be deed restricted and no more intensive than the types of agricultural, ranching, and other traditional rural land use activities that have occurred historically throughout the ECMSHCP area. The 107,000-acre area also includes areas that function as regional wildlife corridors, potentially allowing for wildlife movement between publicly owned conservation lands in Southwest Florida. The deeds associated with the land parcels within the 107,000 acres would be designated for either continuation of current land use, very low density development, or possibly conservation, as development within the 45,000 acres occurs. Therefore, direct impacts on general wildlife under Alternative 2 would likely be significant, but less than Alternative 1.

4.9.4 Wildlife Habitat Linkages and Corridors

4.9.4.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP program would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required. Landowners can opt to develop their lands according to base zoning. Alternatively, landowners can voluntarily participate in the RLSP. Potential consequences from developing according to base zoning include disjointed development and the absence of planned conservation areas within the ECMSHCP area; which could adversely impact wildlife. Wildlife corridors would not be preserved and linkages to allow for wildlife movement and dispersal between public conservation lands would not be preserved. Development under the RLSP is expected to facilitate wildlife linkages and habit corridors in the RLSP's designated SSA. Because participation in the RLSP is

voluntary, we expect that some land owners will opt out of the RLSP thereby leaving some key wildlife corridors vulnerable to significant impacts.

4.9.4.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

The ECMSHCP would assure preservation of some wildlife dispersal corridors that provide important linkages between existing public lands that conserve habitat for the Florida panther and other wildlife species. These areas would function as regional wildlife corridors, allowing for wildlife movement between publicly owned conservation lands in southwest Florida, such as the FPNWR, BCNP, CREW, OSSF, Dinner Island Ranch Wildlife Management Area, and Spirit of the Wild Wildlife Management Area. Some existing wildlife corridors on agricultural lands would be narrowed by planned development; particularly the northwest corridor leading from CREW to OSSF, and the corridor from FPNWR to Owl Hammock north of Oil Well Road and west of State Road 29. Despite the narrower cross section of these two corridors proposed in Alternative 2 these corridors will be preserved and maintained to encourage wildlife movements towards planned wildlife under passes. The conservation and management of these habitat linkages would provide important ecological benefits for the Florida panther, other covered species, and other general wildlife. Preservation of permanent wildlife corridors over time would provide linkages to public conservation lands that would benefit the movement and dispersal of many wildlife species. Under Alternative 2, there would be significant impacts to wildlife corridors; but these impacts would be less than Alternative 1.

4.9.5 Migratory Birds

4.9.5.1 Alternative 1 - No Action Alternative

The No Action Alternative would include current (baseline) zoning of individual 5-arcre residential "ranchettes" plus RLSP – based development planning. Projects developed under the RLSP would include conservation easements applied to lands in SSAs; which would benefit migratory birds. It is not anticipated that individual lot owners would implement migratory bird conservation actions under base zoning. Since participation in the RLSP is voluntary, the No Action Alternative is expected to lead to more fragmented habitats for these species. While the No Action Alternative is expected to have effects, they are expected to be below significant.

4.9.5.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

The ECPO propose to implement measures from the *Nationwide Standard Conservation Measures* (Service 2016) regarding migratory bird conservation. Based on the large scale of ECMSHCP's Covered Activities, each project requires flexibility to establish appropriate project-specific avoidance measures (e.g., timing of impacts within a project boundary). The relatively low proportion of migratory bird habitat within the ECMSHCP's Covered Activities area minimizes the potential for impacts to migratory birds. The ECMSHCP's preserve areas include native habitats that are valuable to migratory birds. Land management practices and habitat restoration within preserves is expected to improve this value. In addition, the ECMSHCP preserve areas are less fragmented than the habitat in the No Action Alternative. The ECMSHCP does not anticipate direct and purposeful take of migratory birds, their eggs, or their nests. If unforeseen circumstances require a MBTA permit, the ECPO would coordinate with the Service. Therefore, the effects of Alternative 2 are expected to be below significant, and less than Alternative 1.

4.9.6 Bald Eagles

4.9.6.1 Alternative 1 - No Action Alternative

The No Action Alternative would include current (baseline) zoning of individual 5-arcre residential "ranchettes"; as well as commercial development, mining and associated infrastructure (roads, utilities). Two bald eagle nests occur within the ECMSHCP area. Should bald eagles nest near an individual's property or other development site, the property owner can avoid incidental take by adhering to the Service guidelines, and providing a minimum 200-meter (660-foot) buffer between construction activities and the eagle nest. If it is impractical to observe a 200-meter buffer around a nest tree, the property

owner can coordinate with the Service and apply for an eagle take permit. The Migratory Bird Division of the Service would advise the property owner on how best to proceed in the event an eagle permit is deemed necessary. Due to the small number of bald eagle nests in the ECMSHCP area and because most people choose to follow the guidelines, the impact of the No Action Alternative is expected to be below significant.

4.9.6.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

The two bald eagle nests inside the ECMSHCP boundary are within areas to be permanently preserved; and five eagle nests are documented within a mile of the ECMSHCP boundary. However, the applicants are not seeking incidental take coverage for bald eagle for the following reasons: 1) bald eagle nests typically have not occurred within the Covered Activities areas of the ECMSHCP, presumably due to the general lack of suitable nesting sites in previously cleared agricultural areas and extensive areas of suitable nesting sites nearby; 2) should bald eagles nest within an individual project area when Covered Activities are being implemented, the permittees can almost certainly avoid incidental take by adhering to the Service guidelines, and providing a minimum 200-meter (660-foot) buffer between construction activities and the eagle nest; and 3) if it is impractical to observe a 200-meter buffer around a nest tree, the permittee can coordinate with the Service and apply for an eagle take permit. The Migratory Bird Division of the Service would advise the ECPO on how best to proceed in the event an eagle permit is deemed necessary. The Service's eagle disturbance permit process is further described at the following internet resource: https://www.fws.gov/southeast/our-services/permits/eagles/.

The impact of the ECMSHCP Alternative is expected to be below significant, and less than the No Action Alternative.

4.10 FEDERALLY LISTED AND CANDIDATE SPECIES

4.10.1 Florida Bonneted Bat

As previously discussed in Chapter 3, the FBB occurs within a restricted range and in low abundance. Roosting habitat includes all types of forest and other areas with large or mature trees or other areas with suitable roost structures, primarily mature or large live or dead trees, tree snags, and trees with cavities, hollows, or crevices. Foraging can occur up to 15 miles or more from roost sites. Habitat loss and alteration in forested and urban areas are substantial threats to the FBB. The ECMSHCP area is located within the FBB Consultation Area and Focal Areas.

4.10.1.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas if conducted according to base zoning. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the FBB due to reductions in forest areas that provide roosting habitat. Alternatively, landowners could opt to develop under the RLSP, which would include preservation of lands in the SSAs. Under the No Action Alternative, direct and indirect impacts on the FBB likely would result from development and the associated loss of roosting and foraging habitat. Possible take in the form of harassment or harm due to habitat loss and disturbance during development could occur. The overall impact on the FBB under this alternative would likely be adverse.

4.10.1.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Possible take in the form of harassment or harm due to habitat loss and disturbance during development could occur. Roosting habitat loss within the ECMSHCP area is estimated to be approximately 50 percent. However, this loss would occur in small, fragmented, low-quality habitats within larger agricultural areas. This loss would be offset by the permanent preservation of approximately 43 percent of the ECMSHCP area containing large contiguous forested systems that would provide roosting habitat,

interspersed with open area that would provide foraging habitat (approximately 16 percent of the ECMSHCP area). As noted in the discussion of potential construction impacts on the FP in Section 4.2.1.1.1 of the ECMSHCP, clearing of limited areas of potential roost trees for the FBB in conjunction with Covered Activities would be carried out in the dark to avoid and minimize potential direct harm to the FBB. The FBB utilizes a wide variety of habitats for foraging, and the forest habitats required for roosting would be protected in preservation areas. More extensive forest areas would be preserved and restored under this alternative and would be expected to accommodate the roosting habitat needs of bats displaced from the less expansive development areas. Under Alternative 2, the ECPO would avoid and minimize potential adverse impacts on the FBB, and habitat preservation and restoration are expected to offset potential adverse impacts. Thus, direct and indirect adverse impacts on the FBB under Alternative 2 are expected to be adverse, but less adverse than Alternative.

4.10.2 Audubon's Crested Caracara / Northern Crested Caracara

As previously discussed in Chapter 3, the Florida population of the ACC is isolated and habitat specific, preferring improved pasture. The ACC appears to be using pastures, ditches, and impounded wetlands as habitat, which have replaced their historical habitat. The ECMSHCP area falls within the USFWS Consultation Area for the ACC. In addition, a communal roost, or "gathering area" has been identified in the north-central portion of the ECMSHCP area, and three ACC nest locations have been identified in the ECMSHCP area.

4.10.2.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, ITSs for the covered species would be issued on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas if conducted according to base zoning. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the ACC due to reductions in areas that provide habitat. Alternatively, landowners could opt to develop under the RLSP, which would include preservation of lands in the SSAs. The three known ACC nest locations and the communal roost within the ECMSHCP area might not be protected from development. Under the No Action Alternative, direct and indirect impacts on the ACC, which could occur because of the loss of nesting and foraging habitat, potentially would be adverse.

4.10.2.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Indirect take in the form of harassment would occur due to ACC habitat loss during development or land management activities. Approximately 5 percent of the Covered Activities areas within the ECMSHCP area are considered core habitat for the ACC. Potentially suitable habitat in more than 10 percent of the ECMSCHP area would be preserved. Permanent losses of habitat would be mitigated through restoration and perpetual preservation, resulting in no net loss of ACC habitat. Two of the three known ACC nest locations and the communal roost area within the ECMSHCP area are in preservation areas. One of the nest locations is largely surrounded by areas designated for Covered Activities, and therefore is likely to be impacted by development. Under Alternative 2, the potential for adverse impacts on the ACC due to the loss of a nesting habitat would be offset through preservation and restoration, resulting in no net loss of ACC habitat. Thus, direct and indirect adverse impacts on the ACC are expected to be adverse, but less adverse than Alternative 1.

4.10.3 Wood Stork

As previously discussed in Chapter 3, USFWS recognizes the area within 18.6 miles of a WS colony as a CFA (USFWS 2014a). The ECMSHCP area is located within the CFA of at least six active WS colonies, three of which are located within the ECMSHCP area. Wetlands are heavily used for nesting and foraging. WS nesting habitat consists of mangroves, cypress, and various other live and dead shrubs or trees located in standing water or on islands surrounded by open water. The primary cause of the WS decline in the United States is the loss of wetland habitats or function, resulting in reduced prey availability.

4.10.3.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas if conducted according to base zoning. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the WS due to reductions in areas that provide habitat. Alternatively, landowners could opt to develop under the RLSP, which would include preservation of lands in the SSAs. Under the No Action Alternative, direct and indirect adverse impacts on the WS, resulting from development and the associated loss of suitable wetland nesting and foraging habitat within the ECMSHCP area, potentially would be adverse. However, the Corps and the State typically require some form of mitigation for wetland impacts. In most cases, the mitigation would offset impacts to WSs. Therefore, we anticipate that Alternative 1 would have insignificant effects to the WS.

4.10.3.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Take in the form of harassment has the potential to occur as a result of human activity and noise associated with construction and mining activities. The WS colonies and the majority of potentially suitable habitat found within the ECMSHCP area occur within land designated for Preservation/Plan-wide Activities and Very Low Density Use under the ECMSHCP. Within the areas designated for Covered Activities, wetland acreage is less than approximately 2 percent of the ECMSHCP area as compared to approximately 34 percent of native wetland areas designated for Preservation/Plan-wide Activities and Very Low Density Use. Because the Covered Activity areas have limited potential foraging habitat, and the nesting colonies are located in areas designated for preservation/plan-wide activities and very low density use, the potential for take is unlikely. Under Alternative 2, direct and indirect adverse impacts on the WS are expected to be below significant because the Covered Activity areas offer limited foraging habitat, and nesting colonies are located in areas designated for preservation and low density use. Alternative 2 includes hydrologic enhancement to the Camp Keais Strand flow way; which is used by foraging WS. Therefore, we believe that Alternative 2 will benefit WS in the ECMSHCP boundary.

4.10.4 Red-Cockaded Woodpecker

As previously discussed in Chapter 3, RCW populations are resistant to environmental and demographic variation but highly sensitive to the spatial arrangement of habitat. They require open pine woodlands with large old pines for nesting and roosting. The southwestern portion of the ECMSHCP area falls within the FWS Consultation Area for the RCW, and no active RCW clusters have been documented within the ECMSHCP area, although several active clusters have been documented 7 miles or more south of the ECMSHCP area.

4.10.4.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas if conducted according to base zoning. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the RCW due to reductions in areas that provide habitat. Alternatively, landowners could opt to develop under the RLSP, which would include preservation of lands in the SSAs. Although the RCW is not known to inhabit the ECMSHCP area currently, future disjointed development and the absence of planned conservation areas within the ECMSHCP area could indirectly impact the RCW by precluding its potential dispersal into the limited habitat within the ECMSHCP area. Under the No Action Alternative, potentially significant direct impacts on the RCW from development within the ECMSHCP area are unlikely because no clusters are known to exist within the area and potential habitat for the RCW is fragmented and limited in extent. Therefore, direct and indirect impacts on the RCW are expected to be insignificant.

4.10.4.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

No RCW clusters are known to occur within 7 miles of the Covered Activities areas, and the available habitat within these areas is fragmented and limited in extent. Thus, take is unlikely, although it may be possible in the future if chance dispersal events from nearby state and federal lands occur into the ECMSHCP area. Pine flatwoods cover less than approximately 6 percent of the ECMSHCP area, and approximately 14 percent of this habitat occurs within the Covered Activities areas. Thus, suitable RCW habitat, if present outside these areas, would be preserved or restored. No RCW colonies are known to exist on or near the ECMSHCP area, and potential habitat within the area is fragmented and limited in extent, and will be preserved, restored, or managed to provide for future dispersal of the RCW. Under Alternative 2, direct and indirect impacts are expected to be insignificant.

4.10.5 Florida Panther

As previously discussed in Chapter 3, the FP has occurred within the ECMSHCP area for more than three decades. Habitat of the FP is an extensive landscape composed of a mix of natural, semi-natural, and agricultural uses. Highest ranking habitats are pinelands, upland hardwood forests, hardwood swamps, and cypress swamps. The current range of the FP is south of the Caloosahatchee River, and the area has been divided into three zones. The Primary Zone is defined as lands essential to the long-term viability and survival of the FP; the Secondary Zone is defined as natural and disturbed lands in southwest Florida that may be important to transient sub-adult male panthers and have the potential to support an expanding panther population; and the Dispersal Zone is defined as a small wildlife corridor east of LaBelle, Florida, intended for protection to facilitate long-term movements of panthers out of south Florida and into central Florida north of the Caloosahatchee River. Females consistently select den sites in areas with extremely dense understory vegetation. Primary and Secondary Panther Zones are present in the ECMSHCP area, which represent 5.2 percent and 4.3 percent, respectively, of the total area of these zones. Approximately 53 percent of the ECMSHCP area is adult breeding range habitat as modeled by Frakes et al. (2015), and these habitats comprise approximately 5.85 percent of total FP adult breeding range habitat modeled south of the Caloosahatchee River.

The FPNWR and BCNP, which border the ECMSHCP area to the south, are public conservation lands that support the core population area for the FP. The OSSF that borders the ECMSHCP area to the north and east is heavily utilized by panthers, and serves as a landscape linkage in a panther dispersal corridor leading to the Caloosahatchee River and then northward into central Florida. The primary pathways, or corridors, likely to be used by FP in the vicinity of the ECMSHCP area are Okaloacoochee Slough between BCNP and OSSF, and Camp Keais Strand between FPNWR and the CREW. Threats to the FP include habitat loss, panther-vehicle collisions, decreases in genetic diversity due to isolation, reduced population size and associated inbreeding, and panther-human interactions.

4.10.5.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required. Development conducted according to base zoning in the RLSA open areas will comply with the 1 residence per 5-acre platted grid. The base zoning scenario does not include predefined development phasing or landscape-scale habitat preservation. Potential impacts from future disjointed development and the absence of planned conservation areas could adversely impact the FP by fragmenting movement corridors and eliminating FP habitat. Alternatively, landowners could opt to develop under the RLSP, which would include landscape-scale preservation of lands in the SSAs, and clustering of development into the SRAs. Development actions consistent with the RLSP are expected to be less harmful than those conducted according to base zoning.

Under the No Action Alternative, take of the FP in the form of harassment could occur during development, construction, mining, land management, and post-development activities. Direct harm to the FP is not anticipated. However, indirect harm (harm occurring later in time) could include loss of habitat associated with land clearing and increased development, and planned roadway improvements in

the area would increase the potential for panther-vehicle collisions and panther-human interactions. Direct and indirect effects on the FP from development include permanent loss and fragmentation of habitat that supports panthers and their prey, as well as harassment from construction and post-construction human activities. Due to the lack of comprehensive planning in areas developed under base zoning, habitat loss that would result from development under base zoning would not be minimized.

Construction Disturbance
Under the No Action Alternative, construction activities and associated disturbance of the FP from noise, light, and general construction activity may be more widespread than allowed under the ECMSHCP due to option for base zoning. The duration and scale of potential adverse effects may be limited as construction progresses from one area to another. FPs may be partially habituated to noise and human disturbance from agricultural operations in areas where much of the residential/commercial development would occur, so direct impacts from construction in these areas would be similar to impacts from ongoing land activities and likely would be temporary. FP may temporarily avoid these locations, but are expected to return and resume normal behavior in agricultural and natural areas following construction. Indirect impacts from reduced habitat availability could occur if FP or their prey reduces their use of adjacent habitats because of post-construction human activities associated with development. Construction activities may not be limited to daylight hours to minimize light and noise effects on the FP, especially at night when the FP is most active.

Earth Mining
Under the No Action Alternative, earth mining could result in the permanent loss of potentially suitable feeding and dispersal habitat, direct disturbance from mining activities, and indirect effects from road mortality due to vehicle collisions and post-mining human activities. The post-mining landscape may become lower-value FP habitat, resulting in additional habitat loss for the species. Mining operation could occur during both day and night periods, and vehicle operations may occur during nighttime as well as daytime, increasing the potential for panther-vehicle collisions. In consultation with federal agencies and applicants, the Service typically requests, and applicants usually agree, that haul trucks not operate outside of the mining site at night.

Panther-Vehicle Collisions
Existing roadways in the vicinity of the ECMSHCP area include state highways, county roads, and local roads, and I-75 passes just to the south of the ECMSHCP area. The ECMSHCP area does not include the existing state and county roadway network. Avoidance and minimization of environmental impacts resulting from improvements to the transportation network are the responsibility of FDOT and the Collier County Metropolitan Planning Organization, together with state and federal environmental regulatory agencies.

All roadways within the TAA currently operate under capacity (see Section 3.7). Roadways predicted to experience congestion in 2040 are CR 858, CR 846, and SR 29 north of CR 846. FP mortality has been documented along the segments of SR 29, CR 846, and CR 858 that transect areas of highest use by the FP and along other roadways within and outside the ECMSHCP area (Figure 4.10-1). Most records of FP dens in the ECMSHCP area are south of CR 858 within 2 to 3 miles on either side of SR 29 north of the FPNWR and BCNP. Historically, FP road mortality has been relatively high in Collier County; however, wildlife underpasses have greatly reduced the risk of panther-vehicle collisions, as have administrative actions such as reduction of nighttime speed limits. County and state roadway improvements are currently planned for SR 29 and SR 82; the improvements include increasing capacity by widening from two to four lanes. Increased capacity and widening would increase the potential for panther-vehicle collisions in the area. See Section 4.8 for a discussion of potential traffic impacts from these improvements. Under the No Action Alternative, an increase in the number of trips per day is expected to increase FP mortality from vehicle strikes.

Panther-Human Interactions
Under the No Action Alternative, associated increases in population and human activity would increase the potential for adverse panther-human interactions. Under the base zoning scenario, lower development density would be less of a deterrent to panther movement than more concentrated development. This, in turn, would increase the likelihood of panther-human interactions to a level similar to what has occurred in the adjoining Golden Gate Estates. Landowners opting to participate in the RLSP

would incorporate higher development density by clustering development in SRAs. FPs are known to avoid densely-developed areas. Therefore, we believe the risk of human-panther interactions will be less in the SRAs than in base zoning developments.

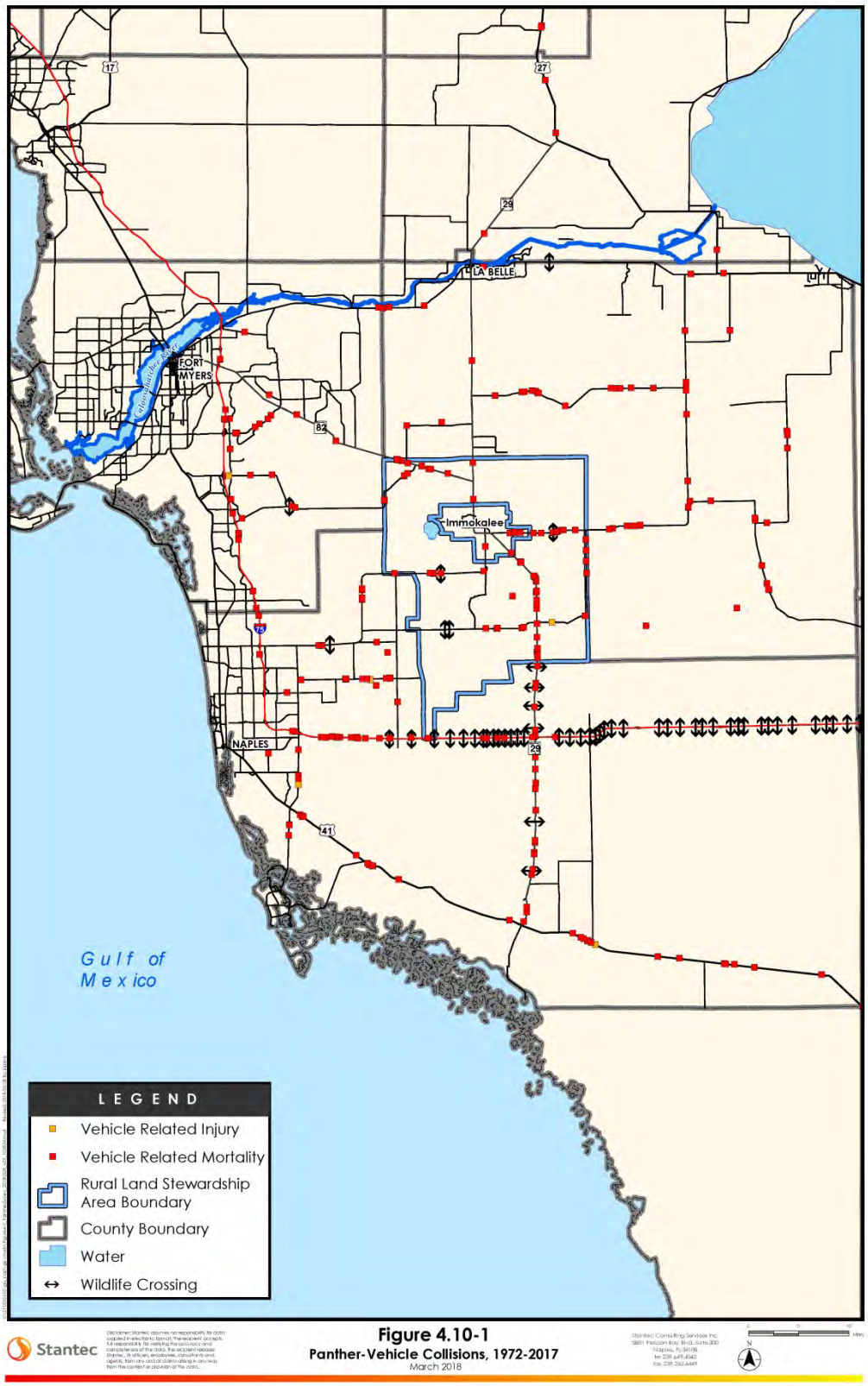


Figure 4.10-1. Panther-Vehicle Collisions, 1972-2017

Summary
Under the No Action Alternative, there could be potentially significant direct and indirect impacts on the FP because future development, if compliant with base zoning, would be disjointed. Base zoning would not contribute to the preservation of wildlife corridors or enhance permanent linkages between existing public conservation lands. Potential impacts from future disjointed development and the absence of planned conservation could adversely impact the FP due to the loss of a variety of habitats on which it depends, habitat fragmentation, lack of planned preservation of wildlife corridors to provide permanent linkages between existing public conservation lands, disturbance due to construction and earth mining, and direct harm from panther-vehicle collisions. Landowners voluntarily opting to participate in the RLSP would be allowed to build at a higher density than base zoning in the SRAs, in exchange for preserving higher-valued panther habitats in SSAs. Under the No Action Alternative, we anticipate that direct and indirect impacts to the FP would adversely affect the FP.

4.10.5.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Take of the FP in the form of harassment could potentially occur during ECMSHCP site development, construction, mining, land management, and post-development activities. Direct harm to the FP is not anticipated from implementation of the ECMSHCP; however, there could be loss of habitat in Covered Activities areas associated with land clearing and increased development, and planned roadway improvements in the area would increase the potential for panther-vehicle collisions and panther-human interactions. Land management activities could impact panthers in a manner similar to residential/commercial construction activities such as by causing temporary and permanent avoidance of development and land management activity areas. However, extensive forested areas would be preserved and restored under this alternative, and landscape-scale FP habitat corridors would be maintained, providing linkages to allow for FP movement and dispersal between public conservation lands and other habitat areas.

Habitat Loss
As discussed in the ECMSHCP, Section 4.2.1.1.1, direct and indirect effects on the FP from development include permanent loss and fragmentation of habitat that supports FP and prey species, and harassment from construction and post-construction human activities. These adverse effects can be partially offset by habitat compensation. Some habitat loss would result from the Covered Activities, but this loss would be concentrated, clustered, and directed away from most high- value habitats by focusing development within already disturbed habitats. Under the ECMSHCP, most lands consistently used by the FP would be designated for preservation/plan-wide activities and very low density use. Landscape-scale project planning also is expected to further avoid, minimize, and mitigate impacts to FP habitat. Only 10 percent of the area designated for Covered Activities consists of native habitat, and most of this native habitat occurs as small, isolated patches within large agricultural areas. Agricultural land and other land uses neither selected nor avoided by FP comprise approximately 80 percent of the area designated for Covered Activities and almost 90 percent if the 45,000-acre limit for Covered Activities at ECMSHCP completion is considered. Following ECMSHCP completion, it is expected that the surplus acreage within the Covered Activities areas would not be developed as a condition of ITP permit issuance in order to preserve panther habitat. Interconnecting private lands that comprise most of the Okaloacoochee Slough would be preserved to provide linkage between core FP population areas south and east of the ECMSHCP area and the FP Dispersal Zone, including preservation of corridors within the ECMSHCP area to facilitate safe FP passage (Figure 4.10-2).

Construction Disturbance
As discussed in the ECMSHCP, Section 4.2.1.1.1, noise and human activity as construction approaches field edges adjacent to forested FP habitat could temporarily affect FP utilization of the area. The duration and scale of potential adverse effects would be limited as construction progresses from one area to another. As discussed in the ECMSHCP, implementation of the ECMSHCP would limit most construction to daylight in order to minimize potential disturbance of the FP from light and noise effects. FP may be partially habituated to noise and human disturbance from agricultural operations in areas where most of the residential/commercial development would occur. Disturbance impacts from this construction would be temporary, similar in some locations to ongoing land activities. FP may temporarily avoid these locations, but are expected to return and resume normal behavior following

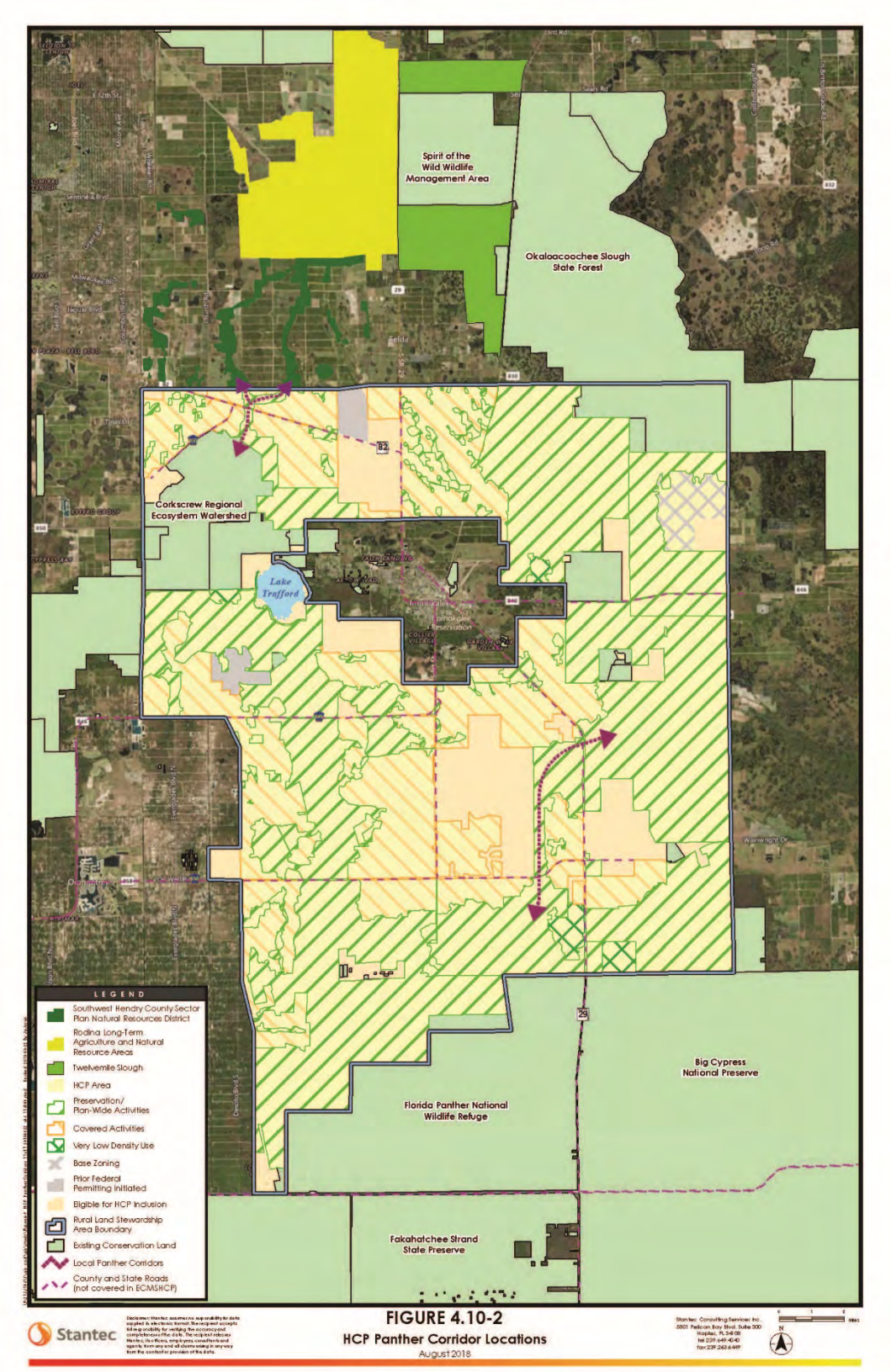


Figure 4.10-2. East Collier Multiple Species Habitat Conservation Plan Panther Corridor Locations

construction. Indirect impacts from reduced habitat availability in Covered Activity areas are expected to occur for both FPs and their prey. By largely directing development away from the Okaloacoochee Slough and areas adjacent to the FPNWR, and by preserving interconnected FP habitats, the adverse effects of lost habitat are expected to be less severe. In addition, developments incorporated light and noise barriers between preserved and developed areas, thereby reducing the intensity of noise and light disturbance in the preserved lands; especially at night when panthers are most active.

Earth Mining

Earth mining within the ECMSHCP area could result in the permanent loss of potentially suitable feeding and dispersal habitat, direct disturbance from mining activities, and indirect effects from road mortality due to vehicle collisions and post-mining human activities. The post-mining landscape may become lower-value FP habitat, resulting in additional habitat loss for the species. Mining operations could occur during both day and night periods, but vehicle operations would occur only during the daytime to minimize the potential for panther-vehicle collisions.

Panther-Vehicle Collisions

The existing roadways within the ECMSHCP area include state highways, county roads, and local roads, and I-75 passes just to the south of the ECMSHCP area. All roadways within the TAA currently operate under capacity (see Section 2.8). Roadways predicted to experience congestion in 2040 are CR 858, CR 846, and SR 29 north of CR 846. FP mortality has been documented along the segments of SR 29, CR 846, and CR 858 that transect areas of highest use by the FP and along other roadways within and outside the ECMSHCP area (Figure 4.10-1). Most records of FP dens in the ECMSHCP area are south of CR 858 within 2 to 3 miles on either side of SR 29 north of the FPNWR and BCNP. Historically, FP road mortality has been relatively higher in Collier County; however, wildlife underpasses have greatly reduced the risk of panther-vehicle collisions, as have administrative actions such as reduction of nighttime speed limits. County and state roadway improvements are currently planned for SR 29 and SR 82; the improvements include increasing capacity by widening from two to four lanes. Increased capacity and widening could increase the potential for panther-vehicle collisions in the area, especially in the absence of wildlife fencing and underpasses. See Section 4.8 for a discussion of potential traffic impacts from these improvements.

Although the applicants and the Service do not control external roadway conditions (such as speed limits, driver behavior, or the installation of wildlife fending or wildlife underpasses), this EIS identifies the long-term operational changes likely to be associated with projected development within the ECMSHCP. The USFWS considered an increase in the number of trips per day, and determined such an increase may lead to adverse effects on the FP. Avoidance, minimization, and compensation measures associated with roadway improvements would be expected to partially offset the potential for substantial adverse effects on the FP from future increases in traffic. Land preservation through the ECMSHCP is expected to further help avoid and minimize transportation-related impacts to the FP by preserving habitat away from highways, preserving habitat corridors that help to minimize the roadway crossing areas used by the FP, and preventing development in areas that might otherwise result in increased traffic. According to the ECMSHCP, the plan would provide land preservation, through perpetual easements on both sides of key roadway segments, that would make the construction of more fenced wildlife crossings possible through the FDOT Work Program, the Marinelli Fund, or otherwise.

Panther-Human Interactions

Implementation of the ECMSHCP would allow Covered Activities, including residential/commercial development and earth mining activities, in specific areas. Increases in human population and activity associated with these would increase the potential for adverse panther-human interactions. And these interactions could result in the permanent removal of panthers from the wild. Under Alternative 2, the Covered Activities would be located outside of most higher value FP habitats by focusing development primarily within already disturbed habitats. Under the ECMSHCP, most lands consistently used by the FP would be designated for preservation/plan-wide activities and very low density use. These aspects of the ECMSHCP would be expected reduce the likelihood of panther-human interactions.

Mitigation

The ECMSHCP provides for up to 45,000 acres for Covered Activities. These activities would require mitigation to account for potential impacts to FP habitat through the use of Panther Habitat Units (PHUs).

The ECMSHCP conducted analyses using the USFWS Panther Habitat Assessment Methodology (USFWS 2012) to evaluate the overall effects of the ECMSHCP in terms of potential FP habitat impacts and needed mitigation, based on land cover acreage and the functional value of land cover types as panther habitat.

The preservation acreage used for the analysis was conservative, based only on the interconnected habitat areas to be preserved. According to the analysis described in the ECMSHCP, Section 4.2.2, the plan provides more than sufficient mitigation to offset potential FP habitat impacts. The total number of PHUs provided through preservation of conservation lands would exceed required PHU compensation levels, as calculated by the USFWS Panther Habitat Assessment Methodology. Although there is uncertainty associated with the specific development locations and types, the calculations were performed using conservative assumptions to provide reasonable assurance that sufficient PHUs would be provided under the ECMSHCP to offset potential impacts from Covered Activities (see ECMSHCP, Sections 4.2.2.3 through 4.2.2.5).

Summary
Under Alternative 2, including proposed mitigation, direct and indirect adverse impacts on the FP would be limited. Potential impacts from future development associated with Covered Activities within the ECMSHCP area could adversely impact the FP due to the loss of habitat, disturbance due to construction and earth mining, and direct harm from panther-vehicle collisions. The ECMSHCP would preserve FP habitat, limit habitat fragmentation, preserve wildlife corridors to provide permanent linkages between existing public conservation lands, and reduce the likelihood of panther-vehicle collisions. Under Alternative 2, direct and indirect adverse impacts on the FP within the ECMSHCP area would likely be less adverse than the No Action Alternative.

4.10.6 Florida Scrub-jay

As previously discussed in Chapter 3, the FSJ is restricted to peninsular Florida, non-migratory, and permanently territorial. Preferred habitat is patches of oak scrub within a matrix of little-used saw palmetto and herbaceous swale marshes. Brushy pastures, scrubby corridors along railway and road rights-of-way, and open burned flatwoods offer linkages for colonization. No FSJs have been documented within the ECMSHCP area since the 1992-1993 statewide FSJ census, and according to the ECMSHCP, it is not known if the species currently inhabits the locations in the northwest corner of the ECMSHCP area where there were six observations in the census.

4.10.6.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. If developed according to base zoning, historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas. Alternatively, landowners could opt to develop under the RLSP, which would include preservation of lands in the SSAs. Although the FSJ is not known to inhabit the ECMSHCP area currently, future disjointed development and the absence of planned conservation areas within the ECMSHCP area could indirectly impact the FSJ by precluding its potential dispersal into the limited habitat within ECMSHCP area. Under base zoning, historic FSJ locations may be developed or impacted by development under this alternative. While suitable FSJ habitat, if present outside these areas, could be preserved or restored. Because it is unknown whether the FSJ still inhabits these areas where it was observed historically, it is unknown whether it would be directly impacted. Therefore, direct and indirect adverse impacts on the FSJ may occur if FSJs still occupy previously observed areas within development impacts.

4.10.6.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Suitable FSJ habitat does not appear to exist within the Covered Activities area, although FSJ are known to exist in the Immokalee Urban Boundary. Take in the form of harassment could potentially occur if FSJ use marginal habitats near the Immokalee Urban Boundary as refugia. Biological surveys for FSJ, including marginal habitat, would be performed as needed during the planning and environmental

permitting phases of ECMSHCP implementation. Of the six locations within the ECMSHCP area where the FSJ was observed in the 1992-1993 census, three are in an area designated for Covered Activities and three are in areas designated for non-development. Thus, at least half of these historical observation areas are likely to be impacted by development under this alternative, while suitable FSJ habitat, if present outside these areas, could be preserved or restored. Because it is unknown whether the FSJ still inhabits these areas where it was observed historically, it is unknown whether it would be directly impacted. Under Alternative 2, direct and indirect impacts are expected to be below significant but less than the No Action Alternative because no FSJ populations are known to exist on or near the ECMSHCP area currently, and although potential habitat within the area is fragmented and limited in extent, it could be preserved, restored, or managed to provide for future dispersal of the FSJ from other areas.

4.10.7 Everglade Snail Kite

As previously discussed in Chapter 3, the ESK is wetland-dependent and feeds primarily on apple snails. Critical habitat for the ESK was designated in 1977; however, no critical habitat occurs within the ECMSHCP area. The ECMSHCP area lies within the FWS Consultation Area for the ESK. Currently, there are no documented ESK nests within the ECMSHCP area or within Collier County based on USFWS's available GIS data. The nearest nest to the ECMSHCP area is approximately 9 miles to the north. According to the ECMSHCP, Okaloacoochee Slough, which extends into the northeast corner of the ECMSHCP area, and Hinson Marsh in the northwestern portion of BCNP, are areas utilized by the ESK, and individuals also have been recorded in other locations on or adjacent to the ECMSHCP area. The principal threat to the ESK is the loss, fragmentation, and degradation of wetlands in central and southwest Florida resulting from urbanized and agricultural development and alterations to wetland hydrology through ditching, impoundment, and water-level management.

4.10.7.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the ESK. Alternatively, land owners could opt to participate in the RLSP and pursue higher density developments in SRAs, in exchange for conservation within the SSAs. Under the No Action Alternative, potentially significant direct and indirect adverse impacts on the ESK could occur because of the loss of nesting and foraging habitat within the ECMSHCP area. Although the ESK is not known to nest within the ECMSHCP area currently, future disjointed development and the absence of planned conservation areas within the ECMSHCP area could indirectly impact the ESK by precluding its potential dispersal into and use of suitable wetland habitats within ECMSHCP area. However, the loss of the wetland habitats would be minimized by existing wetland regulations. Under the No Action Alternative, potentially significant direct impacts on the ESK from development within the ECMSHCP area are unlikely because no nests are known to exist within the area and potential habitat for the ESK is fragmented and limited in extent. Therefore, direct and indirect impacts on the ESK are expected to be below significant levels.

4.10.7.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Take in the form of harassment due to human activity and noise associated with Covered Activities development could occur. Within the areas designated for Covered Activities, freshwater marsh acreage is less than 1 percent of the ECMSHCP area as compared to approximately 11 percent of freshwater marsh designated for preservation and very low density use. The ECMSHCP generally avoids impacts to freshwater marsh and other wetland habitats that potentially provide nesting and foraging habitat for the ESK. Under Alternative 2, impacts on the ESK are anticipated to be below significant levels because of the small acreage of suitable habitat that would be affected by Covered Activities, the general avoidance of potential nesting and foraging habitat by planned development, and environmental permitting protections.

4.10.8 Eastern Indigo Snake

As previously discussed in Chapter 3, the IS is presumed to occur throughout the action area because this species uses diverse habitats such as dry prairie, edges of freshwater marshes, agricultural fields, and human-altered habitats, and is most commonly observed in hardwood hammocks and pinelands. The IS prefers upland habitats and is commonly associated with gopher tortoises where they occur. The primary threat to IS is habitat fragmentation and loss. The IS has been observed on existing conservation land in the northwest corner of the ECMSHCP area.

4.10.8.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the IS due to the loss of a variety of upland habitats on which it depends, habitat fragmentation, as well as direct harm during site clearing and construction. Under the No Action Alternative, direct and indirect adverse impacts on the IS within the ECMSHCP area could be potentially significant.

4.10.8.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, take in the form of harm or harassment due to human activity associated with Covered Activities development could occur. Covered Activities would affect an estimated 1 percent of native upland habitats and occur primarily in agriculture areas. Some of the agricultural land uses provide suitable habitat (citrus, and unimproved pasture) but are fragmented by roads. Approximately 7 percent of the native upland habitat would be preserved under the ECMSHCP, including linkages between habitat mosaics important for IS conservation. Native upland habitat in the Covered Activities areas is a small percentage of the overall ECMSHCP area. Primarily agricultural land would be disturbed, and upland native habitats and important interconnecting habitat mosaics would be preserved under the ECMSHCP. The IS could be directly harmed by construction, mining, or land management activities or harassed by human activity and vibration associated with development implemented in accordance with the plan. Overall, direct and indirect impacts on the IS under Alternative 2 are anticipated to be adverse, but less adverse than Alternative 1.

4.10.9 Gopher Tortoise

As previously discussed in Chapter 3, the GT is a candidate for listing under the ESA and is state-listed as threatened. The GT prefers grassy, open-canopy microhabitats, and burrows are the habitat and center of normal feeding, breeding, and sheltering activity. GTs have been observed only in the northwest corner of the ECMSHCP area. In Florida, GTs must be relocated before any land clearing or development takes place, and property owners must obtain permits from the FWC before they can move them.

4.10.9.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, section 7 consultations for the covered species would be conducted on a case-by-case basis when a federally-authorized action requires an ITS ; or for non-federal actions, issued an ITP after applying for an HCP. Historical land uses and development would continue on a project-by-project basis, subject to traditional environmental reviews, if required, with no predefined development pattern or preservation of conservation areas. Potential impacts from future disjointed development and the absence of planned conservation areas within the ECMSHCP area could adversely impact the GT. The GT must legally be relocated before any land clearing or development takes place, and property owners must obtain permits from the FWC before they can move them. Therefore, under the No Action Alternative, adverse direct and indirect impacts on the GT are expected to be below significant.

4.10.9.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, take of the GT in the form of harm from injury or death is possible, but unlikely. Take in the form of harassment due to human activity and noise associated with Covered Activities and land management potentially could occur. Native upland habitats that the GT uses in central Florida are limited within the ECMSHCP area, with the exception of pine and oak uplands. Covered Activities comprise an estimated 1 percent of native upland habitats and occur primarily in agricultural areas fragmented by roads, while approximately 7 percent of the native upland habitat would be preserved under the ECMSHCP. If the GT is present, it must legally be avoided or relocated. (This also would provide some protection for the IS and GF that use GT burrows.) Under Alternative 2, surveys would be performed during planning and environmental permitting, any GT present in Covered Activities areas would be moved before land disturbance, and most of the native upland habitat in this area would be preserved. Therefore, Alternative 2 is expected to result in below significant impact on GT.

4.11 STATE LISTED SPECIES

In addition to the federally listed covered species, the ECMSHCP covers eight species that are not federally listed but are currently listed by the state of Florida as “threatened” (Table 3.9-1), based on recent Biological Status Reviews by the Florida FWC. All of the state-listed species in Table 3.9-1 would benefit directly from the ECMSHCP, because each of these species utilizes habitats that are the same as or similar to those utilized by the federally listed covered species.

4.11.1 Florida Burrowing Owl

As previously discussed in Chapter 3, the FBO is state-listed as threatened. This small raptor that eats mainly insects, spends most of its time on the ground, and uses burrows. The FBO prefers open habitats with short vegetation and has adapted to human activity. In addition to native dry prairies, it inhabits pastures, agricultural fields, golf courses, and vacant lots, even in urban areas. The FBO has been documented within and adjacent to the ECMSHCP area. Two FBO locations have been identified within the ECMSHCP area, and three other locations have been identified within 5 miles outside of the ECMSHCP area boundary.

4.11.1.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, no ITPs for covered species would be issued, and the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas under the ECMSHCP could adversely affect the FBO, although the FBO is adaptable in utilizing areas that have been cleared by humans for purposes other than buildings and paving. Under the No Action Alternative, potential direct and indirect adverse impacts on the FBO could occur because of the loss of nesting and foraging habitat from uncoordinated and more expansive development, and the lack of planned conservation areas within the ECMSHCP area. Overall, adverse effects on the FBO under the No Action Alternative would likely be below significant levels.

4.11.1.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect take of the FBO potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, approximately 37 percent of the acreage within the ECMSHCP area provides potentially suitable habitat for the FBO, and the preservation of extensive areas from development would allow the FBO to continue to occupy these habitats. In addition, the FBO is adaptable in utilizing areas that have been cleared by humans for purposes other than buildings and paving. Therefore, adverse impacts on the FBO under Alternative 2 would likely be below significant. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized through habitat preservation and a much smaller development footprint, and adverse impacts on the FBO would likely be less than the No Action Alternative.

4.11.2 Little Blue Heron, Tricolored Heron, and Roseate Spoonbill

As previously discussed in Chapter 3, the LBH, TCH, and RS are state-listed as threatened. The LBH and TCH depend on healthy wetlands, mangrove and other islands, and vegetated areas suitable for nesting and breeding and near foraging habitat. The RS also depends on these habitats and primarily nests on coastal islands. The LBH typically nests and roosts in multi-species colonies, but usually forages singly. The TCH typically nests in multi-species colonies of various sizes, primarily in coastal habitats. The RS is social and gathers in small to large groups when feeding and roosting. Populations of these species in Florida are expected to continue to slowly decline, mainly due to habitat loss. However, extensive areas of potentially suitable freshwater habitat for wading birds exist within the ECMSHCP area, and the LBH and TCH are routinely observed within this area. Numerous recent observations of the RS have occurred in the ECMSHCP area.

4.11.2.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue within the area on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas under the ECMSHCP could adversely affect the LBH, TCH, and RS. However, loss of the wetland habitats they utilize would be minimized by existing wetland regulations. Overall, adverse effects on the LBH, TCH, and RS under this alternative would likely be limited. Under the No Action Alternative, potential direct and indirect adverse impacts on the LBH, TCH, and RS could occur because of the loss of foraging and/or nesting habitat from disjointed and more expansive development, and the lack of planned conservation areas within the ECMSHCP area, but would likely be below significant levels.

4.11.2.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect take of the LBH, TCH, and RS potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, existing wetland regulations would minimize habitat loss in these areas, and the preservation of extensive areas from development would allow these species to continue to utilize the wetland habitats in these areas. Given the protection of wetland habitats used by these species throughout the ECMSHCP area and the preservation of extensive areas from development, the potential for adverse effects on the LBH, TCH, and RS under this alternative would be below significant. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized through habitat preservation and a much smaller development footprint, as well as enforcement of wetland protection regulations in development areas. Accordingly, adverse impacts on the LBH, TCH, and RS would likely be less than the No Action Alternative.

4.11.3 Southeastern American Kestrel

As previously discussed in Chapter 3, the SAK is state-listed as threatened, and now breeds no farther south than Highlands and Lee Counties. The SAK uses a variety of habitats in Florida, including scrub, scrubby flatwoods, dry prairie, pastures, parks, golf courses, and orange groves, and it nests in cavities. The FNAI does not include Collier County in the SAK's range, and the FWC Species Action Plan identified no SAK breeding records within the ECMSHCP area.

4.11.3.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue within the area on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Although the presence of the SAK within the ECMSHCP area has not been documented, future disjointed development and the absence of additional planned preservation areas within the ECMSHCP area could reduce suitable habitat available to the SAK. Overall, adverse effects on the SAK under this alternative would likely be limited. Under the No Action Alternative, potential direct and indirect adverse impacts on the SAK could occur because of the loss of nesting and foraging habitat from

disjointed and more expansive development, and the lack of planned conservation areas within the ECMSHCP area. Under the No Action Alternative, impacts on the SAK would likely be below significant levels.

4.11.3.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect take of the SAK potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, the presence of the SAK within the ECMSHCP area has not been documented, and the preservation of extensive areas from development would be beneficial, allowing this species to utilize suitable habitats in these areas. Given the protection of habitats that could be used by the SAK within the extensive areas that would be preserved from development, the potential for adverse effects on the SAK under this alternative would be below significant. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized through preservation and a much smaller development footprint, and adverse impacts on the SAK would likely be less than the No Action Alternative.

4.11.4 Florida Sandhill Crane

As previously discussed in Chapter 3, the FSC is state-listed as threatened. This species utilizes shallow marshes for roosting and nesting and forages in wet and dry prairies; freshwater marshes; agricultural areas such as pastures, feed lots, and crop fields; and golf courses and other open lawns. The FSC is non-migratory and occurs mainly in peninsular Florida south to the northern edge of the Everglades.

4.11.4.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas within the ECMSHCP area could adversely affect the FSC as a result of habitat loss, although the FSC is adaptable in utilizing agricultural and developed areas such as pastures, crop fields, golf courses, and lawns as foraging habitat. Overall, adverse effects on the FSC under this alternative would likely be limited. Under the No Action Alternative, potential direct and indirect adverse impacts on the FSC could occur because of the loss of foraging and/or nesting habitat from disjointed and more expansive development, and the lack of planned conservation areas within the ECMSHCP area. These impacts would likely be below significant levels.

4.11.4.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect take of the FSC potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, the ECMSHCP includes an abundance of shallow marshes for roosting and nesting and open upland and wetland habitats for foraging, and the preservation of extensive areas from development would allow the FSC to continue to occupy these habitats. In addition, the FSC is adaptable in utilizing agricultural and lawn areas for foraging. Therefore, adverse impacts on the FSC under this alternative ***would likely be below significant. Under Alternative 2, potential adverse impacts from the loss of habitat*** would be minimized through preservation and a much smaller development footprint, as well as enforcement of wetland protection regulations in development areas. Accordingly, adverse impacts on the FSC would likely be less than the No Action Alternative.

4.11.5 Everglades Mink

As previously discussed in Chapter 3, the EM is state-listed as threatened. The EM is a disjunct population of the American mink that utilizes mainly wetland habitats, including marshes and swamps. Population size, territory, and extent of occurrence in the ECMSHCP area are poorly known. Although no EM occurrences have been documented in the ECMSHCP area, the EM is included as a covered species in the ECMSHCP due to the proximity of the ECMSHCP area to the FSPSP, where the EM has been observed; the presence of wetland habitats within the ECMSHCP area; and the general lack of knowledge regarding the EM's current population status and distribution in the ECMSHCP area.

4.11.5.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas within the ECMSHCP area could adversely affect the EM as a result of habitat reduction and fragmentation. However, loss of the wetland habitats it utilizes would be minimized by existing wetland regulations. Overall, adverse effects on the EM would likely be limited. Under this alternative, potential direct and indirect adverse impacts on the EM could occur because of the loss of habitat from disjointed and more expansive development, and the lack of planned conservation areas within the ECMSHCP area. Under the No Action Alternative, impacts on the EM would likely be below significant levels.

4.11.5.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect take of the EM potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, existing wetland regulations would minimize habitat loss in these areas, and the preservation of extensive areas from development would allow the EM to continue to utilize the wetland habitats. Given the protection of wetland habitats used by this species throughout the ECMSHCP area and the preservation of extensive areas from development, the potential for adverse effects on the EM under this alternative would be negligible. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized through preservation and a much smaller development footprint, as well as enforcement of wetland protection regulations in development areas. Accordingly, adverse impacts on the EM would likely be below significant, but less than the No Action Alternative.

4.11.6 Big Cypress Fox Squirrel

As previously discussed in Chapter 3, the BCFS is state-listed as threatened. The BCFS occurs only in southwestern peninsular Florida, south of the Caloosahatchee River, in Hendry, Lee, and Collier Counties. BCFS habitats include forests of slash pine, cypress, live oak, and tropical hardwoods. The BCFS also uses urbanized and agricultural areas, which may provide suitable habitat as long as large trees remain available to provide food and nest sites. For nesting, the BCFS principally uses cypress trees adjacent to good foraging habitat. Suitable nesting and foraging habitats exist in the ECMSHCP area.

4.11.6.1 Alternative 1 - Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas within the ECMSHCP area could adversely affect the BCFS as a result of habitat reduction and fragmentation. However, loss of the cypress wetland habitats they utilize for nesting would be minimized by existing wetland regulations, and adverse effects on the BCFS would likely be limited. Under the No Action Alternative, potential direct and indirect adverse impacts on the BCFS could occur because of the loss of habitat from disjointed and more expansive development, and the lack of planned conservation areas within the ECMSHCP area. Impacts on the BCFS would likely be below significant levels.

4.11.6.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect take of the BCFS potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, existing wetland regulations would minimize habitat loss in these areas, and the preservation of extensive areas from development would allow the BCFS to continue to utilize the habitats in these areas. Given the protection of wetland habitats, including the cypress forest preferred for nesting, and other forest habitats used by this species throughout the ECMSHCP area, as well as the preservation of extensive areas from development, the potential for adverse effects on the BCFS would be below significant. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized

through preservation and a much smaller development footprint, as well as enforcement of wetland protection regulations in development areas. Accordingly, adverse impacts on the BCFS would likely be less than the No Action Alternative.

4.12 OTHER SPECIES OF CONCERN

4.12.1 Eastern Diamondback Rattlesnake

As previously discussed in Chapter 3, the EDR has been petitioned for federal listing and is currently under status review. The EDR is still locally common in suitable habitat in Florida. This species inhabits a wide range of habitats, including pine and pine-palmetto flatwoods, longleaf pine-turkey oak hills, rosemary scrub, mesic and xeric hammocks, wet savannas and prairies (during dry periods), dry prairie, mixed pine-hardwood successional woodland, and abandoned farms and fields. The EDR uses gopher tortoise and armadillo burrows, stump holes, and cavities at the bases of hardwood trees as shelter.

4.12.1.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas within the ECMSHCP area could reduce the availability of suitable habitat for the EDR. Overall, adverse effects on the EDR under this alternative would likely be minimal. Under the No Action Alternative, potential direct and indirect adverse impacts on the EDR would likely be below significant levels.

4.12.1.2 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect adverse effects on the EDR potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, the preservation of extensive areas from development would allow the EDR to continue to utilize suitable upland habitats in these areas. Given the protection of habitats used by this species throughout the ECMSHCP area and the preservation of extensive areas from development, the potential for adverse effects on the EDR under this alternative would be minimal. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized through preservation and a much smaller development footprint. Accordingly, adverse impacts on the EDR would likely be less than significant and less than the No Action Alternative.

4.12.2 Gopher Frog

As previously discussed in Chapter 3, the GF has been petitioned for federal listing and is currently under status review. It occurs in upland pine forest, scrub, xeric hammock, mesic and scrubby flatwoods, dry prairie, mixed hardwood-pine communities, and a variety of disturbed habitats. Breeding has been observed in depression marshes, basin marshes, wet prairies, dome swamps, upland sandhill lakes, sinkhole ponds, ditches, and borrow pits. In Florida, the GF primarily uses GT burrows, although it will also use pocket gopher and small mammal burrows, crayfish burrows, stump holes, leaf litter, hollow logs, and clumps of grass for shelter.

4.12.1.3 Alternative1 - No Action Alternative

Under the No Action Alternative, no ITP for the GF or other covered species would be issued, and the ECMSHCP would not be implemented as proposed. Historical land uses and development would continue within the ECMSHCP area on a project-by-project basis, subject to existing zoning and traditional environmental reviews, if required, with no predefined development pattern or additional preservation areas. Future disjointed development and the absence of additional planned preservation areas within the ECMSHCP area could reduce the availability of suitable habitat for the GF. Overall, adverse effects on the GF under this alternative would likely be minimal, though potential direct and indirect adverse impacts on the GF could occur because of the loss of habitat and the lack of additional

conservation areas within the ECMSHCP area. Under the No Action Alternative, impacts on the GF would likely be below significant levels.

4.12.1.4 Alternative 2 - Issuance of ITPs for the ECMSHCP

Under Alternative 2, direct and indirect adverse effects on the GF potentially could occur in conjunction with habitat loss due to development or land management activities in areas designated for Covered Activities. However, existing wetland regulations would minimize breeding habitat loss in these areas, and the preservation of extensive areas from development would allow the GF to continue to utilize the wetland and upland habitats in these areas. Given the protection of breeding and foraging habitats used by this species throughout the ECMSHCP area and the preservation of extensive areas from development, the potential for adverse effects on the GF under this alternative would be minimal. Under Alternative 2, potential adverse impacts from the loss of habitat would be minimized through preservation and a much smaller development footprint, as well as enforcement of wetland protection regulations in development areas. Accordingly, adverse impacts on the GF would likely be below significant, but less than the No Action Alternative.

4.13 FARMLANDS

Federal permitting decisions, such as the Service's decision whether to issue an ITP for the ECMSHPC, is not subject to the FPPA. Even though the Service's decision is not subject to the FPPA, the Service is providing some general statements about farmlands in the ECMSHCP Area relative to the No Action and ECMSHCP Alternatives.

4.13.1 Alternative 1 – No Action

Under the No Action Alternative, the fate of intensive production row-cropped lands will vary depending on the lands designation under the RLSP and the owner's decision to participate in the RLSP. Most of the intensively row-cropped lands in the ECMSHCP boundary are in the RLSA boundary and are designated as RLSP receiving areas. These crop lands will most likely be converted to residential and commercial development, or mined, if the owner participates in the RLSP. Conversely, non-RLSP participants may elect to keep their croplands in agricultural production or develop these lands according to the base zoning criteria.

4.13.2 Alternative 2 – Issuance of ITPs for the ECMSHCP

Under the ECMSHCP Alternative, up to 35,638 acres of intensive-production row crop farmlands in the covered activity areas are expected be converted to residential or commercial development, or mines. Row crops located in the Camp Keais Strand flowway will be restored to forested and herbaceous wetlands.

4.14 COMPARISON OF ALTERNATIVES

The environmental impacts of the alternatives are summarized in Table 2-2. These summaries are derived from the information and analyses provided in Chapter 4.

Table 4.14-1. Summary and Comparison of Alternatives by Resource Area

Resource Area	No Action	Issuance of Incidental Take Permits for the East Collier Multiple Species Habitat Conservation Plan
Climate	Below Significant Impacts	Below Significant Impacts
Land Uses	Adverse Impacts	Adverse, but less than the No Action Alternative
Geology and Soils	Adverse Impacts	Adverse, but less than the No Action Alternative
Water Resources	Adverse Impacts	Adverse, but less than the No Action Alternative

Air Quality	Adverse Impacts	Adverse, but less than the No Action Alternative
Cultural Resources	Significant Impacts	Mitigated to Below Significant Impacts
Visual Resources	Below Significant Impacts	Below Significant Impacts
Transportation	Significant Impacts	Significant Impacts
Ecological Communities	Adverse Impacts	Adverse, but less than the No Action Alternative
General Wildlife	Adverse Impacts	Adverse, but less than the No Action Alternative
Wildlife Linkages and Corridors	Adverse Impacts	Adverse, but less than the No Action Alternative
Migratory Birds	Significant Impacts	Mitigated to Below Significant Impacts
Bald Eagles	Below Significant Impacts	Below Significant Impacts
Federally Listed and Candidate Species	Adverse Impacts	Adverse, but less than the No Action Alternative
State Listed Species	Adverse Impacts	Adverse, but less than the No Action Alternative
Other Species of Concern	Adverse Impacts	Adverse, but less than the No Action Alternative
Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance as described in the Farmland Protection Policy Act	Significant Impacts	Significant Impacts

4.15 CUMULATIVE IMPACTS

4.15.1 SUMMARY OF CUMULATIVE IMPACTS

This section provides a summary of the potential cumulative impacts associated with the No Action Alternative and Alternative 2. These potential impacts would result from other facilities, operations, and activities that in combination with potential impacts from the two alternatives may contribute to cumulative impacts in the geographical area of interest. A more detailed analysis concerning cumulative impacts is presented in section 4.15.2.

NEPA, as implemented by CEQ regulations (40 CFR Parts 1500-1508) requires federal agencies, including the USFWS, to consider cumulative impacts in rendering a decision on a federal action under its jurisdiction. According to 40 CFR Part 1508.7, a cumulative impact is the impact on the environment that results from the incremental impact of the proposed project when added to other past, present, and reasonably foreseeable future actions regardless of the agency (federal or non-federal) or person that undertakes such other actions; cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative effects include, but are broader than, the direct and indirect effects described in other sections of this dEIS.

Section 4.15.2 includes the projects and actions undertaken by federal, state, and local agencies and private developers potentially contributing to cumulative impacts. Past and present actions are those projects and activities that have contributed to and continue to contribute to cumulative impacts on local resources. Future proposed actions consider projects that could contribute to cumulative impacts if undertaken. Federal and state agencies are given broader attention because their projects typically affect the widest geographic portion of the ECMSHCP area, have been ongoing for decades and are likely to continue throughout the life of the project, and have impacted many of those resources affected by the

proposed action (e.g., geology and soils, biological resources). These projects and activities do not comprise the only actions to affect resources cumulatively in the ECMSHCP area, but the detailed projects have had (and will continue to have) the greatest effect, and a working knowledge of these actions provides an important context for understanding the scope and scale of cumulative effects.

Geology and Soils
Under the No Action Alternative and Alternative 2, cumulative impacts to geology and soils could occur when multiple projects occur within the ECMSHCP area and vicinity. These projects could include roads, residences, earth mining activities, and other non-regulated development. Although current Collier County base zoning allows one residence per 5 acres, residential development within lands designated as "Open" in the RLSP could occur at much greater densities. Under Alternative 2, (the issuance of ITPs), ECMSHCP and resulting agreements with the ECPO would help to minimize cumulative impacts to geology and soils due to the amount of land that would be preserved in its existing land use or be dedicated to habitat conservation.

Water Resources
Under the No Action Alternative and Alternative 2, cumulative impacts to water resources are expected from human activities within the watersheds connected to the ECMSHCP area. Foreseeable cumulative effects are expected from a combination of consumptive water uses, wastewater management actions; as well as water retention, flood control, drainage and restoration projects. The Service anticipates that SFWMD, in conjunction with Collier County Watershed Management Plan, would be responsive to these cumulative effects to the region's water resources.

Air Quality
Under the No Action Alternative and Alternative 2, cumulative impacts to air quality are expected occur within the ECMSHCP area and throughout Southwest Florida. Air pollutant emissions are expected to increase in Collier County, with or without the ECMSHCP in place. These foreseeable cumulative effects to air quality are associated with the anticipated increase in the region's population, and associated increase in development. Increased vehicle traffic is expected throughout the Southwest Florida region in both alternatives due to increases in population. Mining activities are anticipated continue and expand in the region. Active mines are expected to create particulate dust during material extraction. Continued development is also expected to create construction dust. All future development in the County is subject to the state's existing air quality regulations.

Cultural Resources
Some past actions have likely caused some degree of cumulative disturbance to cultural resources in the ECMSHCP area, and some of the actions are still ongoing and may continue into the future. Under the No Action Alternative, consideration of potential effects these activities could have on cultural resources is not guaranteed. Under Alternative 2, all actions with the potential to affect cultural resources (e.g., land clearing for development) would require consultation with the SHPO as a condition of issuing an ITP (otherwise lawful activity). Additionally, the restricted use of approximately 107,000 acres is anticipated to provide a cumulative benefit for South Florida's cultural heritage and create opportunities for future conservation activities.

Visual Resources
Under the No Action Alternative and Alternative 2, cumulative impacts to visual resources are expected from human activities outside of the ECMSHCP area. Foreseeable cumulative effects are expected from a combination of residential and commercial development, infrastructure development, mining, and other land use changes. The magnitude of these visual effects will be determined by landowners' decisions whether to incorporate modern development aesthetics practices including wildlife friendly lighting. Conservation lands, and any undeveloped agricultural lands, are expected to remain visually similar to their current state.

Transportation
Cumulative impacts to transportation in the project area may result from the conversion of agricultural lands to residential/commercial development, and associated roadway development. Additional demand stemming from development outside of the ECMSHCP area would also further congest roadways.

Under the No Action Alternative, no ITP for the covered species would be issued and the ECMSHCP program would not be implemented as proposed. Historical land uses and development would continue on a project-by-project basis with no predefined development pattern. Several thousand acres in Eastern Collier County, located both inside and outside of the ECMSHCP boundaries, would likely be developed at the intensity of one unit per five acres.

The network of local roadways needed to support access to the new low-density development would be extensive, and average trip distances generally grater. Additionally, traffic resulting from the likely development of lands adjacent to the ECMSHCP area would degrade the operating characteristics of the major roadway network beyond the conditions described in Section 4.6. Additional capacity on most major roadways within the TAA would be needed to support the additional demand. Adverse cumulative impacts on transportation under the No Action Alternative would likely be significant.

Under Alternative 2, traditional, historic, and ongoing rural land uses within the ECMSHCP area and surrounding areas (primarily agriculture and ranching) would continue on the majority of the land present. Covered Activities including residential and commercial development would occur primarily within previously cleared agricultural areas. With the development of the ECMSHCP area proximate land outside the ECMSHCP area would likely experience increased development pressure.

The local roadway network needed to support the proposed development would be focused within the covered activities areas with higher internal trip capture rates. Most major roadways within the TAA would operate at higher volumes and experience significant congestion. This alternative would result in a significant increase in the overall regional traffic volume. Additional roadway capacity would be required to support projected future travel demand in the area of the ECMSHCP area and greater southwest Florida region. Thus, adverse cumulative impacts on transportation under the Alternative 2 would also likely be significant.

Biological Resources
Under the No Action Alternative and Alternative 2, adverse cumulative impacts to biological resources are possible, but not readily predictable. When the current and proposed projects and plans in Collier County are examined together, potential adverse cumulative impacts may be compounded. Development under the No Action Alternative would continue on a project-by-project basis, subject to traditional environmental reviews, with no predefined development pattern, ecological monitoring, or preservation of conservation areas. Cumulatively, this could lead to larger changes in ecological communities over time, as areas become fragmented if development were to occur without leaving large areas intact. Alternative 2 would result in better development planning across the ECMSHCP area, and existing ecological communities outside of areas designated for development would be either preserved or restored for the benefit of general wildlife and the covered species. This could result in beneficial cumulative impacts because the preservation of habitat within the ECMSHCP area would reduce or mitigate potential adverse effects.

Farmlands
Under the No Action Alternative and Alternative 2, cumulative impacts to farmlands are expected from human activities within and outside of the ECMSHCP area. Foreseeable cumulative impacts are expected from a combination of residential and commercial development, infrastructure development, mining, and other land use changes. Increasing demand for development in Southwest Florida will likely lead to the conversion of farmland to development and associated infrastructure.

4.15.2 CUMULATIVE IMPACTS

In accordance with the intent of the Incidental Take Permit (ITP) and Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP) initiative, the analysis focuses on specific resources and impact areas of concern and excludes analysis related to areas and resources that would not be meaningfully impacted by the proposed action or induced actions. Also, in accordance with CEQ guidance, "agencies are not required to list or analyze the effects of individual past actions unless such information is necessary to describe the cumulative effect of all past actions combined. Generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions" (Guidance on the

Consideration of Past Actions in Cumulative Effects Analysis, CEQ 2005). Focusing the analysis only on resources where there is a likelihood of reasonably foreseeable cumulative impacts supports the intent of the NEPA process, which is "to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and alternatives" [40 CFR Part 1500.2(b)].

Actions undertaken by federal, state, local agencies and private companies and individuals are highlighted in the sections below. These sections do not comprise the only actions to affect resources cumulatively in the project area, but the detailed projects have had (and will continue to have) the greatest effect on the Collier County proposed Habitat Conservation Plan (HCP), and a working knowledge of these actions provides an important context for understanding the scope and scale of cumulative effects. The following sections detail potential impacts to those resources that may be cumulatively affected, regardless of action (i.e., single or aggregate).

Past actions that have already occurred and present actions are integrated into the existing baseline conditions discussed above. Table 4.15-1 summarizes and the following section discusses the reasonably foreseeable current and future actions in the immediate vicinity of the project area. The project descriptions are followed by an analysis of potential cumulative impacts to specific resources in the project area.

Table 4.15-1. Summary of Present or Reasonably Foreseeable Future Actions in the Vicinity of the ECMSHCP

Action	Description	Timing
Federal Emergency Management Agency Funding	Funding to the State of Florida and private individuals for rebuilding after Hurricane Irma.	Present/Future
USACE Picayune Strand Restoration Project	Restoration of hydrology to original status prior to failed residential development	Present/Future
USACE Western Everglades Restoration Project	Restoration to reestablish sheet flow from the West Feeder Canal across the Big Cypress Seminole Indian Reservation	Present/Future
Immokalee Airport Environmental Protection Agency Brownfield Grant Assessment	Funding for environmental testing and planning	Present/Future
USACE Southern Golden Gate Estates Hydrologic Restoration Project	Restoration of hydrological and ecological function to the area once known as the Southern Golden Gate Estates, a failed residential development.	Present/Future
South Florida Water Management District (SFWMD) Projects	Multiple drainage, restoration and planning projects aimed at water and land conservation	Present/Future
Florida Department of Transportation Projects	Multiple projects including sidewalk construction, interchange construction, bridge construction, and road widening	Present/Future
Developments of Regional Impact	Town of Ave Maria residential development, including preservation easements	Present/Future
Rural Land Stewardship Area (RLSA)	Collier County Land Stewardship program, development restrictions and preservation areas, contains the entire proposed HCP	Present/Future

Table 4.15-1. Summary of Present or Reasonably Foreseeable Future Actions in the Vicinity of the ECMSHCP

Action	Description	Timing
Immokalee Community Redevelopment Agency (CRA)	Immokalee land use and development planning, residential, industrial and preservation	Present/Future
Immokalee Regional Airport	Master Plan and Layout Plan updates, including proposed renovations and new development	Present/Future
Collier County Long Range Transportation Plan 2040	Road widening, intersection upgrades, pedestrian and bicycle pathways, public transport plans, including a proposed loop around Immokalee	Present/Future
Private Residential Developments	Multiple large-scale residential development, including some commercial development in Naples and North Naples	Present/Future

4.15.2.1 Projects Potentially Contributing to Cumulative Impacts

4.15.2.1.1 Federal Projects

Federal Emergency Management Agency

On September 10, 2017 Hurricane Irma made landfall on Marco Island in Collier County, Florida. The village of Goodland on the southeastern tip of Marco Island, along with Everglades City and Chokoloskee just to the south, took the brunt of the storm with the added impact of storm surge. The estimated damages in Collier County were $145 million (Collier County 2018a). The Federal Emergency Management Agency (FEMA), the National Flood Insurance Program (NFIP) and the Small Business Administration (SBA) have provided payments and financial assistance to the State, County, and individuals since the Hurricane. As of March 6, 2018, FEMA and the NFIP have distributed the following funds and assistance in the State of Florida:

- NFIP policyholders have been paid nearly $855 million on more than 28,000 claims to repair and rebuild.
- The SBA has approved low-interest disaster loans of $1.3 billion to 34,800 businesses, private nonprofits, homeowners and renters who had hurricane-related losses.
- FEMA provided travel trailers and apartment units to 318 households in Collier, Hendry, Lee and Monroe counties. These temporary housing arrangements keep survivors as close as possible to their schools, work and places of worship while they work on their individual recovery.
- FEMA assisted displaced survivors temporary help with rental assistance and hotel room expenses.
- Households have received a total of $497 million to pay rent from FEMA.
- More than 27,000 persons have participated in FEMA- and state-funded hotel stays. FEMA picks up 75 percent and the state pays 25 percent.
- Survivors have received $173 million from FEMA for home repairs to make them habitable.
- Survivors also received nearly $68 million from FEMA to replace certain household items.
- Nearly $7.1 million in disaster unemployment assistance from FEMA has helped those whose employment was affected by the hurricane (FEMA 2018).

The community of Immokalee was highly devastated by the storm, largely due to the existing conditions in the town. The residents are mostly agricultural workers of limited means. It is a mostly low-income immigrant community surrounded by tomato fields and citrus groves. The housing is mostly rental units, and many of these are located in mobile home parks which suffered severe damage (Hartman 2017).

Although this federal funding is not related to a project per se, the large amount of construction, debris removal, and repurchasing of household items lost during the storm could contribute to cumulative impacts to the local economy, changes in demographics, sales taxes, and general development trends in Collier County.

USACE Picayune Strand Restoration Project

The Picayune Strand Restoration Project, the first Comprehensive Everglades Restoration Project (CERP) to begin construction, is being conducted in partnership with the South Florida Water Management District. When completed, the project will restore historic water flows that benefit coastal estuaries, recharge the aquifer, and protect the water supply, while maintaining current levels of flood protection. The restoration involves plugging of 48 miles of canals, removing 260 miles of crumbling roads, and constructing three major pump stations, all of which will restore more than 55,000 acres of natural habitat in an area once partially developed for an intended sprawling residential area (USACE 2018a).

USACE Western Everglades Restoration Project (WERP)

The original Comprehensive Everglades Restoration Plan (CERP) project identified to restore and reconnect the western Everglades ecosystem was called the Big Cypress/L-28 Interceptor Modification. The purpose of this project is to reestablish sheet flow from the West Feeder Canal across the Big Cypress Seminole Indian Reservation and into the Big Cypress National Preserve (BCNP), maintain flood protection on Seminole Tribal lands, and ensure that inflows to the North and West Feeder Canals meet applicable water quality standards. The project features include modification of levees and canals, water control structures, pumps, and stormwater treatment areas with a total storage capacity of 7,600 acre-feet located within and adjacent to the Miccosukee and Seminole Indian Reservations in Collier and Hendry Counties. This CERP component will serve as the starting point for the WERP and will be refined through the planning process (USACE 2018b).

Immokalee Airport Environmental Protection Agency Brownfield Grant Assessment

Provided through the U.S. Environmental Protection Agency (USEPA), the Brownfield Grant Fund allows for the allocation of funds to provide for the financial support to perform planning and action towards cleaning up these declared brownfield sites. Immokalee Airport was given the designation a Brownfield in 2008, which makes them qualified for funds that are under the Brownfields Redevelopment Act. Collier County Airport Authority (CCAA) applied for a grant to begin testing and planning in December 2016. Those efforts will be completed by the Regional Planning Council administering the program and procuring environmental consultants to carry out the task of the environmental testing and planning on the airport property. If, after the analyses are complete, the sites are determined contaminated, an additional grant request will be placed to perform clean-up and remediation for any identified sites (CCAA 2018).

USACE Southern Golden Gate Estates Hydrologic Restoration Project (March 2001)

The 2014 System Status Report of the Comprehensive Everglades Restoration Plan (CERP) indicates that the Southern Golden Gate Estates (SGGE) project is related to the Picayune Strand Restoration Project (PSRP). The PSRP is a component of CERP that is designed to restore hydrological and ecological function to the area once known as the Southern Golden Gate Estates (SGGE) and its surrounding public conservation lands. SGGE was once a portion of a large southwest Florida residential development initiated in the 1960s with the creation of over 270 miles of roads and 48 miles of major canals that were directly connected to the Gulf of Mexico. Cypress logging and canal construction dating to the 1940s and 1950s contributed to the degradation of the area's hydrology, causing over-drainage and discharges to downstream estuarine systems, and invasion of exotic vegetative communities. Residences within SGGE have been removed and associated raised land surfaces will be brought down to natural grade. The primary objective of the PSRP and SGGE is to establish the pre-development hydrologic regime which involves filling at least 50% of the length of the larger canals and eliminating impediments to reestablishing sheet flow (Everglades Restoration 2018, USACE 2001).

4.15.2.1.2 State Projects

4.15.2.1.2.1 South Florida Water Management District (SFWMD) Projects

The State of Florida has five water management districts which oversee drainage and restoration projects and planning. Collier County is in the South Florida District (SFWMD) (Florida Department of Environmental Protection [FDEP] 2018). Some of these projects have a federal sponsor or lead agency. Several of the active and future projects are located in Collier County. Table 4.15-2 presents the projects located in Collier County.

Table 4.15-2: Projects Overseen by the South Florida Water Management District

Project ID #	Project Title	Lead Agency/ Sponsor	Expected Completion Date	Description
2637	BCB Curry Culvert Gate Retrofit	SFWMD	12/2019	The project encompasses the construction of a new locally and remotely operated water control structure in the Curry Canal, approximately 150 feet south of the Immokalee Road south right of way in Naples.
2563	BCB Cypress Canal Weir # 4A1 Retrofit	SFWMD	12/2020	The present Cypress Canal Weir # 4A1 consists of a fixed crest weir with two small bottom opening side-channel gates. The plan for retrofit of the weir will involve demolishing the existing structure assembly and construction of a fully gated water control structure with automated operating features.
2578	BCB Faka Union Canal Weir #6 Replacement	SFWMD	12/2022	The present Faka Union Canal Weir # 6 is a fixed crest weir with V notches. The present configuration of the structure provides limited draw-down capability for reduction of flood stages; and limited volume of conservation pool for maintenance of dry-season storage. The plan for replacement of the weir will involve demolishing the existing structure assembly and constructing a fully gated water control structure with remote operating features.
2629	BCB Faka Union Canal Weir No. 7	SFWMD	9/2022	The Faka Union Canal Weir No. 7 is a fixed crest weir with a V-notch. The structure will be replaced with a design that provides more operational flexibility and will convert the site from manual to remote operations.
2625	BCB Golden Gate Canal Weir #4 Retrofit	SFWMD	6/2019	The present Golden Gate Canal Weir #4 consists of a fixed crest weir with two small bottom opening side-channel gates. This configuration of the structure provides limited draw-down capability for reduction of flood stages, and also limited volume of conservation pool for maintenance of dry season storage. The plan for retrofit of the weir will involve demolishing the existing structure assembly and construction of a fully gated water control structure with automated operating features.

Table 4.15-2: Projects Overseen by the South Florida Water Management District

Project ID #	Project Title	Lead Agency/ Sponsor	Expected Completion Date	Description
2638	BCB Golden Gate Canal Weir No. 5	SFWMD	9/2022	The Golden Gate Canal Weir No. 5 is a fixed crest weir with two bottom opening sluice gates. The structure will be replaced with a design that provides more operational flexibility and will convert the site from manual to remote operations.
2566	CREW - Corkscrew Regional Ecosystem Watershed	SFWMD	TBD	The purpose of this project is two-fold: to protect the primary groundwater recharge area and wellfields for several Lee County utility providers; and protect the vast environmentally sensitive area that surrounds Corkscrew Swamp Sanctuary in Lee and Collier Counties. The Corkscrew Regional Ecosystem Watershed (CREW) serves as a primary tributary to Florida Panther National Wildlife Refuge and Fakahatchee Strand State Park. CREW also provides critical habitat for the Florida panther and numerous wading birds. To date approximately 29,709 acres have been acquired by the SFWMD; with 4,026 acres within the Southern Critical CREW component. The Florida Forever/Save Our Rivers project identifies a boundary of approximately 62,000 acres. Continuing activities include: control of exotic and invasive vegetation, treatment of 1,340 acres of exotic and invasive vegetation, applying fire in fire-dependent habitat, and prescribed burning of 2,500 acres.

Source: SFWMD 2018

4.15.2.1.2.2 Florida Department of Transportation Projects

The Florida Department of Transportation has several planned and current projects in Collier County. Projects vary from pedestrian and street lighting to bridge construction. The following list briefly describes each project in Collier County.

US-41 Sidewalk Improvements

The FDOT's contractor, American Lighting and Signalization, Inc., has begun work to construct sidewalk on the east side of US 41 from Pine Ridge Road to Sandpine Drive. The project also includes construction of bus pads, curb, paving, milling, signalization and lighting. Work occurs during daytime hours. Lane closures may occur from 7 a.m. to 5:30 p.m. Monday through Friday (FDOT 2017a).

Eighth Street Bridge

The FDOT's contractor, Bergeron Land Development, Inc. began construction on November 27, 2017, on a new bridge within the Golden Gates Estates for 8th Street NE over the Cypress Canal. The work will occur during daytime hours from 7 a.m. to 5 p.m. Monday through Friday, weather permitting. The project also consists of roadway improvements, constructing sidewalks on the west side, and shoulders. Lane closures and construction vehicles entering and exiting the roadway are expected (FDOT 2017b).

I-75 / SR-951 Interchange reconstruction

The FDOT District One is preparing design plans to reconstruct the I-75 interchange with SR 951 (Collier Boulevard) in Collier County. The new interchange will include two new ramps over SR 84 (Davis Boulevard) to provide direct interstate access. The existing I-75 bridges over SR 951 will remain. New bridges to accommodate ramp traffic will be constructed adjacent to the existing I-75 bridges over SR 951 (FDOT 2018a).

SR-951 Widening

The FDOT District One has completed a Project Development and Environment (PD&E) study of a 0.76 mile segment of SR 951 from south of Manatee Road to north of Tower Road in Collier County. The study evaluated widening the four-lane divided road to a six-lane divided road to handle future expected traffic (FDOT 2018b).

Immokalee Road and Randall Boulevard Improvements

The FDOT, District One is conducting a PD&E study of the intersection of Immokalee Road (CR 846) at Randall Boulevard in Collier County. The study will involve the evaluation of several intersection concepts to enhance traffic operations and safety conditions based on current and future travel demands (FDOT 2018c).

SR-29 Widening

The FDOT, District One, is conducting a PD&E Study for improvements to SR 29 in Collier County. The project limits extend a distance of approximately 17 miles along SR 29 from Oil Well Road to south of SR 82. The proposed roadway improvement consists of increasing capacity on SR 29 by evaluating the widening of the existing two-lane undivided segment of SR 29 to four lanes, as well as the study of an alternative corridor(s) that bypasses downtown Immokalee (FDOT 2018d).

SR-29 Widening, Segment 4

This project is divided into four segments for design and construction phases, which includes this segment (segment 4). The project limits are from SR 82 to the Hendry County Line, a distance of approximately 2 miles. FDOT is preparing design plans to expand SR 29 from a two-lane undivided roadway to a four-lane divided roadway. SR 29 serves as Collier County's primary link to the north and is designated as a rural principal arterial of the County FDOT 2018e).

SR-84 Improvements

The FDOT District One is preparing design plans for improvements to SR 84 (Davis Boulevard) from ***County Barn Road to Santa Barbara Boulevard, in Collier County. These plans include milling and*** resurfacing the existing road, adding curb and gutter to the median and outside edge of pavement, constructing sidewalk on both sides of the road, accommodating bicycles, and installing a mast arm and crosswalks at County Barn Road. Following the road construction, Collier County will install landscaping in the median of SR 84, within the project limits (FDOT 2018f).

SR-82 Widening

The FDOT, District One, is holding a public hearing regarding the Design Change and Right-of-Way Authorization Reevaluation of SR 82 from Gator Slough Lane to SR 29 in Collier County. The project corridor is approximately 3.2 miles long and was included in the PD&E study for the widening of approximately 23 miles of SR 82 from Lee Boulevard (CR 884) to SR 29 in Lee, Hendry and Collier counties. The study was approved by the Federal Highway Administration on October 23, 2009 (FDOT 2018g).

4.15.2.1.2.3 Developments of Regional Impact

For over 40 years, Developments of Regional Impact (DRIs) have been a staple of large-scale real estate development in Florida, necessitating state and regional review to approve even the smallest changes to the 700-plus still-active DRIs throughout the state. On April 6, 2015, Governor Rick Scott signed House Bill 1151 into law as Chapter 2018-158, Laws of Florida, returning local control of large-scale

development review to municipalities and counties (JDSUPRA 2018). There are two large DRI projects in Collier County (Florida Department of Economic Opportunity 2015).

Town of Ave Maria

In the early 2000s a new town was planned for development. The planned development was unique in that the residential areas would be centered around a Church and a University. Unlike usual development, where growth occurs over time, the entire town would be constructed at once, where nothing formerly existed. In 2009, Ave Maria was the largest construction site in the country (Ave Maria Real Estate and Home Services 2007). In 2018, Ave Maria Development reported strong first quarter new home sales, resulting in its distinction as the fastest growing single-family community in the Naples/Fort Myers market. The development has earned this title from MetroStudy for the past 13 consecutive quarters. The master-planned community, has outsold all new single-family home communities in both Collier and Lee counties, counting more than 1,400 new home sales since 2013 (Naples News 2018).

4.15.2.1.3 County Projects and Plans

4.15.2.1.3.1 Rural Land Stewardship Area (RLSA)

The goals of the Collier County Rural Land Stewardship Area (RLSA) are to protect agricultural activities, to protect resources from unrestrained growth (wetlands, protected species, wildlife habitat), and to direct growth to appropriate locations through creative land use planning techniques. The program was established in 2002 after the County Comprehensive Plan was challenged by environmental groups in 1999. In 2000, the governor ordered a study using a collaborative planning process which would ameliorate the flaws in the existing County plan, which included 300 square miles of land for which no strategy had been established. To date, the program has preserved the following areas:

- Collier County approved the first new RLSA town -Ave Maria (2004-2006), resulting in 17,242 Stewardship Sending acres preserved
- A five-year review committee has reported to BCC (2007-2010), resulting in 32,419 Stewardship Sending acres preserved
- The Rural Lands West town plan was submitted to the County for review (2015), resulting in 2,716 Stewardship Sending acres pending approval (Collier County 2018b)

The Future Land Use Overlap Map shows Land Use Classifications including:

- Habitat Stewardship Area (HSA) –green
- Flowway Stewardship Area (FSA) –dark blue
- Water Retention Area (WRA) –light blue
- Open –pink

The map and the plan provide guidance for locations of future development, which can only occur in the ‘Open’ designations. Stewardship Credits are the “currency” on which the plan operates. Credits are created from natural resource value in Stewardship Sending Areas (SSAs) - preserved without development. Credits must be acquired by builders of new sustainable communities in Receiving Sending Areas (RSAs) - open or developable. Landowner’s existing rights are retained, but density and intensity increases require use of Credits. In this fashion, regional scale conservation and management occurs without requiring public acquisition (Collier County 2018b). The RLSA encompasses the entire ECMSHCP project area and includes already approved SSAs. Figure 4.15-1 shows the currently approved SSAs, Habitat Areas, Flowway Areas, Water Retention Areas and Areas open for development. See Section 1.2.3.2 for a description of the Ave Maria and Rural Land developments.

4.15.2.1.3.2 Immokalee Community Redevelopment Agency (CRA)

Located in northeastern Collier County, the Immokalee Community is located approximately 45 miles from the County seat of Naples. This rural un-incorporated area is primarily agricultural. There is one major roadway - Immokalee Road (CR 846) - into the community from Naples. State Road 29 provides access into the Community from the northern counties of Lee and Hendry. Although there are approximately

16,764 acres of land within the redevelopment area, 60% is currently in agricultural use. The remaining land is a mixture of residential, commercial and industrial uses (Collier County 2018c). The community is completely surrounded by the ECMSHCP area.

The Collier County Community Redevelopment Agency (CRA) is currently focusing its redevelopment efforts on the area of Immokalee. Chapter 163, Part II of the Florida Statutes provides Collier County with the means to achieve growth management objectives by redirecting growth to areas where urban services are provided. If the services exist but are inadequate, CRA provides the means to improve the services, thereby revitalizing the neighborhood or business district and encouraging the provision of affordable quality housing within the urban centers (Collier County 2018c).

For the past several years, staff from the Comprehensive Planning Department has been working with the CRA and the Immokalee community. This community is very different in character from the rest of the County, but similar in the need to bring in more investment and to improve the public perception of the area. The Strategic Plan consists of several subdistrict overlays:

- Main Street Overlay Subdistrict
- Immokalee Central Business Overlay Subdistrict
- Farm Market Overlay Subdistrict (FMOSD)
- Jefferson Avenue Commercial Overlay Subdistrict (JACOSD)
- S.R. 29 Commercial Overlay Subdistrict (SR29COSD)
- Agribusiness Overlay Subdistrict (AOSD) (Collier County 2018c)

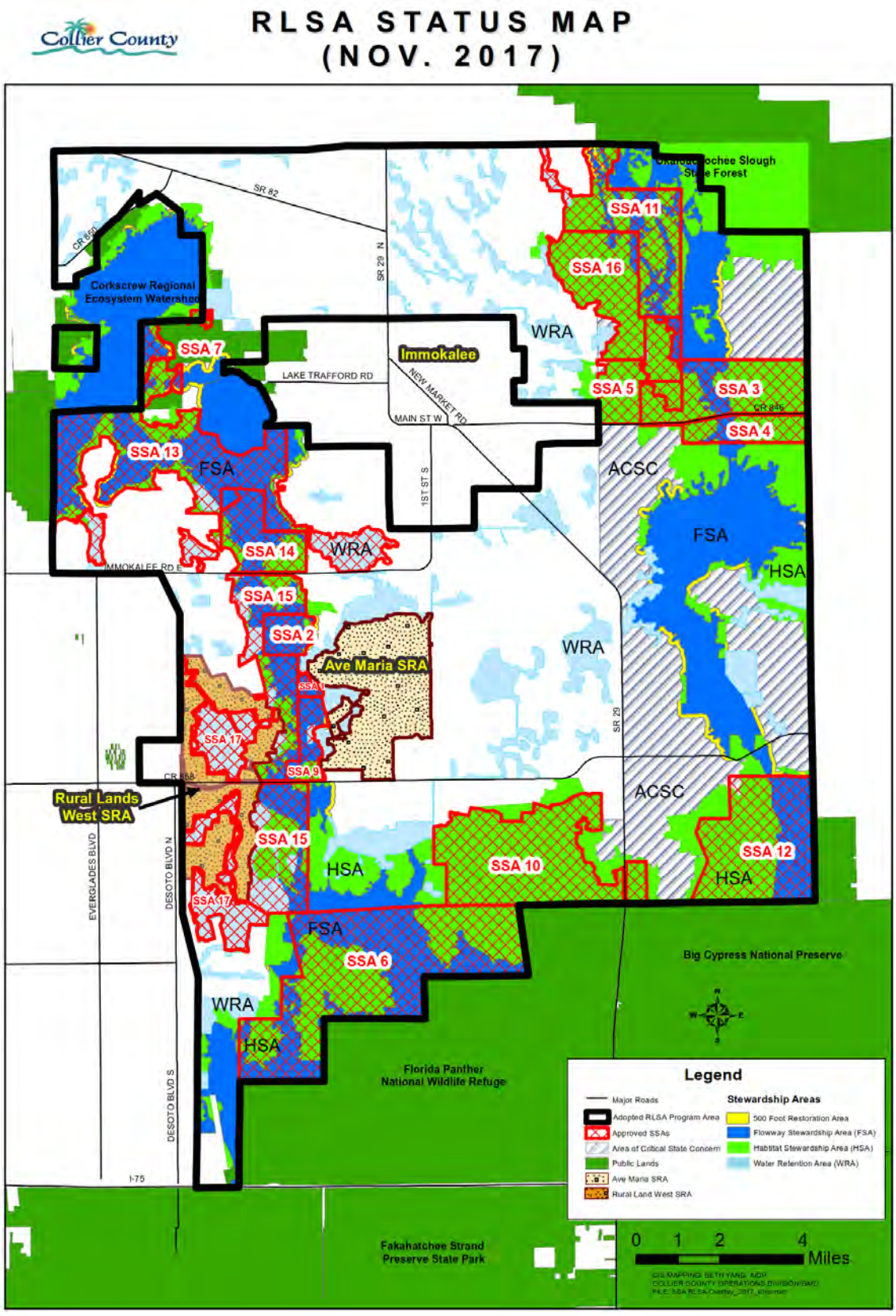


Figure 4.15-1. Collier County RLSA Map. Source: Collier County 2017

The plan is extensive and has the following goals:

- Develop a circulation pattern for the community, which will provide safe and efficient access throughout the community. This network will include a loop road to provide the separation of commercial truck traffic from tourist designated places and residential developments.
- Enhance the physical appearance of properties within the Main Street area.
- Provide opportunities for adequate, safe, and affordable housing. Encourage the development of both affordable rental and home ownership through rehabilitation and new construction.
- Develop a program to address the replacement of existing old mobile homes with newer mobile home units or module homes.
- Provide opportunities for capturing the tourist trade by creating eco-tourism opportunities at Lake Trafford, Pepper Ranch, and Roberts Ranch.
- Create adaptive development standards in each of the sub districts identified in the Immokalee Overlay District to permit flexibility and incentives for redevelopment and development.
- Encourage neighborhood stability through the implementation of additional streetlights, sidewalks, and landscaping throughout the community.
- Improve the drainage system throughout the community and improve the appearance and function of the open drainage swales throughout the community.
- Diversify the economy by encouraging the recruitment of businesses to the Immokalee Regional Airport and Industrial Park.
- Improve both the landside and airside facilities at the Immokalee Regional Airport and Industrial Park to meet the future demands for all forms of aviation and business development activities (Collier County 2018c).

4.15.2.1.3.3 Immokalee Regional Airport

Immokalee Regional Airport (IMM) is undertaking Airport Master Plan (AMP) and Airport Layout Plan (ALP) updates. The purpose of this study is to provide a 20-year development program that will create the safe, efficient, economical, and environmentally responsible airport facility capable of facilitating the demand for aviation services which can be reasonably expected, meet the development goals of the Collier County Airport Authority (CCAA), and create additional public value for residents in the Immokalee area and the entire aeronautical community. These updates will provide CCAA and IMM with a method and proposed schedule for correcting identified airport design deficiencies as well as to accommodate future growth in aviation demand. This report was completed based on applicable Federal Aviation Administration Advisory Circulars and Florida Department of Transportation Guidebooks. CCAA's specific goals for this analysis were to: understand the existing and future fleet mix demands; understand the future operational demand and capacity gaps; and create a viable and sustainable path for airport development and future capital investment (Collier County Airport Authority 2018).

Proposed airfield projects within the Layout Plan include runway extensions, taxiway extensions, taxiway fillets, a future parallel taxiway on the north side, a taxiway connecting both existing runways, and a possible turf runway. The plan also includes land based improvements that would encourage private development on airport property including new hangars and road extensions (Collier County Airport Authority 2018).

4.15.2.1.3.4 Long Range Transportation Plan 2040

The Collier Metropolitan Planning Organization completed a 2040 Long Range Transportation Plan (LRTP). The plan intends to identify necessary transportation improvements to ensure efficient operations while considering factors such as environmental impact, economic development, etc. This study identified two major projects which could have a significant impact on transportation around the Immokalee Regional Airport. High levels of congestion are foreseen on the SR-29 in and around Immokalee. A widening of SR-29 and a bypass is planned for the Immokalee area, which if completed, will bring transient vehicular traffic out of the congested downtown residential areas. There are currently three proposed alternatives to the SR-29 bypass. Figure 4.15-2 depicts the potential routes presented at the November 2017 project public meeting (Collier County Airport Authority 2018).

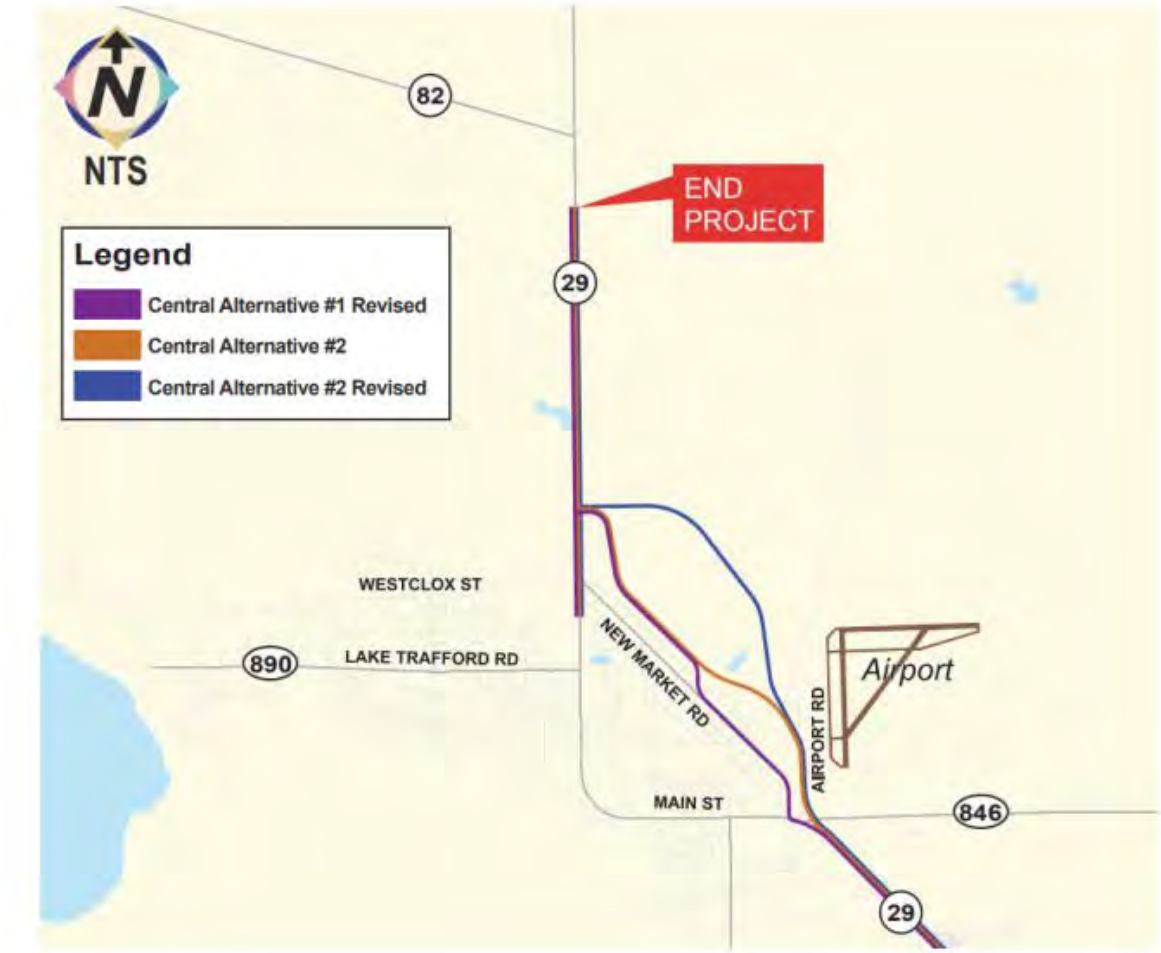


Figure 4.15-2. SR-29 Bypass Alternatives. Source: Collier County Airport Authority 2018

The Collier Metropolitan Planning Organization has multiple transportation plans leading up to the year 2040. Most of these are road widenings, bridge construction and intersection/interchange remodeling or renovation projects (Collier Metropolitan Planning Organization 2016). Table G-1, Appendix G presents a list of projects that are fully or partially funded through the construction stage. Figure G-1, Appendix G shows the overall Collier County map with the funded projects.

4.15.2.1.4 Private Residential Developments

Arrowhead Reserve at Lake Trafford

The Arrowhead Reserve at Lake Trafford is a residential development in Immokalee. As home prices continue to rise in Collier County, Arrowhead Reserve in Immokalee takes its place as one of the most affordable communities in the area offering new construction homes. It is the most affordable development in the area. Homes at Arrowhead Reserve begin at $168,900 for the Girasol, a design with three bedrooms and two baths in 1,297 air-conditioned square feet, with a covered entry way and two-car garage, the home has a total of 1,711 square feet (Naples Daily News 2017b).

Milano Lakes Apartments, Naples:

Milano Lakes is a new luxury apartment community off Collier Boulevard, north of Rattle-Snake Hammock Road at The Lord's Way in South Naples. The apartments have the design and amenities of a single-family home. Designed as an active community, Milano Lakes includes a fitness center, a 5,488-square-foot clubhouse, a swimming pool and pool deck complete with cabana umbrellas. Located on a 23-acre

site, Milano Lakes will include 296 apartment homes in eight buildings when completed, offering one-, two- and three-bedroom floor plans. Elevators in each building make apartment access convenient. Within the community, 96 detached garages are planned (Naples Daily News 2018b).

Sapphire Cove

Sapphire Cove is a new residential community being developed off Collier Boulevard and Rattlesnake-Hammock Road. Construction of the furnished model is anticipated to be complete by fall of 2018. Sapphire Cove is designed to appeal to a mixture of family oriented and active adult lifestyles. The 30-acre site will include only 75 single-family homes on generous lots measuring 57 feet wide by 140 feet deep. The community is bordered by a preserve and is centered around a three-acre lake fringed with native grasses and vegetation. The Sapphire Cove property is part of the Hacienda Lakes Community Development District and is accessed via the Lord's Way approximately half a mile east of Collier Boulevard. There are eight home plans, with both single-story and two-story designs, ranging from a three-bedroom plus a study home with 1,915 square feet to an expansive plan with four bedrooms and three and one-half baths in 3,178 square feet (Naples Daily News 2018c).

Golden Gate Estates

FL Star has purchased acreage in Golden Gate Estates. The parcel includes three home sites, each site encompassing 2.5 acres. FL Star plans to construct single-family homes on the lots, drawing from the designs and floor plans now in the company's portfolio. Homes will be constructed by FL Star Construction, a subsidiary (Naples Daily News 2018d).

Hacienda Lakes

Azure at Hacienda Lakes by Toll Brothers is a new luxury, gated master-planned community off Collier Boulevard and Rattle-Snake Hammock Road. Azure will include more than 400 homes. The Serino Caribbean is priced at $599,995, and has three bedrooms, two-and-one-half baths, a foyer, formal dining room, and a private study. The Massiano Caribbean is priced at $589,995, and has three bedrooms, three-and-one-half baths, and a two-car garage. Additional West Florida Toll Brothers communities include Bonita Lakes in Bonita Springs, Palazzo at Naples in North Naples, and coming this fall, The Isles at Lakewood Ranch near Sarasota (Naples Daily News 2018e).

Palazzo at North Naples

Palazzo at Naples consists of 85 luxurious, single-family homes ranging from 2,131 to over 4,000 sq. ft. with close proximity to the beaches and golf courses. All exterior yard maintenance, including irrigation, fertilization, and lawn care as well as the in-home security system's monthly monitoring are included in the homeowners' dues (Toll Brothers 2018).

Marquesa Isles –Naples

The proposed Marquesa Isles, a new community by Neal Communities, southwest Florida's premier, private homebuilder, has received zoning approval from the Collier County Commission. . The community will consist of 156 villas on approximately 38 acres in Naples. The neighborhood will also feature an amenity building, a resort-style pool and dog park. The development is located off County Barn Road, and construction on Marquesa Isles was slated to begin in fall 2017 (Sarasota Patch 2017).

4.15.3 Cumulative Impact analysis

4.15.3.1 Environmental Setting

4.15.3.1.1 General Geography

Cumulative impacts to general geography, topography, climate and the regional ecosystem from the proposed action and preferred alternative are excluded from further analysis and are not included in this chapter.

4.15.3.2 Land Use

4.15.3.2.1 Alternative 1 - No Action

Under the No Action Alternative, changes to land use within the ECMSHCP area would occur as described in Section 4.3.5.1, with development expected to progress, especially on prime, highly developable parcels with scenic views and favorable settings. Changes to land use in the area surrounding the ECMSHCP area are likely to continue with limited planning and based on individual landowner projects. Cumulatively, this could lead to increased urban sprawl of low density residentialdevelopments, with associated commercial development and attendant transportation and municipal utility infrastructure.

Cumulatively, under the No Action Alternative, as landowners develop land or conduct mining or oil and gas exploration on their properties in the ECMSHCP area and in the region, land cover would convert from agricultural or non-developed land use types (forested areas, grasslands, etc.) to developed land use types (including homes, facilities, parking lots, and roadways). As sites are cleared for development in the ECMSHCP area and in the region, substantial reduction in the amount of wetland and agricultural land use types are likely. As a result of present and future projects, the agricultural and rural character of the region will change to an urban or suburban environment.

4.15.3.2.2 Alternative 2 – Issuance of ITP for Proposed ECMSHCP

Under Alternative 2, extensive preservation and perpetual maintenance of lands with high natural resource value would be provided for people and sensitive species, providing diversity of land use and land cover as continued population growth spurs development on other lands in the region. Portions of the EMSCHCP area may be developed, but development will be condensed and planned such that minimal areas are impacted, leading to less land use change within the project area. Development will likely proceed outside the EMSCHCP as planned under Collier County regulations. Cumulatively, the EMSCHCP area would largely remain in agricultural or conservation use, while present and future planned development outside the EMCSHCP continues to reduce the farmland in the region.

4.15.3.3 Geology and Soils

4.15.3.3.1 Alternative 1 - No Action

Under the no action alternative, the ECMSHCP would not be created and development would proceed under individual projects. Cumulative impacts to geology and soils could occur when multiple projects occur within the proposed ECMSHCP area. Considering individual project development in combination with the current and proposed development projects in Collier County, potential adverse impacts are possible. For example, if road projects and small scale residential development were to occur within the ECMSHCP area, more earth and soils would be moved than if only the road project were to occur. And, although the current base zoning allows one residence per five acres, residential development within lands designated as “Open” in the RLSP, approximately 71,275 acres, can occur at much greater densities; thus measurably contributing to the possible cumulative impacts.

In addition, earth mining is not regulated under the RLSA program, and if significant earth mining activities were to occur along with the potential roads, residences, and other non-regulated development, cumulative impacts to earth and soils could occur. Without the ECMSHCP, removal of soils from the proposed ECMSHCP area would not be limited to the Covered Activities area. Preserved locations would continue to prohibit earth mining under the no action alternative, and cumulative impacts to earth and soils could occur anywhere within the RLSP Open areas.

4.15.3.3.2 Alternative 2 – Issuance of ITP for Proposed ECMSHCP

Under Alternative 2, the USFWS would issue the ITP for the proposed ECMSHCP area. Under this alternative, the ECMSHCP and resulting agreements with ECPO landowners seeking to develop available acreage would essentially minimize significant cumulative impacts to geology and soils. The issuance of the ITP requires that significant acreage be preserved in its existing land use or be dedicated

to habitat conservation. Project and drainage planning, in conjunction with other federal and state requirements for development, would further reduce cumulative impacts associated with the movement or removal of existing earth and soils. Therefore, under this alternative, smaller cumulative impacts to earth and soils could occur in general than under the no action alternative.

4.15.3.4 Cultural and Historic Resources

4.15.3.4.1 Alternative 1 - No Action

Given the history of the area, there is a probability for the presence of cultural resources within the proposed project site and in the vicinity that could be affected by the proposed actions. Past actions have likely caused some degree of disturbance to cultural resources. For example, land development, forestry, and oil related activities have likely impacted cultural resources, particularly if these actions have not been subject to federal or state historic preservation laws and regulations. Some of these past actions are ongoing and may continue throughout the period of analysis and into the future. Under the No Action Alternative, consideration of the potential effects of these activities to cultural resources is not guaranteed, a condition that would not be expected to contribute to the preservation of cultural resources. In addition, activities that are not subject to federal or state historic preservation laws and regulations would not require any level of consultation with the federally recognized Native American tribes, which could result in negative impacts, such as degradation or destruction, to resources of concern to the tribes.

Cumulative effects can include loss of resources prior to the development of better research techniques, loss of interpretive value, and incremental loss of the cultural resource inventory due to development activities and natural processes. Under the no action alternative, current activities, such as agriculture and sand mining may continue, with little or no regulation regarding historic and/or archeological resources. Cumulatively, with respect to all the development projects in the county, the potential for more adverse impacts to cultural resources exists, as there is currently little regulation within the ECMSHCP regarding historic or archeological resources. Unless a property or structure is already on the National Register of Historic Places or is identified as tribal land, no regulation would apply to developing or mining within the ECMSHCP. Cumulative losses of cultural resources are possible due to the high level of development in the county overall.

4.15.3.4.2 Alternative 2 – Issuance of ITP for Proposed ECMSHCP

Given the history of the area, there is a probability for the presence of cultural resources within the proposed ECMSHCP and in the vicinity that could be affected by the proposed actions. Under Alternative 2, consultation with the Florida SHPO regarding avoidance, minimization, and mitigation measures would be required to determine the potential for development to effect cultural resources in and around the proposed ECMSHCP. This requirement provides enhanced protection of cultural resources in the proposed ECMSHCP and its vicinity, as compared to the No Action Alternative. Cumulative impacts to cultural resources due to development in the county would be minimized under this alternative compared to the no action alternative. Cultural resources would be more regulated and potentially preserved with the additional layer of regulation.

4.15.3.5 Biological Resources

4.15.3.5.1 Ecological Communities

4.15.3.5.1.1 Alternative 1 - No Action

Under the No Action Alternative, changes to ecological communities within the MSHCP area would occur as described in Section 4.9.2.1, with development expected to continue, especially on upland agricultural lands, and associated reductions in the extent of natural ecological communities. Changes to ecological communities in the area surrounding the MSHCP area are likely to continue with limited planning and based on individual landowner projects. Cumulatively, this could lead to changes in the extent and diversity of ecological communities in the region. Ecological communities also could become more fragmented over time as individual development areas may disrupt existing connections between habitats. The majority of the lands in the MSHCP area and surrounding areas that are not protected from development in the extensive preserves, parks, and other conservation areas of the region are used for

agriculture. Development would likely occur mainly on agricultural lands and would have limited impacts on natural ecological communities. Thus, adverse cumulative impacts on ecological communities under the No Action Alternative would likely be below significant levels.

4.15.3.5.1.2 Alternative 2 – Issuance of ITP for Proposed ECMSHCP

Under the Proposed Alternative, as described in Section 4.9.2.2, the acreages covered by the ecological community types and land cover/land use classes that currently exist within the MSHCP area would likely change minimally as a result of future planned development within the MSHCP area. Changes to ecological communities in the area surrounding the MSHCP area are likely to continue with limited planning and based on individual landowner projects. Cumulatively, this could lead to changes in the extent and diversity of ecological communities in the region. Ecological communities also could become more fragmented over time as individual development areas may disrupt existing connections between habitats. The majority of the lands in the MSHCP area and surrounding areas that are not protected from development in the extensive conservation areas of the region are used for agriculture. Development would likely occur mainly on agricultural lands and would have limited impacts on natural ecological communities. Thus, adverse cumulative impacts on ecological communities under the Proposed Action would likely be below significant levels.

4.15.3.5.2 General Wildlife

4.15.3.5.2.1 Alternative 1 - No Action

Under the No Action Alternative, changes affecting general wildlife within the MSHCP area would occur as described in Section 4.9.3.1, with development expected to continue, especially on upland agricultural lands, and associated reductions in the extent of natural habitats available to wildlife. Changes to habitat affecting wildlife in the area surrounding the MSHCP area are likely to continue with limited planning and based on individual landowner projects. Cumulatively, this could lead to changes in the extent and diversity of habitats and the numbers and diversity of wildlife in the region. Habitats also could become more fragmented over time as individual development areas may disrupt existing connections between habitats, inhibiting the ability of wildlife populations to expand and interact. Multiple layers of planning activity (federal, state, and county) have established extensive preserves, parks, refuges, management areas, and other conservation areas in the region surrounding the MSHCP. The majority of the lands in the MSHCP area and surrounding areas that are not protected from development in these conservation areas are used for agriculture. Development would likely occur mainly on agricultural lands, which support lower numbers and diversity of wildlife than natural habitats; thus, it is expected that it would have limited impacts on general wildlife. Overall, adverse cumulative impacts on general wildlife under the No Action Alternative would likely be below significant levels.

4.15.3.5.2.2 Alternative 2 – Issuance of ITP for Proposed ECMSHCP

Under the Proposed Alternative, changes affecting general wildlife within the ECMSHCP area would occur as described in Section 4.9.3.2. Traditional, historic, and ongoing rural land uses within the ECMSHCP area and surrounding areas (primarily agriculture and ranching) would continue. Within the ECMSHCP area, Covered Activities primarily would occur within previously cleared agricultural areas. Outside the ECMSHCP area, development activities also would likely occur mainly on agricultural lands, though undeveloped uplands also could be developed in areas outside the extensive public conservation lands of the region. General wildlife would benefit from the use of habitats preserved for Covered Species within the ECMSHCP area and within conservation lands on and outside of the ECMSHCP area. These wildlife species are generally common in southwest Florida, and their populations would not be notably reduced under this alternative. Therefore, cumulative impacts on general wildlife under the Proposed Action would likely be below significant levels.

4.15.3.5.3 Wildlife Habitat Linkages and Corridors

4.15.3.5.3.1 Alternative 1 - No Action

Under the No Action Alternative, changes affecting wildlife habitat linkages and corridors within the ECMSHCP area would occur as described in Section 4.9.4.1. No ITP for the covered species would be issued, and the ECMSHCP would not be implemented. Historical land uses and development would continue on a project-by-project basis both within and outside of the ECMSHCP area, subject to traditional environmental reviews if required, but with no predefined development pattern no guarantee of

preservation of additional conservation areas. Potential impacts from future disjointed development and the possible absence of additional conservation areas within the ECMSHCP area and surrounding areas could adversely impact wildlife species because wildlife corridors might not be preserved to allow for wildlife movement and dispersal between public conservation lands and other large areas of habitat. Under the No Action Alternative, there would be no planned preservation of wildlife corridors to provide permanent linkages between existing public conservation lands. Additional development in areas on and outside of the ECMSHCP area could further remove these linkages within the region. Because these corridors are important to the long-term survival and recovery of the Florida panther and some other Covered Species, the cumulative impacts of the No Action Alternative on wildlife habitat linkages and corridors could be significant.

4.15.3.5.3.2 Alternative 2 - Issuance of ITP for Proposed ECMSHCP

Under the Proposed Alternative, changes affecting wildlife habitat linkages and corridors within the ECMSHCP area would occur as described in Section 4.9.4.2. The ECMSHCP would preserve, through permanent conservation easements, wildlife dispersal corridors that provide important linkages between existing public conservation lands on and off the ECMSHCP that preserve habitat for the Florida panther and other rare and general wildlife species. These areas within the ECMSHCP area would function as regional wildlife corridors, allowing for wildlife movement between existing public conservation lands in southwest Florida outside of the ECMSHCP area, such as the FPNWR, BCNP, CREW, and OSSF, Dinner Island Ranch Wildlife Management Area, and Spirit of the Wild Wildlife Management Area. The conservation and management of these habitat linkages within the ECMSHCP area would provide important ecological benefits for the Florida panther, other Covered Species, and other general wildlife. Preservation of permanent wildlife corridors over time would provide linkages to conservation lands that would benefit the movement and dispersal of many wildlife species across the region. Thus, cumulative adverse impacts on wildlife habitat linkages or corridors under the Proposed Alternative would likely be below significant levels.

4.15.3.5.4 Federally and State Listed Species, Candidate Species, and Species Under Review

4.15.3.5.4.1 Alternative 1 - No Action

Under the No Action Alternative, changes affecting Covered Species (federally and state-listed species, candidate species, species under review for federal listing, and other sensitive species) within the ECMSHCP area would have effects on each species as described in Section 4.10. No ITP for the 19 Covered Species would be issued, and the ECMSHCP would not be implemented. Historical land uses and development within the ECMSHCP area would continue on a project-by-project basis, subject to traditional environmental reviews if required, with no predefined development pattern or guarantee of preservation of additional conservation areas. Based on the potential impacts from future disjointed development and the potential absence of additional conservation areas and wildlife habitat linkages and corridors preserved within the ECMSHCP area, direct and indirect impacts on four federally listed species (the NCC, WS, FP, and EIS) were identified as potentially being significant. When all of the current and proposed projects and plans in the region surrounding the ECMSHCP area are considered together with the additional development likely to occur within and outside of the RLSA program, the potential adverse cumulative impacts on federally listed species are expected to be compounded. Therefore, cumulative impacts on these four species are likely to be significant, and cumulative impacts on another federally listed species, the ESK, also are likely to be significant. The cumulative impacts on the state-listed species, which include one federal candidate species, and the species under federal review, are likely to be less than significant within the region surrounding the ECMSHCP area.

4.15.3.5.4.2 Issuance of ITP for Proposed ECMSHCP Alternative

Under the proposed alternative, changes affecting covered species within the ECMSHCP area would have effects on each species as described in section 4.10. Based on the implementation of the ECMSHCP and the benefits that it would provide for covered species by planning and clustering development, limiting habitat loss and fragmentation, maintaining habitat linkages and corridors, and preserving upland and wetland habitats, direct and indirect impacts were not identified as potentially being significant for any of the covered species. When all of the current and proposed projects and plans in the region surrounding the ECMSHCP area are considered, the potential adverse cumulative impacts on listed species are expected to be increased. Under the proposed action, direct and indirect impacts on

four federally listed species were considered likely to be below significant levels, and impacts were expected to be negligible for the remaining covered species. Because the proposed action would have generally beneficial effects on the covered species, federal and state laws provide protections to these species, substantial portions of the surrounding region are preserved in public conservation lands, and most of the development outside the ECMSHCP area likely would occur on agricultural or previously developed lands, cumulative impacts on covered species under the proposed action are likely to be below significant.

4.16 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Pursuant to NEPA regulations (40 CFR 1502.16), an EIS must consider the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Short-term uses are those that determine the present quality of life for the public. The quality of life for future generations depends on long-term productivity, the capability of the environment to provide on a sustainable basis.

The No Action Alternative and Alternative 2 would result in an irreversible loss of habitat for the covered species in the ECMSHCP area due to human population growth and the associated increase in land development. However, Alternative 2 would take less high quality habitat to development and protect more suitable habitat for the covered species in the long term through the acquisition and management of higher quality habitat in perpetuity.

4.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Under 40 CFR 1502.16, an irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be recovered or reversed. Examples include permanent conversion of wetlands or loss of cultural resources, soils, wildlife, or agricultural production. Irreversible is a term that describes the loss of future options and primarily applies to the impacts of use of non-renewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity, that are renewable only over long periods of time. Irretrievable is a term that applies to the loss of production, harvest, or use of renewable resources. For example, if farmland is used for a non-agricultural event, some or all of the agricultural production from an area of farmland is lost irretrievably while the area is temporarily used for another purpose. The production lost is irretrievable, but the action is not irreversible.

Under the No Action Alternative and Alternative 2, the loss of habitat for threatened and endangered species to future development (residential, commercial, and earth mining) would result in irreversible habitat loss. However, under Alternative 2, development on approximately 107,000 acres would be deed restricted and no more intensive than the types of agricultural, ranching, and other traditional rural land use activities that have occurred historically throughout the ECMSHCP area. The funding for conservation activities undertaken through the Marinelli Fund to benefit the Florida panther and other covered species would be irreversible and irretrievable.

To date, no irreversible or irretrievable loss of resources associated with the proposed project has occurred. Further, the USFWS will not approve a proposal that would result in irreversible or irretrievable loss of resources prior to publication of the Record of Decision (ROD), and its decision to issue, or deny issuance, of any ITPs.

4.18 UNAVOIDABLE ADVERSE IMPACTS

Unavoidable impacts are defined as those that meet the following two criteria: 1) there are no reasonably practicable mitigation measures to eliminate the impacts and 2) there are no reasonable alternatives to the proposed project that will meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant impacts (40 CFR 1500.2(e)). Unavoidable adverse impacts are those that would occur after implementation of incorporated best management practices, minimization, and mitigation measures. Unavoidable adverse impacts do not include temporary or permanent impacts, which would be mitigated.

It is expected that development in the ECMSHCP area would continue as trends predict under the No Action Alternative, regardless of whether the ITPs are issued by USFWS or not. Since impacts associated with the Covered Activities would be the same for the No Action Alternative and Alternative 2, the differences in the impacts between the two alternatives would be limited to those associated with the location of land development activities and land preservation. Therefore, both alternatives would result in unavoidable impacts that would include loss to ecological communities, vegetation, native wildlife, protected species habitat, and transportation, as well as some impacts to water resources and air quality.

4.19 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND EXISTING LAND USE PLANS, POLICIES, AND CONTROLS

Section 1502.16(c) of the CEQ NEPA regulations (40 CFR 1502.16(c)) requires the discussion of environmental impacts, including "possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies, and controls for the area concerned." Where an inconsistency exists, the NEPA document should describe the extent to which the agency would reconcile its action with the plan (see 40 CFR 1506.2(d)). Sections 1.6 and 1.7 in the ECMSHCP identify the applicable federal, state, and local policies that are related to the proposed project. The following section identifies the applicable federal, state, and local plans that are related to the proposed project.

FEDERAL PLANS

Comprehensive Everglades Restoration Plan

Everglades restoration is an ongoing effort to remedy decades of destructive practices while balancing the needs of South Florida's natural environment with urban and agricultural needs. The Comprehensive Everglades Restoration Plan (CERP) provides a framework and guide to restore, protect, and preserve the water resources of central and southwest Florida, including the Everglades. CERP covers 16 counties over an 18,000-square-mile area (Figure 4.19-1). CERP was approved in the Water Resources Development Act of 2000 (Public Law 106-541). At a cost of more than $16 billion and with a more than 35-year timeline, CERP is the largest hydrologic restoration project ever undertaken in the United States. Implementation of CERP is a multi-agency effort involving both federal and state agencies such as the Corps and the SFWMD supported by other agencies such as the FDEP, Everglades National Park, and others (OERI 2018).

Due to the construction of drainage canals and manmade connection of lakes to rivers, fresh water that historically flowed from central Florida to the Everglades was redirected to flows directly to the Atlantic Ocean and the Gulf of Mexico. The goal of CERP is to redirect the waters to areas that need it the most. The goal of CERP is to redirect the majority of the water to environmental restoration. The remaining water will benefit cities and farmers by enhancing water supplies for South Florida's population.

There are no CERP projects planned for water resource management or restoration within the area covered by the ECMSHCP; however, two current CERP projects are located in close proximity to the ECMSHCP area. The Picayune Strand Restoration Project is located less than 1 mile south of the southern boundary of the ECMSHCP area (Figure 4.19-1). The project area is located west of SR 29 in the West Collier drainage basin, where most of the surface water in the project area flows south into Picayune Strand State Forest via drainage canals. However, the objective of the Picayune Strand Restoration Project is to reestablish the historical sheetflow of surface water. The project includes 83 miles of canal plugs, 227 miles of road removal, and the addition of pump stations and spreader swales to aid in wetland restoration.

The second CERP project in proximity to the ECMSHCP area is the Western Everglades Restoration Project (WERP). The purpose of this restoration project is to improve the quantity, quality, timing, and distribution of water needed to restore and reconnect the western Everglades ecosystem. The plan seeks to achieve this by reestablishing sheetflow from the West Feeder Canal across the Big Cypress Seminole Indian Reservation and into BCNP, while maintaining flood protection on Seminole Tribal lands, and ensuring that inflows to the North and West Feeder Canals meet applicable water quality standards. The West Feeder Canal is located approximately 6.5 miles east of the ECMSHCP area (Figure 4.19-1).

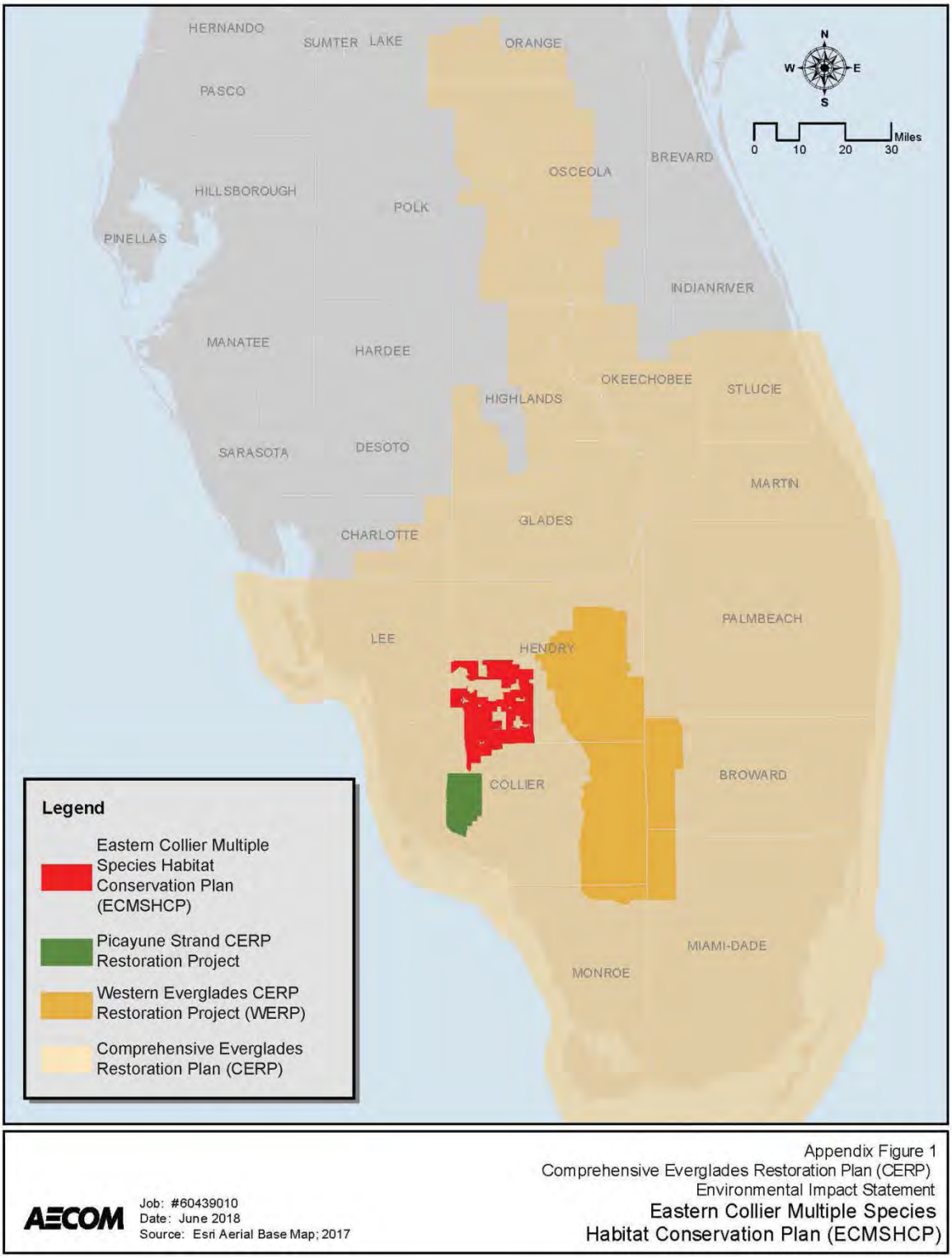


Figure 4.19-1. CERP projects in relation to ECMSHCP Area

Southwest Florida Comprehensive Watershed Master Plan

In 2001, a Southwest Florida Feasibility Study was authorized as a component of the CERP. Led by the Corps and the South Florida Water Management District, the study area covered 4,300 square miles of southwest Florida, including all of Lee County and portions of Collier, Charlotte, Hendry, Glades, and Monroe Counties, including the entire ECMSHCP area (Figure 4.19-2). The study produced the Southwest Florida Comprehensive Watershed Master Plan (SWFCWMP) which sought to develop a management plan that fosters environmental restoration while meeting regional water resource needs. The SWFCWMP goals include reduction of pulse flows to the coast; reestablishment of natural ecosystems; and improved quantity, quality, timing, and distribution of surface water and groundwater flows for environmental, agricultural, and urban uses. The SWFCWMP identifies plans that could be implemented by other agencies and nongovernmental organizations.

The SWFCWMP identified 13 Functional Groups (FGs) of sub-basins, each of which contains one or more project components that provide regional restoration for critical hydrologic locations (Corps 2010). Approximately half of the ECMSHCP area is within one of the following Functional Groups (FGs) (Figure 4.19-3):

- FG 5, Corkscrew Watershed – Within this FG, there is the threat that remaining private lands adjacent to pristine public lands will be converted to residential development over the long term. Drainage ditches and canals associated with residential areas and agricultural lands have eliminated much of the natural sheetflow, disrupting the natural hydrology of this area.
- FG 6, SR 29/Barron River Flow-way Restoration – Overdrainage associated with the SR 29 canal has resulted in loss of natural sheetflows through the area. Wildlife mortality is also a major concern in this area due to high-speed traffic on SR 29. Three project components within this FG are proposed wildlife crossings at key locations.
- FG 7, Camp Keais Strand Watershed – Within this FG, the greatest threat to the landscape is conversion to residential development over the long term. Pre-development flow-ways have been lost to canal channelization and the disrupted hydrology has encouraged invasion of exotics.
- FG 11, Okaloacoochee Slough – Agricultural drainage ditches and canals have eliminated the area's natural sheet flow. Within this FG, there is also the threat of conversion to residential development over the long term. Construction of wildlife crossings at key locations is proposed as a key project component.

Each of these projects is currently in concept and will require a project sponsor, funding, design, and permitting prior to implementation.

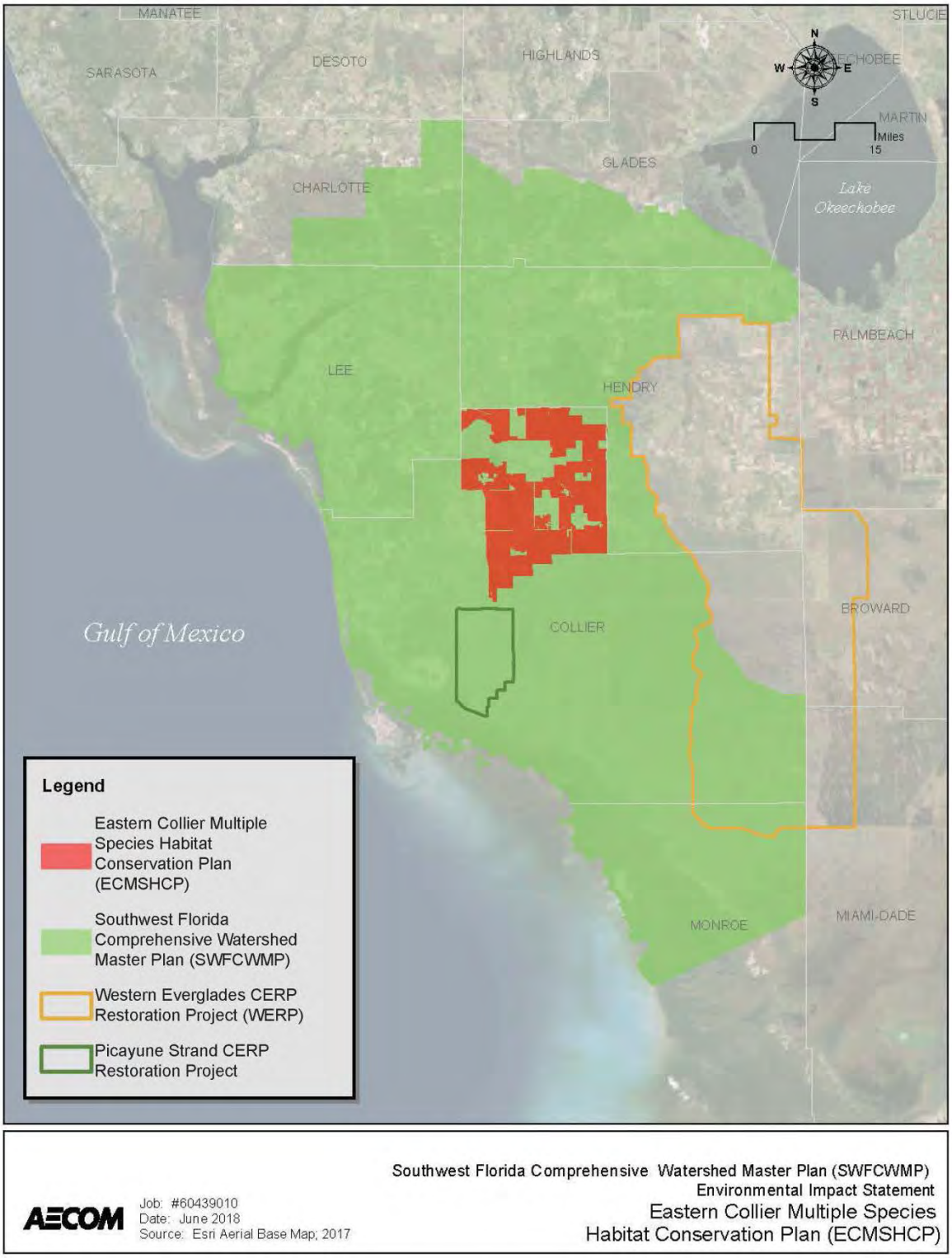


Figure 4.19-2. Southwest Florida Comprehensive Watershed Master Plan in relation to the ECMSHCP Area

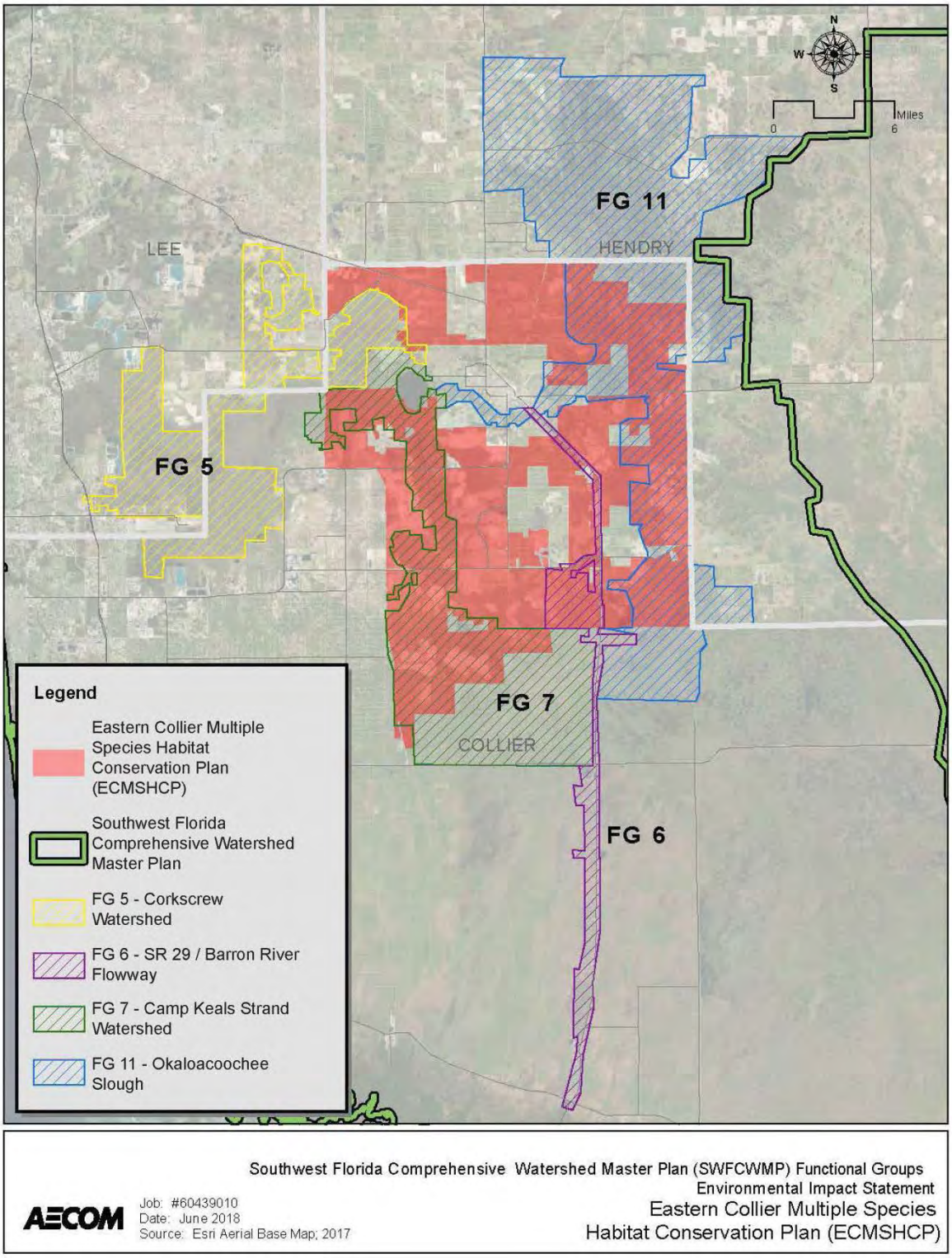


Figure 4.19-3. Functional Groups in relation to ECMSHCP Area

Southwest Florida Landscape Conservation Design

Landscape Conservation Designs (LCDs) are cooperative landscape conservation processes that identify ecologically connected networks of terrestrial, freshwater, coastal, and marine conservation areas and conservation priority areas that are likely to be resilient to climate change and support native biodiversity (and related ecosystem services) under changing conditions. LCDs are intended to be an adaptive management process at a regional landscape scale.

In December 2017, the Florida Panther National Wildlife Refuge, working in partnership with the National Wildlife Refuge Association (NWRA) and the University of Florida, developed a LCD for southwest Florida (NWRA 2017). The Southwest Florida LCD covers all of Collier, Lee, and Charlotte Counties, most of Hendry County, and portions of Glades, Desoto, Hardee, Highlands, and Polk Counties (Figure 4.19-4).

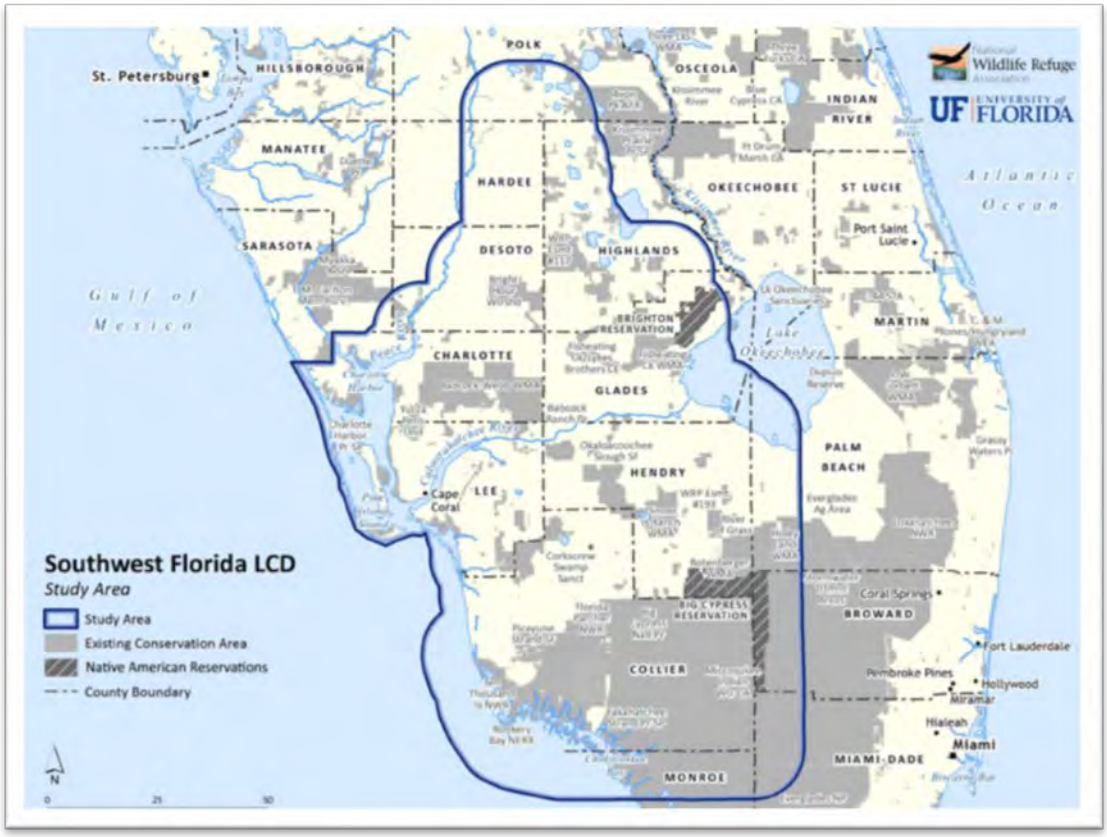


Figure 4.19-4. Southwest Florida LCD Study Area (Source: NWRA 2017)

The Southwest Florida LCD depicts the lands that provide the best available habitat for focal species while considering landscape connectivity and is intended to be used for general conservation planning purposes. The LCD takes a focal species approach, which includes an assessment of habitat priorities for 34 species, including federally listed species and other priority species as selected by a team of species experts and regional conservation scientists. The Florida panther is also a primary focus, and panther habitat and corridor priorities are being compared to the other focal species to ensure that panther conservation is robustly addressed in the LCD process. The conservation prioritization seeks to identify areas that best address focal species and natural community conservation goals.

The lands included in the ECMSHCP are also analyzed in the context of this broader LCD. The study area has a history of conservation planning efforts, and an engaged stakeholder community, including landowners, agencies, academia, conservation NGOs, and agricultural and real estate interests.

South Florida Multi-Species Recovery Plan

Completed by the USFWS in 1999, the South Florida Multi-Species Recovery Plan (MSRP) (UWFWS 1999) is an ecosystem restoration initiative deigned to recover threatened and endangered species and to restore and maintain biodiversity of native plants and animals in South Florida. The MSRP aims to meet this goal through restoration of the 23 diverse ecological communities in the region, thus encouraging population growth and recovery of the more than 60 federally listed spices throughout approximately 26,000 square miles of the 19 southernmost counties in Florida. This living document remains flexible to accommodate the changes identified through ongoing research and incorporation of adaptive management strategies. In order to refresh and provide the most up-to-date information in the MSRP, the USFWS formed a team of government and non-government partners to revise the 1995 Florida Panther Recovery Plan.

The MSRP was intended to assist with project planning, management actions, and environmental compliance. The main factor causing a decline in these species populations is habitat loss. Urbanization often causes fragmentation, degradation of lands, and fire suppression. Agriculture can increase the level of contaminants in the environment and alter hydrology by draining wetlands; therefore, native wetland plants may no longer be able to thrive, giving an opportunity for exotic invasive species to become established.

Florida Panther Protection Program

The FPPP is a conservation initiative aimed to protect, manage, and enhance Florida panther habitat to assist in the recovery of the species. On June 2, 2008, several conservation organizations, including Audubon of Florida, Collier County Audubon Society, Defenders of Wildlife, and Florida Wildlife Federation, along with eight private landowners, signed a Memorandum of Understanding (MOU) as a collaborative effort, agreeing to work together to enhance the future of the Florida panther. The landowners and conservation organizations agreed to cooperatively and collaboratively facilitate and support the work of the Scientific Technical Review Committee, comprised of six respected biologists and scientists with expertise in the Florida panther.

Built upon the 2002 Collier County RLSA Overlay, the FPPP is intended to promote conservation, management, and recovery of the Florida panther through preserving agricultural lands and identifying appropriate areas for development. The FPPP proposed the creation of north and south wildlife corridors. Landowners would be incentivized through the generation of restoration credits to create, enhance, and restore areas adding to the corridors. In addition, the FPPP established the privately funded Paul J. Marinelli Panther Protection Fund, which uses could include restoration of panther habitat, construction of wildlife crossings, and creation of buffers between areas of development throughout the panther's range. The FPPP involves approximately 195,000 acres of privately owned land in Collier County, of which the ECMSHCP area encompasses the majority, approximately 152,000 acres (Figure 4.19-5).

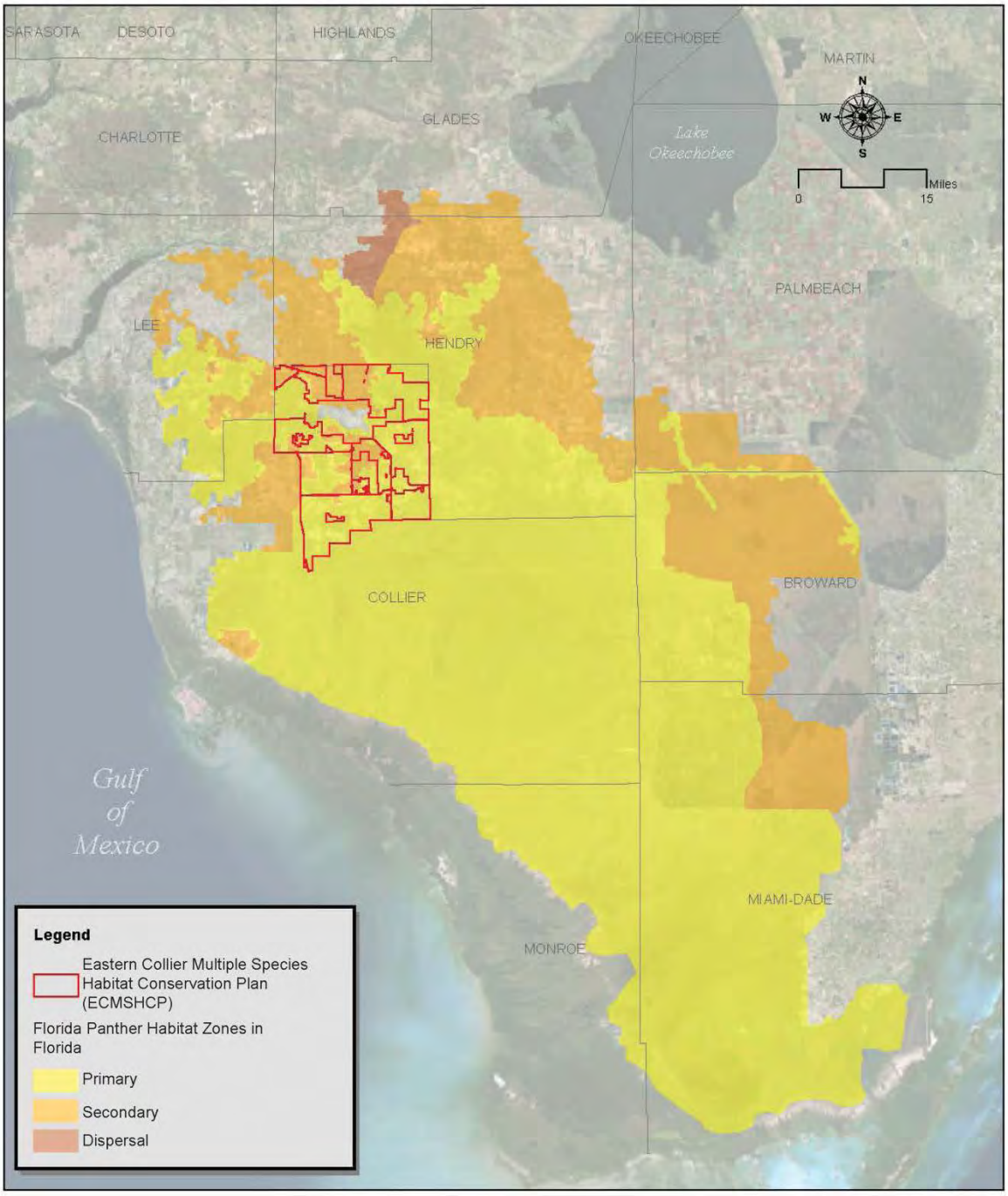


Figure 4.19-5. Florida Panther Habitat Zones in relation to the ECMSHCP Area

STATE PLANS

Florida Forever

Florida Forever was established by the Florida Legislature in 2000 as the State of Florida's conservation and recreation lands acquisition program. Since 1963, Florida has been purchasing conservation lands under various predecessor programs. Florida Forever is administered by the FDEP Division of State Lands; however, funding appropriated by the state Legislature is distributed to several divisions within FDEP and other state agencies, such as the FWC and the Florida Forest Service (FFS). Since the inception of the Florida Forever program in July 2001, the state has purchased more than 770,279 acres of land with a little over $3 billion (as of December 31, 2017).

Florida Forever is a voluntary willing-seller program. Twice each year, private landowners or their agents may submit properties to FDEP as candidates for acquisition. Each project is subject to a thorough evaluation of natural resource features. The Acquisition and Restoration Council (ARC), an appointed 10-member group of representatives of government agencies and private citizens, evaluates each project, determines which projects should be added to the list for eventual purchase, and ranks each project in terms of priority for acquisition. The Florida Forever acquisition list is then approved by the Governor and Cabinet, and approved projects become part of the Florida Forever Five-Year Plan.

The 2018 ARC Recommended Florida Forever Priority List contains 121 projects arrayed into six categories. Three current Florida Forever projects overlap portions of the ECMSHCP area, covering approximately 21,693 acres (Figure 4.19-6).

- **Half Circle L Ranch**: This project is ranked 8 in the Critical Natural Lands category, and is a high work plan priority. The project includes 11,182 acres in Collier and Hendry Counties and according to the ARC Recommended 2018 Florida Forever Priority List, the entire area remains to be acquired by the state. Approximately 5,308 acres of this Florida Forever project are within the ECMSHCP area along the eastern boundary and directly south of Okaloacoochee Slough State Forest. Approximately 50 percent of the Half Circle L Florida Forever project is located within areas that would be preserved by the ECMSHCP. The remaining areas are designated for development at base zoning of 1 unit per 5 acres. The primary purpose of the Half Circle L Ranch Florida Forever project is to protect Florida panther and Florida black bear habitat, restore the area's hydrology, and provide public recreational opportunities.

- **CREW**: This project is ranked number 7 in the Partnerships and Regional Incentives Projects category, and is a high/medium work plan priority. The project includes over 60,000 acres in Collier and Lee Counties. The CREW project includes approximately 13,389 acres within the ECMSHCP area and according to the ARC Recommended 2018 Florida Forever Priority List, 37,336 acres remain to be acquired. The primary purpose of the CREW Florida Forever project is to preserve interconnected habitats for the Florida panther and Florida black bear and to protect the flow of surface water into the FPNWR and FSPSP.

- **Devil's Garden**: This project is ranked number 15 in the Critical Natural Lands Projects category, and is a medium work plan priority. The project includes approximately 82,986 acres in Hendry and Collier Counties, of which 2,996 acres are within the ECMSHCP. According to the ARC Recommended 2018 Florida Forever Priority List, 71,308 acres remain to be acquired. This area is located directly southwest of the OSSF and almost all of this area would be preserved under the ECMSHCP. The primary purpose of the Devil's Garden project is to increase protection of Florida's biodiversity at the species, natural community, and landscape levels, and fill a gap in the corridor used by the Florida panther.

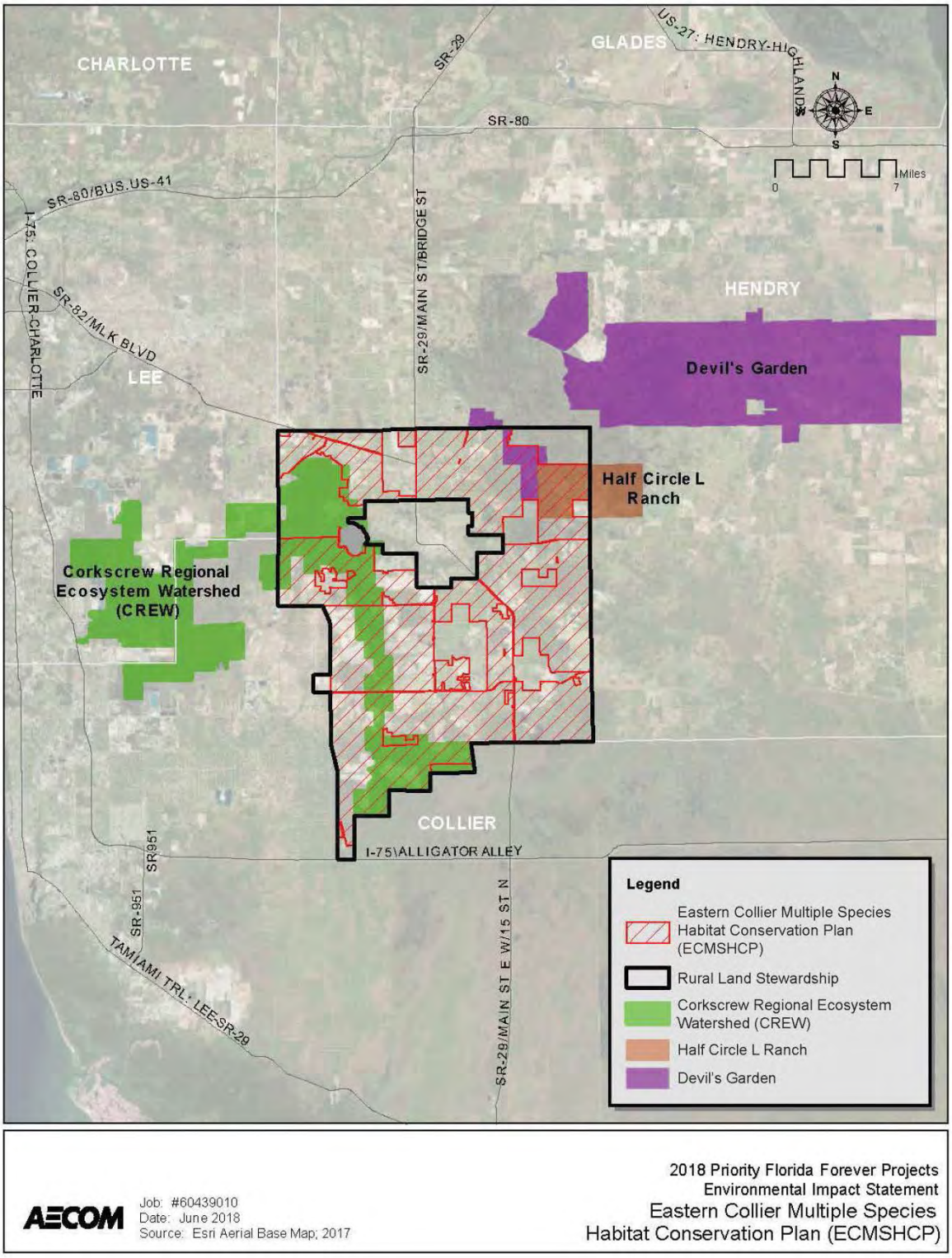


Figure 4.19-6. Florida Forever projects in relation to ECMSHCP Area

Big Cypress Area of Critical State Concern

The Florida Legislature passed *The Big Cypress Conservation Act of 1973* (Florida Statutes, Section 380.055) designating 990,479 acres of South Florida as the Big Cypress Area of Critical State Concern (ACSC). The intent of the Legislature was "to conserve and protect the natural resources and scenic beauty of the Big Cypress Area of Florida." The Legislature found that "the Big Cypress Area is an area containing and having a significant impact upon environmental and natural resources of regional and statewide importance."

Land use regulations for the Big Cypress ACSC (Chapter 28-25, Florida Administrative Code) address the following topics: agriculture exemption, site alteration, drainage, transportation, structure installation, and relationship to local government regulations. Many of the land use regulations pertain to site alterations, which must be limited to 10 percent of the total site size; the installation of non-permeable surfaces must not exceed 50 percent of a site; and non-permeable surfaces greater than 20,000 square feet must provide for the release of surface runoff in a manner approximating the natural surface water flow regime of the area. The Collier County Comprehensive Plan and Land Development Code (LDC) include guidelines and policies regulating development within the ACSC that are identical to and consistent with the state guidelines for the ACSC. Approximately 53,710 acres (35%) of the ECMSHCP area is located within the Big Cypress ACSC (Figure 4.19-7).

COUNTY PLANS

Collier County Rural Lands Stewardship Area

In 2002, the Collier County RLSA program was established as part of Collier County's LDC for the purpose of encouraging smart growth patterns within rural areas of the county. The program was established on the principles of rural land stewardship, as defined in Chapter 163.3177(11), Florida Statutes (FS). Collier County's RLSA (Figure 4.19-8) encompasses approximately 195,000 acres located in the northeastern portion of the county east of Golden Gate Estates and west of Hendry County and the Florida Panther National Wildlife Refuge. The RLSA partially extends into the Big Cypress Area of Critical State Concern and is around, but does not include, the unincorporated community of Immokalee. The majority of the land within this area is held by several large landowners. Agricultural uses prevail today in this part of the county, as they have in the past, and represent few of the remaining areas for potential development in Collier County.

Collier County's objective was to create an incentive-based land use overlay system referred to as the Collier County RLSA Overlay Program (the RLSA program). The RLSA Program is a voluntary program that is intended to protect natural resources and retain viable agriculture by promoting compact rural mixed-use development as an alternative to low-density single-use development. The RLSA program provides a system of compensation to private property owners for the removal of certain land uses in order to protect natural resources and viable agriculture in exchange for transferable credits that can be used to entitle compact development (Policy 1.2).

Any land within the RLSA may be designated as a SSA. Stewardship Credits are generated from SSAs in return for maintaining the areas in permanent agriculture, open space, or conservation uses. Stewardship Credits may be used to entitle a SRA, which can be in the form of self-contained planned urban developments within the RLSA. The RLSA program seeks to establish a method for protecting and conserving the most valuable environmental land, including large connected wetland systems and significant areas of habitat for listed species, while directing compact developments to the least environmentally sensitive areas of the RLSA. Figure 8 depicts the boundaries and elements of the RLSA program.

The RLSA program has been regionally and nationally recognized as a landmark planning initiative; however, the mechanics of the program are inherently complex and generally not well understood by the public. Many of the premises and baseline development assumptions that form the basis of the ECMSHCP originate from the RLSA program.

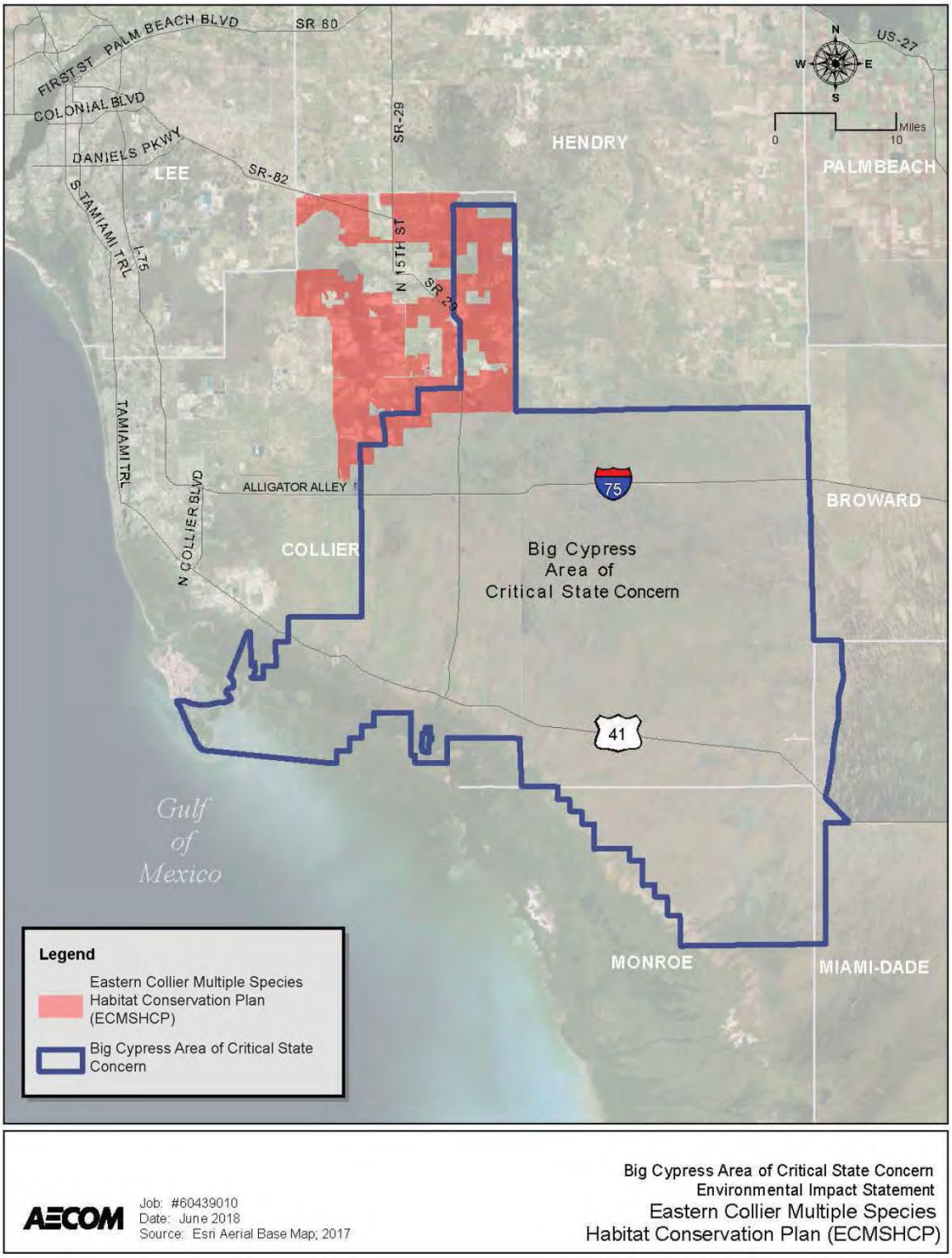


Figure 4.19-7. Big Cypress Area of Critical State Concern in relation to ECMSHCP Area

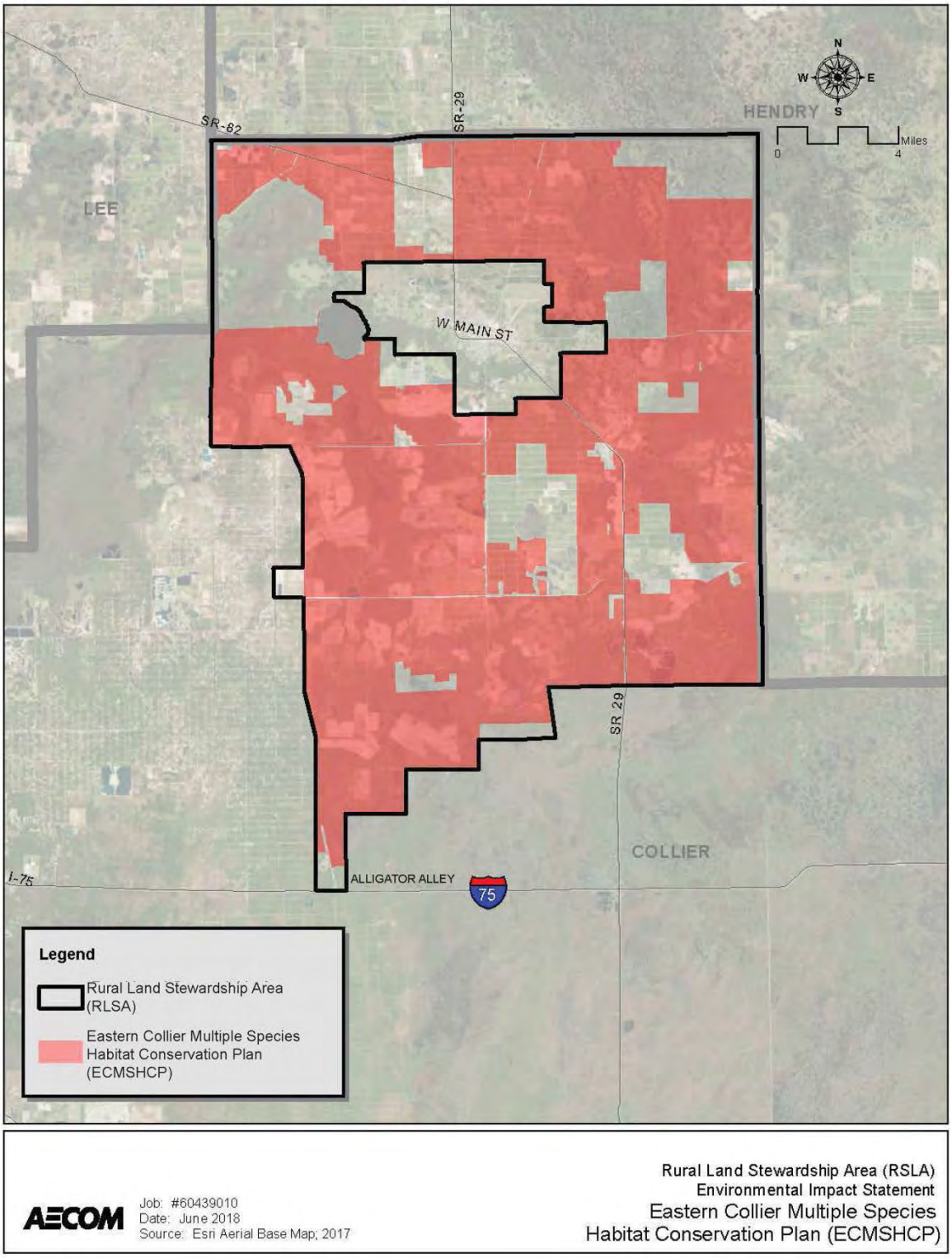


Figure 4.19-8. RLSA Area in relation to ECMSHCP Area

Hendry County Sector Plans

Sector plans have been adopted into Florida law (Section 163.3245, FS) as a mechanism to promote and encourage long-term planning for conservation, development, and agriculture on a landscape scale; to support innovative and flexible planning and development strategies; to facilitate protection of regionally significant resources; and to avoid duplication of effort in analysis required for a DRI. Sector plans are intended for geographic areas of at least 15,000 acres in one or more local government jurisdictions, but they may not be adopted in Areas of Critical State Concern.

Sector plans require two levels of planning: a long-term master plan and detailed specific area plans (DSAPs). Long-term master plans proposed by an applicant are subject to a state-coordinated review process and are ultimately adopted into a local government's comprehensive plan by amendment. Long-term master plans generally identify areas for major land uses and land use patterns including urban, agricultural, rural, and conservation land uses. They also include data, analyses, and policies to address water supplies, transportation and public facilities, and regionally significant natural resources; principles for addressing urban form and design; procedures for considering extra-jurisdictional impacts; and a best-guess buildout analysis. DSAPs, on the other hand, are detailed development plans for specific areas of 1,000 acres or more within the sector plan. DSAPs must conform to the broad framework adopted in the long-term master plan, and they are adopted by local ordinance. Sector plans are intended for long-range planning of 20-50 years for large geographic areas, with a focus on urban form, regionally significant resources, and regionally significant facilities. Sector plans are exempt from DRI review, and a demonstration of need is not required.

The Southwest Hendry County (King Ranch) Sector Plan is located immediately north of and is contiguous with the northwest boundary of the ECMSHCP area (Figure 4.19-9). This Sector Plan covers approximately 23,500 acres and will allow for urban-type development in designated areas, long-term agriculture, and conservation with an estimated buildout of 50 years. The proposed land use program for the future development consists of six land use districts and two sub-districts.

The Rodina Sector Plan, also in Hendry County, covers 26,000 acres and is located immediately north of the King Ranch Sector Plan (Figure 4.19-9). The Rodina Plan will provide a maximum of 21,000 residential units and 1,030,000 square feet of commercial development (SWFRPC 2010). Together, the King Ranch and Rodina Sector Plans represent landscape-scale development and conservation initiatives in the area immediately north of the ECMSHCP area.

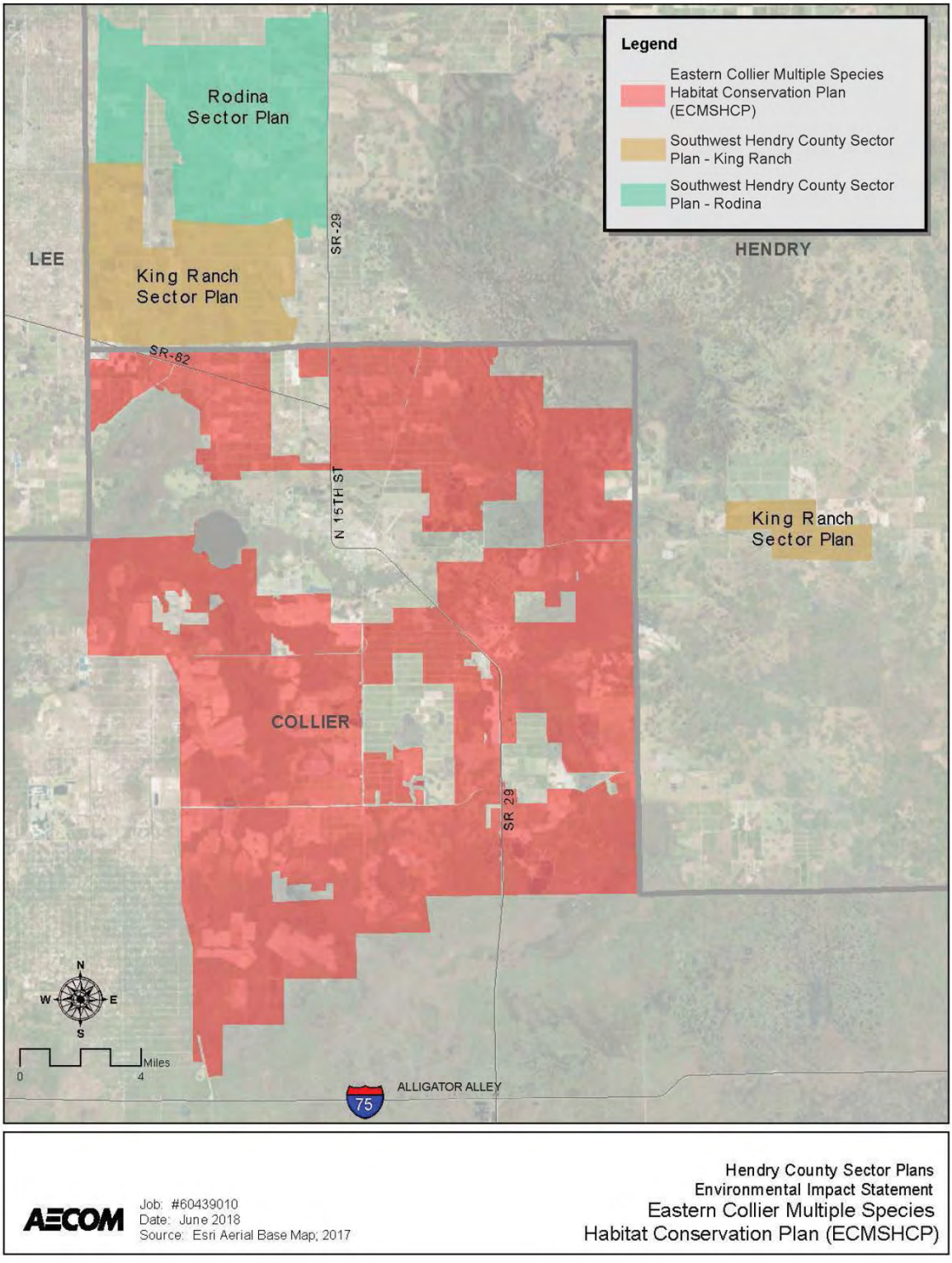


Figure 4.19-9. Hendry County Sector Plans in relation to ECMSHCP Area

CHAPTER 5.0 CONSULTATION AND COORDINATION

As discussed in the Scoping Report (Appendix D), the scoping period began on March 25, 2016 and closed April 25, 2016. Comments from interested parties were solicited throughout the 30-day scoping period for the project. Interested parties were provided with five different options to submit input regarding the project. Comments received by April 28, 2016 were included in the scoping report.

The following agencies/interest groups were represented at the April 19, 2016 online scoping meeting:

- US Fish and Wildlife Service
- US Army Corps of Engineers
- National Park Service
- Florida Fish and Wildlife Conservation Commission
- Florida Department of Environmental Protection
- Florida Department of Transportation
- Florida Division of Historical Resources
- Collier County Growth Management
- Lee County Community Development Department
- Lee County Metropolitan Planning Organization
- Collier County Immokalee CRA
- Immokalee Enterprise Zone Development Agency
- Naples Zoo
- Sierra Club
- Conservancy of Southwest Florida

The publication of the dEIS was announced in the *FR*. A 45-day comment period followed the publication of the dEIS. The Service posted the dEIS on Regulations.gov for public comment and also provided a link on the project's EIS website and the Service's South Florida Ecological Services website. In addition, the agencies, elected officials, organizations, and businesses listed below were notified about the comment period and given the web address for the Regulations.gov website.

- Miccosukee Tribe of Indians of Florida
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Tribes of Florida
- Seminole Nation of Oklahoma
- U.S. Congress
- Big Cypress National Preserve
- National Parks Service
- National Oceanic and Atmospheric Administration – National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- Florida State Legislature
- Bureau of Archaeological Research
- Bureau of Historic Preservation
- Fakahatchee Strand Preserve State Park
- Florida Department of Environmental Protection
- Florida Department of Transportation
- Florida Division of Historical Resources
- Florida Fish and Wildlife Conservation Commission
- Florida Forest Service
- South Florida Water Management District
- Southwest Florida Regional Planning Council

- Collier County (Airport Authority, Board of County Commissioners, Comprehensive Planning Department, Manager, Property Appraiser, Sheriff's Department, Superintendent, Supervisor of Elections, and Tax Collector)
- Hendry County (Board of County Commissioners, Administrator, Property Appraiser, Sheriff's Department, Superintendent, Supervisor of Elections, and Tax Collector)
- Lee County (Board of County Commissioners, Manager, Property Appraiser, Sheriff's Department, Superintendent, Supervisor of Elections, and Tax Collector)
- 1000 Friends of Florida
- Archbold Biological Station
- Audubon (Florida, Western Everglades, Southwest Florida)
- Bethune Education Center
- Buck Island Ranch
- Coalition of Immokalee Workers
- Collier County Metropolitan Planning Organization
- CREW Land and Water Trust
- Defenders of Wildlife
- East Naples Civic Association
- Ecoresolve
- Everglades Coordinating Council
- Florida Defenders of the Environment
- Florida Panther Conservation Bank
- Florida Panther Society
- Florida Sportsmen Conservation Association
- Florida Wildlife Federation
- Friends of the Everglades
- Friends of the Florida Panther Refuge, Incorporated
- Immokalee Chamber of Commerce
- Immokalee Civic Association
- Immokalee Community Redevelopment Agency
- Lee County Metropolitan Planning Organization
- Naples Zoo
- National Wildlife Federation
- Redlands Christian Migrant Association
- Responsible Growth Management Coalition
- Rookery Bay National Estuarine Research Reserve
- Sierra Club
- South Florida Wildlands Association
- Southwest Florida Hispanic Chamber of Commerce
- Southwest Florida Regional Planning Council
- Southwest Florida Research and Education Center
- The Conservancy of Southwest Florida
- The Greater Naples Chamber of Commerce
- The Nature Conservancy
- University of Central Florida (Dr. Daniel Smith)
- University of Florida (Dr. Elizabeth Pienaar)
- Wings of Hope

Following the comment period, the dEIS may be modified based on agency, tribal, and public comments received.

APPENDIX A

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per square meter
AADT	Annual Average Daily Traffic
ACC	Audubon's crested caracara
ACSC	Area of Critical State Concern
AD	Anno Domini
AMO	Atlantic Multi-decadal Oscillation
APE	Area of Potential Effect
ARC	Acquisition and Restoration Council
BC	Before Christ
BCFS	Big Cypress fox squirrel
BCNP	Big Cypress National Preserve
BFE	base flood elevation
BGEPA	Bald and Golden Eagle Protection Act
CAA	Clean Air Act
CDM	Camp, Dresser & McKee, Inc.
CEQ	Council of Environmental Quality
CERP	Comprehensive Everglades Restoration Plan
CFA	Core Foraging Area
CFR	Code of Federal Regulations
CLC	Cooperative Land Cover
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CR	Country Road
CRAS	Cultural Resources Assessment Survey
CREW	Corkscrew Regional Ecosystem Watershed
DOI	Department of the Interior
dEIS	draft Environmental Impact Statement
DFIRM	Digital Flood Insurance Rate Map
DRI	Development of Regional Impact
DSAP	detailed specific area plan
E+C	Existing plus Committed
ECMSHCP	Eastern Collier Multiple Species Habitat Conservation Plan
ECPO	Eastern Collier Property Owners
EDR	Eastern diamondback rattlesnake
EM	Everglades mink
ENSO	El Nino South Oscillation
EO	Executive Order
ESA	Endangered Species Act
ESK	Everglade snail kite
F.A.C.	Florida Administrative Code
FBB	Florida bonneted bat (*Eumops floridanus*)
FBO	Florida burrowing owl
FCIT	Florida Center for Instructional Technology
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FFS	Florida Forest Service
FG	Functional Group
FIS	Flood Insurance Studies
FMSF	Florida Master Site File
FNAI	Florida Natural Areas Inventory
FP	Florida panther
FPNWR	Florida Panther National Wildlife Refuge

FPPA	Farmland Protection Policy Act
FPPP	Florida Panther Protection Program
FR	Federal Register
FS	Florida Statutes
FSC	Florida sandhill crane
FSJ	Florida scrub jay
FSPSP	Fakahatchee Strand Preserve State Park
FWC	Fish and Wildlife Conservation Commission
GF	gopher frog
GHG	greenhouse gas
GIS	geographic information system
GT	gopher tortoise
HCP	Habitat Conservation Plan
IPCC	Intergovernmental Panel on Climate Change
IS	eastern indigo snake
ITP	Incidental Take Permit
ITS	Incidental Take Statement
LBH	little blue heron
LCD	Landscape Conservation Design
LCEC	Lee County Electric Cooperative
LDC	Land Development Code
LOS	level of service
LRTP	Long Range Transportation Plan
LULC	land use/land cover
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSHCP	Multiple Species Habitat Conservation Plan
MSRP	Multi-Species Recovery Plan
NAAQS	National Ambient Air Quality Standards
NCA	National Climate Change
NEPA	National Environmental Policy Act
NGO	non-governmental organizations
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Association
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSLP	Natural Soils Landscape Position
NWRA	National Wildlife Refuge Association
O_3	ozone
OSSF	Okaloacoochee Slough State Forest
Pb	lead
PD&E	Project Development and Environment
PDA	Preliminary Development Agreement
PHU	Panther Habitat Unit
PM_{10}	particulate matter whose particles are less than or equal to 10 micrometers
$PM_{2.5}$	particulate matter whose particles are less than or equal to 2.5 micrometers
ppb	parts per billion
ppm	parts per minute and parts per million
PRT	Program Review Team
PSSF	Picayune Strand State Forest
RCW	red-cockaded woodpecker
RLSA	Rural Lands Stewardship Area

RLSP	Rural Lands Stewardship Plan
ROD	Record of Decision
RS	roseate spoonbill
SAK	Southeastern American kestrel
Service	U.S. Fish and Wildlife Service
SFWMD	South Florida Water Management District
SHPO	State Historic Preservation Officer
SLR	sea level rise
SO_2	sulfur dioxide
SR	State Road
SRA	Stewardship Receiving Area
SSA	Stewardship Sending Area
SWFCWMP	Southwest Florida Comprehensive Watershed Master Plan
TAA	Transportation Analysis Area
TCH	tricolored heron
USC	United States Code
USCB	U.S. Census Bureau
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
V/C	Volume/Capacity ratio
WBID	water body identification
WERP	Western Everglades Restoration Project
WS	wood stork

APPENDIX B

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REFERENCES

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APPENDIX C

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APPENDIX D

FINAL SCOPING REPORT

Eastern Collier Multiple Species Habitat Conservation Plan

Environmental Impact Statement

Scoping Report

2007 Tim Donovan / FWC

July 2018

Southeast Region

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1.0 Introduction

1.1 Background

In accordance with the National Environmental Policy Act (NEPA), the U.S. Fish and Wildlife Service (Service) is preparing an Environmental Impact Statement (EIS) for the Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP). The ECMSHCP is being prepared in connection with an application by nine landowners in eastern Collier County, Florida, for an Incidental Take Permit (ITP) that would authorize incidental take resulting from residential and commercial development and earth mining activities on certain lands as described in the ECMSHCP. In its current form, the ECMSHCP would permanently preserve approximately 107,000 acres of privately held land that could otherwise be developed to provide valuable habitat for the Florida panther and fifteen other protected species in southwest Florida. The ECMSHCP would also cluster and direct 45,000 acres of development toward less valuable habitat. **Figure 1.1** provides a depiction of the project extent and location.

Currently, the ECMSHCP covers ten federally-listed species and six state-listed species. Species currently considered for take coverage include:

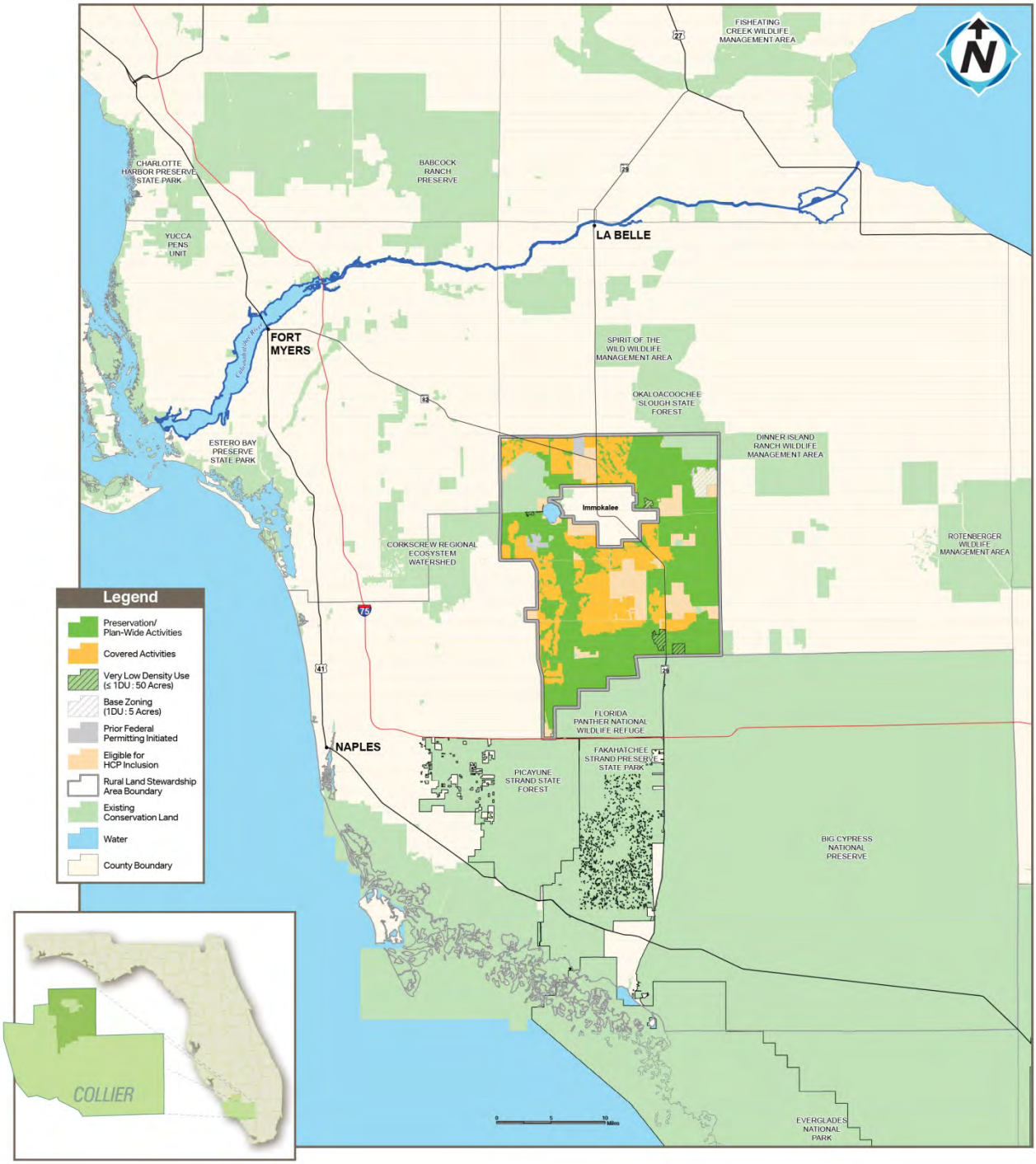
Federally-Listed Species:

- Florida scrub jay (*Apheloccoma coerulescens*), threatened
- Northern crested caracara (*Caracara cheriway*), threatened
- Wood stork (*Mycteria americana*), threatened
- Red-cockaded woodpecker (*Picoides borealis*), endangered
- Snail kite (Rostrhamus sociabilis plumbeus), endangered
- Eastern indigo snake (*Drymarchon corais couperi*), threatened
- Florida bonneted bat (*Eumops floridanus*), endangered
- Florida panther (*Puma concolor coryi*), endangered
- Gopher tortoise (*Gopherus polyphemus*), candidate
- Eastern diamondback rattlesnake (*Crotalus adamanteus*), under review

State-Listed Species:

- Burrowing owl (*Athene cunicularia*), species of special concern
- Florida sandhill crane (*Grus canadensis pratensis*), threatened
- Little blue heron (*Egretta caerulea*), species of special concern
- Southeastern American kestrel (*Falco sparverius paulus*), threatened
- Tricolored heron (*Egretta tricolor*), Species of special concern
- Big Cypress fox squirrel (*Sciurus niger avicennia*), threatened

FIGURE 1.1
PROJECT LOCATION



1.2 Scoping Overview

The first formal step in the NEPA process is scoping, the results of which are summarized in this report. The purpose of the public scoping process is to identify relevant issues that will influence the scope of the environmental analysis, including potential environmental issues and alternatives, and to guide the process for developing the EIS. The process provides a mechanism for classifying the scope of issues so that the EIS can focus the analysis on areas of high interest and concern. Scoping encourages state, local, and federal agency, tribal, and public participation by soliciting input on the impacts and scope of the proposed project. This report describes the scoping process and summarizes comments, feedback, and input received during the EIS scoping period for the ECMSHCP EIS.

Comments from interested parties were solicited throughout the scoping period for the project. Five different ways to submit input regarding the project were available throughout the 30-day scoping period. The scoping period began on March 25, 2016 and closed April 25, 2016. Comments received by April 28, 2016 are included in this report.

The Service requested useful comments which are defined as comments that raise significant issues that are related to significant or potentially significant effects. A significant issue:

- Has a cause and effect relationship with the proposed action or alternatives;
- Is within the scope of the analysis;
- Has not been decided by law, regulation, or previous decision; and
- Is amenable to scientific analysis rather than conjecture.

2.0 Scoping Process for ECMSHCP EIS

2.1 Notice of Intent

The scoping process was initiated by publishing the Notice of Intent (NOI) to prepare an EIS and conduct scoping meetings in the *Federal Register* on March 25, 2016. A copy of the *Federal Register* notice is provided in **Appendix A.**

2.2 Scoping Meeting Schedule

Two meetings were conducted during the scoping period to solicit input. The first, a public scoping meeting, was conducted on April 12, 2016 at 5:00 pm (Eastern) at the University of Florida/Institute of Food and Agricultural Sciences Collier County Extension in Naples, Florida. The public meeting included an online component that broadcast the event live on the internet. The second scoping meeting consisted of a live online broadcast conducted on April 19, 2016 at 10:00 am (Eastern). State, local, and federal agency staff, elected officials, Tribal , and local officials and other interested parties were invited to attend either meeting. Details of each of these meetings are described below.

2.3 Media Coordination

A press release and newspaper advertisement were prepared and distributed to announce the scoping meetings, explain the EIS scope, describe the format and goals of the scoping meetings, and to provide meeting information. The press release and newspaper advertisement contained pertinent facts and background information about the ESA, the ECMSHCP and ITP, the study area, and affected species. In addition, information regarding the public comment period and opportunities, contact information, and references to available information resources were included.

The newspaper advertisement was published in the Naples Daily News on April 6, 2016. The press release was sent to the following on the same date:

- Naples Daily News
- Fort Myers News Press
- The Ledger
- Miami Herald
- South Florida Sun Sentinel
- Tamp Bay Times
- Sarasota Herald Tribune
- Palm Beach Post
- Orlando Sentinel
- WGCU Radio
- Naples Florida Weekly
- WBBH TV (NBC) Channel 2
- WZVN TV (ABC) Channel 7
- WINK TV (CBS) Channel 11
- WFTX (Fox) Channel 4

Appendix B contains a copy of the press release and newspaper advertisement announcing the project and scoping process.

2.4 Website

The Service developed a project website to provide general information regarding the project and to provide the public with access to the project's administrative record. The website provides related documents, maps of the Plan Area, recordings of and materials from the scoping meetings, and contact information for comment submittal. The site also provides a link to files that make up the administrative record, beginning in 2010. The materials include regulatory guidance, meeting records, e-mails, and other correspondence. The address to the project webpage is: www.easterncollierHCPEIS.com.

2.5 Public Scoping

The public scoping meeting was held in an open house format followed by a presentation. An online public meeting was conducted concurrently with the public scoping meeting. The purpose of the meeting was to provide the public with an overview of the project, answer questions regarding the project, and receive input regarding any issues and alternatives recommended for evaluation in the EIS. Informational graphic boards summarizing the project and EIS process were displayed during the meeting. The meeting included a slideshow presentation by the Service that discussed details of the project, the NEPA process, the Endangered Species Act, and the Habitat Conservation Plan development process.

Attendees were asked to sign-in upon arrival to the meeting and received handouts including an information brochure and a comment form. Copies of the informational brochure and comment form are provided in **Appendix C**. A total of 146 individuals signed in at the public scoping meeting, and an additional 22 attendees logged into the concurrent online presentation. The proceedings of the meeting, including oral statements made by attendees, were recorded by a court recorder.

Following the presentation, attendees were given the opportunity to provide oral and written comments regarding the scope of the EIS. A total of 33 attendees provided an oral statement and a total of 10 written comments were received during the public scoping meeting. A copy of the meeting transcript and a recording of the public scoping meeting, including the slideshow presentation, have been made available at the project website.

2.6 Agency, Tribal and Elected Officials Scoping

The Service prepared and distributed a letter of invitation to 141 agency representatives and Tribal/elected officials requesting their participation in the scoping phase of the NEPA process. The invitation included a summary of the project, meeting purpose, and login information for attending the

online meeting. A copy of the scoping invitation letter template is included in **Appendix D**. A list of the agency representatives and officials invited is included in **Appendix E.**

In accordance with Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, the Service is responsible for assessing the impacts of activities, considering tribal interests, and assuring that tribal interests are considered in conjunction with federal activities and undertakings. The Service recognizes that tribal governments are sovereign nations located within the United States. The Service has a responsibility to help fulfill the United States government's responsibilities toward tribes when considering actions that may affect tribal rights, resources, and assets.

Tribal coordination began following the publication of the NOI. Tribal coordination was conducted in accordance with the National Historic Preservation Act (NHPA) of 1966 and Executive Order 13175 to maintain the Service's government-to-government relationship between Native villages and tribes via a letter to five Native tribes. To continue with government-to-government coordination and consultation, the Service will maintain communication with the tribes throughout the planning process and during future planning efforts.

A total of 30 individuals representing the following agencies/interest groups attended the April 19, 2016 online scoping meeting:

- US Fish and Wildlife Service
- US Army Corps of Engineers
- National Park Service
- Florida Fish and Wildlife Conservation Commission
- Florida Department of Environmental Protection
- Florida Department of Transportation
- Florida Division of Historical Resources
- Collier County Growth Management
- Lee County Community Development Department
- Lee County Metropolitan Planning Organization
- Collier County Immokalee CRA
- Immokalee Enterprise Zone Development Agency
- Naples Zoo
- Sierra Club
- Conservancy of Southwest Florida

The purpose of the agency scoping meeting was to provide agency officials, elected/appointed and Tribal officials, and other interested parties with an understanding of the proposed action and to solicit their input on the scope of the EIS. The meeting included a slideshow presentation similar to that presented at the April 12, 2016 scoping meeting.

Following the presentation, all meeting attendees had the opportunity to ask questions and provide comments on the project. The Service also requested that official agency comments be submitted in writing following the meeting.

3.0 Scoping Results

During the scoping period, comments could be submitted in a variety of ways, including by mail, e-mail, fax, and at the scoping meetings. At the public scoping meeting, a comment form was provided asking respondents to provide feedback regarding issues to be considered in the scope of work and plan area.

Meeting attendees were asked to submit all official comments in writing, and were encouraged to complete and submit comments by April 25, 2016. All public and agency comments summarized in this scoping report were received by the Service on or before April 28, 2016.

3.1 Responses Received

A total of 2,465 public and agency/governmental officials responses were received during the scoping period. Of these, 896 were unique responses while 1,569 consisted of form letters (five different form letters received). **Table 3-1** below summarizes the responses received during the scoping period.

TABLE 3-1
SCOPING PERIOD RESPONSE SUMMARY

Response Source	Number of Responses Received
Comments received during April 12, 2016 scoping meeting (oral and written)	43
Comments received during April 19, 2016 scoping meeting	19
Written comments received via mail, email and fax	
Federal agency	4
State agency	4
Local government	4
Tribal official	0
Non-governmental organization	20
Private citizen	2,371
TOTAL	**2,465**

A link to all responses received during the scoping process is available at the project website.

3.2 Topics Addressed

Many comments, the majority of which were from the public, expressed an opinion advocating that the Service not approve the ECMSHCP. Other comments, including many agency and NGO comments, called for improvements to the ECMSHCP. A vast majority of respondents from all groups requested that the ECMSHPC provide additional detail regarding existing conditions and the proposed action.

The most common topics included questions, comments, and concerns regarding:

- Funding/Financial (20 comments)
- Habitat (446 comments)
- Land use and development (497 comments)
- Farming/extractive/economic interest (196 comments)
- Policy process (116 comments)
- Transportation (75 comments)
- Species (517 comments)
- Water resources (63 comments)
- Additional study needed (33 comments)
- Other (64 comments)

**Note: Each comment identified in a form letter was recorded with the initial letter. Identical letters were not recorded as new comments.*

3.3 Significant Issues

An overall objective of the EIS scoping process is to identify significant issues associated with the proposed action. All received comments were reviewed by the Service and have been made part of the administrative record. During their review of all received comments, the Service noted that many

commenters raised issues of significant concern and that many of these concerns were shared by multiple commenters. **Table 3-2** below provides a summary of major issue areas and paraphrased representative comments that address each issue. As the EIS process moves forward, the Service will evaluate each issue and corresponding comments and make a determination of how each issue will or will not affect the development of the EIS, including the development of alternatives, impact analysis, and required mitigation. As part of this evaluation, the Service will finalize a response to each of these issues in a Final Scoping Report to be issued prior to publication of the Draft EIS.

4.0 Next Steps in the EIS Process

The Service will determine which alternatives to the Proposed Action and No Action should be carried forward for full analysis in the EIS. For each viable alternative carried forward for full analysis, potentially affected resources will be identified and potential impacts will be evaluated. The EIS process will identify potential impacts to each resource and complete an analysis and, if needed, measures to mitigate those impacts will be included in the Draft EIS. When completed, the public, tribes, and agencies will be notified of the availability of the Draft EIS for review and comment. The publication of the Draft EIS will be announced in the *Federal Register*. A 45-day comment period will follow the publication of the Draft EIS. Following the comment period, the Draft EIS may be modified based on the agency, tribal, and public comments received. Similar to this scoping report, all comments and responses will be incorporated into the Final EIS.

When complete, the publication of the Final EIS will be announced in the *Federal Register* and advertised through similar media sources. A Record of Decision will be issued by the Service following review of the Final EIS.

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS

Note 1: This table provides paraphrased representative comments for each identified significant issue. It does not present all comments made by all respondents regarding each issue.
Note 2: Agency representatives, elected/appointed officials, and representatives of non-governmental organizations are identified by name with their corresponding comment. The names of private citizens have been withheld pursuant to the Privacy Act of 1974.
Note 3: The listing of issues and comment summaries are not presented in any order of importance.

Issue	Comment Summary [Author]
Preservation Footprint/Wildlife Linkages Major Points: *>Widen corridors* *>Habitat conversions in Preserve areas* *>Too much fragmentation* *>More detail needed on habitats in Preserve areas* *>Incorporate PRT recommendations*	Wildlife linkages should be as wide as possible – recommends PRT (Panther Review Team) Alternative. Are lands protected for only 50 years or in perpetuity? [*USFWS; SW FL Gulf Coast Refuge Complex*] While preserving flow-ways/wetlands is hydrologically vital, a proportionally commensurate amount of upland habitat should be preserved. The HCP should analyze to what degree stormwater from developed areas (within the HCP) will be discharged into preservation areas. [*Big Cypress National Preserve*] Since both lands to be developed and lands to be conserved under the HCP include citrus groves, improved pasture, row crops and other agricultural uses, the HCP does not provide an analysis of how certain lands were determined to be "substantially more valuable" to listed species and therefore to be preserved, [compared] to those lands to be developed. Preservation and conservation of native habitats need to be clearly and unequivocally stated as such, not just that these lands will be "managed." We seek assurance that these kinds of Preservation/Plan-Wide Activities and Very Low Density Use lands will indeed be maintained in their current condition and/or restored. We also seek to understand whether one type of agriculture can be converted to another (potentially less valuable habitat for species). The statement that future uses will be "restricted to the types of rural and agricultural uses that have occurred historically throughout the HCP area" makes it appear that conversion of existing high value natural areas and habitats to agricultural uses can occur under the provisions of the HCP. [*The Nature Conservancy*] It is apparent (and widely acknowledged in the Plan) that both the North and South corridors are the only feasible means to allow panther dispersal leading to OK Slough State Forest and ultimately to lands in Hendry and Glades counties. Given their high importance, we think these corridors are inadequately configured in the HCP, both in width and adjacent buffer. Also, the HCP design of the North and South corridors contradicts the explicit recommendations of the PRT. The PRT's recommendations are applicable to the reserve design and conservation of HCP lands. The PRT provided a thorough analysis of the FPPP and made specific, science-based recommendations that are overlooked in the HCP. The HCP is therefore not the only viable, science-based plan for Florida panther conservation in this area. **Figure 4-9** that purports to show habitat connectivity is inadequate for the South corridor (as discussed above) and is likewise inadequate - far too narrow - at the northern terminus of the proposed North corridor where a linkage is supposed to be provided between Corkscrew Regional Ecosystem Watershed lands and the Southwest Hendry County

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	Sector Plan Natural Resources District and its adjacent Rodina Long-Term Agriculture Natural Resource Areas. This proposed North corridor, in its present and extremely narrow configuration, will in our opinion essentially become a dead-end for panthers attempting to move northward through this landscape. The South corridor, as shown in **Figures 2-1 and 2-2**, is not of the configuration strongly recommended by the PRT. What is needed is a wider South corridor (also called by the PRT as Summerland Swamp Habitat Linkage) with more land conserved. TNC recommends that recommendations from the PRT report pertaining to the Summerland Swamp Habitat Linkage and Agricultural Fields South of CR 858 be addressed in the EIS process. [*The Nature Conservancy*] The North and South Panther Corridors (linkages) are not consistently portrayed in the HCP, especially in the maps. The northern link is really a created one, but that created nature isn't clearly described in the HCP. There are also important restoration issues raised by both the FPPP PRT's recommendations on both these corridors and by the King Ranch's Hendry County Sector Plan wildlife linkages that connect to the RLSP near Corkscrew Marsh. Constructing the South Panther Corridor linkage enhancements also can only be accomplished if the RLSP Five-year Review Amendments are adopted, especially the agricultural stewardship credits and the corridor restoration credit generation. [*Audubon Florida* and *Audubon of the Western Everglades*] The draft HCP outlines the general area of corridors, while also depicting areas of Covered Activities that would squeeze these corridors into a configuration and width that would not be functional for the panther. [*Conservancy of Southwest Florida*] The Plan discusses habitat connectivity, but the connections between preserved lands and large parcels tend to be quite narrow. [*Defenders of Wildlife*] The 152,124 acres should be evaluated holistically with equal consideration to all 16 species and the preservation lands delineated with the best possible value to all species. This process must not be driven by the Florida panther Primary and Secondary habitat zones. [*Florida Wildlife Federation*] The panther corridors are far too narrow to be functional and the HCP does not control other projects that might sever these corridors. The underpasses will not sufficiently offset road kills. Widen and reforest corridors; secure permanent unseverable corridors. [*Stone Crab Alliance*] We want to convey to the Service, as we have consistently shared with the applicants, our continuing concern regarding the potential development in the Horse Trials/Summerland Swamp area and the southern reach in the

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	formerly titled proposed Town of Big Cypress and now Rural Lands West. The HCP would be strengthened if lands south of Oil Well Road were placed under conservation designation and not developed. [*Defenders of Wildlife*] We encourage FWS to use the Florida Panther Technical Review Teams' (PRT) report in its analysis of the alternatives in the EIS. The Review Team made specific recommendations relating to additional lands that should be conserved, reducing the impacts to panthers from the transportation network, increasing the functionality of wildlife corridors and many other salient suggestions for augmenting the conservation benefits of the program for the Florida panther. [*Defenders of Wildlife*] The HCP does not show functional corridor design. A landscape perspective is essential for developing functional corridors for panthers. The land cover of corridors must also be restored and protected. [*Sierra Club, Florida Chapter*] The 107,000 acres (to be preserved) do not consist entirely of contiguous lands, but include many isolated parcels (mostly forested and herbaceous wetland community types). The HCP provides for too much habitat fragmentation. It is recommended that small areas of interspersed or scattered development as depicted in the HCP could be better consolidated within a more compact "Covered Activities" footprint. [*The Nature Conservancy*] Thin northwest-southeast oriented strips of HCP preserves are shown on the map on page 66, with "Covered Activities" in between on the central-north part of the RLSP/HCP. The ecological values of these habitats could be compromised by incompatible "Covered Activities" interspersed among the linear preserves. [*Audubon Florida* and *Audubon of the Western Everglades*] We think that the potential conversion of 5,166 primary zone acres of native habitats is too much. The Covered Activities in the HCP could be reconfigured to conserve much of this native habitat, allow for wider and more functional corridors, less fragmentation and more contiguity of lands to be protected and that an alternative should be developed which addresses these concerns. [*Citizen*] There needs to be a careful reassessment of the balance between development and preserves in the HCP, and how they are sited. Certain areas proposed for "Covered Activities" may need to be reconsidered, such as the area in the southwest corner of the Rural Lands West project (second phase nearer to the Florida Panther NWR, also called "southern villages"), other development areas south of CR858, and development proposed or possible in the Big Cypress Area of Critical State Concern (ACSC). [*Audubon Florida* and *Audubon of the Western Everglades*] HCP preserves need clearer management plans. Fire management must be fully allowed on all [HCP] preserves,

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	requiring nearby "Covered Activities" or roads be sited and designed to not conflict with fire management on all preserves. [*Audubon Florida* and *Audubon of the Western Everglades*]
	The matrix of native habitats and agriculture and ongoing activities does not fulfill the requirements of Section 10(a)(2)(A) of the ESA, which requires that a conservation plan designate land "explicitly designated for habitat restoration, acquisition, protection, or other conservation purposes…" There is no indication of what percentage of the land will be devoted to these mixed uses and will be left as native habitat for the species. It is unclear what percentage of the 107,000 acres is presently used or usable by the species, and what percentage of the 107,000 acres are wetlands that would require a 404 Clean Water Act permit for development. While water and wetlands may provide valuable ecosystem service benefits, they should not be calculated as part of direct conservation lands for listed species that do not directly use those lands. [*Center for Biological Diversity*]
	Are there other agreements within the overall ECMSHCP footprint with either property owners or agencies not identified in the HCP that might alter the conservation value of the proposed conservation areas? [*Naples Zoo at Caribbean Gardens*]
	Aligning habitat and opportunities for wildlife passages under SR29, SR82, SR846, and CR858 is important. There are two potential north corridors; both need to be evaluated for long-term viability and ease in connecting to regional conservation lands. One corridor connects directly north to the adopted Southwest Hendry County Sector Plan and the adopted Rodina Sector Plan. The other corridor is a tenuous east-west path hugging Hendry County. [*Florida Wildlife Federation*]
	The south corridor (aka Summerland Swamp Habitat Link) should include all land in the northwest and southwest corners of the SR29 and CR858 intersection. Because land west and north of CR858 is not included in the HCP and its fate is unknown, the HCP must ensure the link is robust for panthers and other wildlife. [*Florida Wildlife Federation*]
	According to the Panther Review Team (PRT), the Landowners' proposed southern corridor does not protect the Horse Trial area, and proposes only a single location for panthers to cross SR 29. The USFWS should require preservation of additional land in the Summerland Swamp area and disallow construction of Horse Trial Road, as recommended by the PRT, so there is a functional corridor for movement from FPNWR to OK Slough. The HCP does not provide an adequate corridor for the panther to move north to OSSF and the Caloosahatchee River. The HCP's failure to provide adequate corridors for the panther to move among public lands and to disperse north to OSSF and the Caloosahatchee River jeopardizes the continued existence of the panther. [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	Panther corridor locations should be exactly indicated on a map, not generalized with two red arrows as in **Figure 4-9** of the HCP. Without this indication, land in these areas will not be set aside for protection. [*Citizen*] The original HCP proposed a northern corridor going north and east from CREW to Okaloacoochee Slough State Forest (OSSF). A corridor is needed for the panther to disperse from CREW north to Hendry County and the Caloosahatchee River. However, the PRT concluded that the northern corridor as proposed would not be functional because it was too narrow and lacked buffers of habitat. EPCO, however, did not include the previously proposed north corridor in the 2015 HCP because the landowner of the areas where the corridor was located decided to use the entire area for the Immokalee Sand Mine. The 2015 HCP substitutes a "conceptual" north corridor - just an arrow going from CREW across land proposed for development north to Lee County. The HCP's failure to provide adequate corridors for the panther to move among public lands and to disperse north to OSSF and the Caloosahatchee River jeopardizes the continued existence of the panther. [*Citizen*] Leave the land connecting Corkscrew and Dinner Island Ranch across the north of Immokalee and the land connecting Okaloacoochee Slough with Fakahatchee Strand along the east of Immokalee untouched so migratory land animals have continued ability to move without being run over. [*Citizen*] I question the width of the proposed panther corridors the north one appears to be less than a thousand feet wide and the south one not a great deal wider. Is there any evidence that these corridors would be effective? It may be that narrow migration corridors are effective for a species like the pronghorn antelope but are they sufficient for a large mobile solitary predator? [*Citizen*] I have a concern that the dispersal corridors will undoubtedly be used by other wildlife as well as panthers. What is the risk that the deer passing through them might effectively "create" a high value panther habitat at each end of the corridor; might this corridor design might inadvertently result in an increased risk of intraspecific competition to dispersing subadult male panthers transiting the corridors? [*Citizen*] The future change to urban land uses is not sufficiently assessed. In many instances, areas proposed as conservation are likely to become islands or peninsulas surrounded by urban and their value to panthers and many of their prey species will be diminished due to their proximity to urban land uses and increased traffic / road density. This may be within the allowances covered by the base ratio and or the excess credits the applicant indicates are available, however, there is not sufficient discussion to be sure. Additionally natural habitat corridors in Camp Keais strand are very narrow in places. Are these adequate for movement of female panthers? [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	In July, 2015, top panther experts called for protecting what's left in a report entitled "Landscape Analysis of Adult Panther Habitat." "Because there is less panther habitat remaining than previously thought," they conclude, "we recommend that all remaining breeding habitat in South Florida should be maintained." Yet the HCP calls for the development of 25,000 acres within the panther's primary habitat despite the recommendation of the ranchers' own review team, which is comprised of six panther biologists. Their 2009 report stated that development could easily be moved out of primary and into secondary habitat zones. [*Citizen*] The proposed wildlife corridors are insufficient when the cumulative effects of all the development in the area are considered. The one proposed and two approved Sector Plans to the North in Hendry County and the already approved development entitlements of Golden Gates Estates in Collier County will further threaten the listed species habitat. [*Citizen*] Prominent ecological principles require sufficient acreage of core forest habitat to maintain a healthy biodiversity of species. This proposed plan severely erodes the existing core habitat by allowing development between the adjacent CREW conservation land to the West and the Okaloacoochee Sough State Forest to the North. [*Citizen*] The current habitat for panthers in Florida is too small and fragmented for the population to continue to grow to a sustainable level. A scientific study by top panther experts, published last fall, calls for protecting what's left. "Because there is less panther habitat remaining than previously thought, we recommend that all remaining breeding habitat in south Florida should be maintained," concluded the authors of the study, "Landscape Analysis of Adult Panther Habitat." [*Citizen*] Please consider the ecological function of the land lost and that protected. No net loss or equal acreage of replacement lands does not mean the same level of function of the land will be preserved. [*Citizen*] The Plan sets aside 107,000 acres for conservation in exchange for intense development of 45,000. But much of this land is already set aside for conservation, meaning that the same acreage would be counted twice in the mitigation process. [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
Easements Major Points: *>More detail needed* *>Timing of easements*	HCP/EIS needs more detail on how easements will work, who will manage them, how they will be recorded in county property records, etc. [*USFWS; SW FL Gulf Coast Refuge Complex*] Need more detail on the terms and conditions of the conservation easements for the preserved lands. Without at least a draft of a conservation easement to review, and reasonable assurances and guarantees that such terms will be followed, it is difficult to adequately review the level of protection being accorded to these lands. [*The Nature Conservancy*] The HCP states the protective easements will be phased over 50 years; what will be the interim protections to ensure that the habitat values are not diminished? Why not protect now and bank the credits? [*Florida Wildlife Federation*]
Existing Conservation Lands Major Points: *>Ability to maintain prescribed burning*	Existing conservation lands/preserves/refuges exist in proximity to the HCP area. How will future development in the HCP area affect ability to properly manage these lands, especially with regard to prescribed burning (smoke)? [*USFWS; SW FL Gulf Coast Refuge Complex*] We understand that plans for the proposed town of Rural Lands West envisions a new hospital as a requirement under the RLSA overlay program. A hospital is likely to preclude essential management in the form of prescribed burning on a significant portion of the Florida Panther National Wildlife Refuge and other existing and proposed public and private conservation lands. Smoke easements and other options for avoiding these impacts should be included in the document and analyzed during the NEPA process. [*Defenders of Wildlife*] One of the most concerning, yet missing aspects of the HCP, is diminished use of prescribed fire on regional public lands. Adjacent development will restrict the use of this land management technique that is necessary to keep Florida's preserved land in good ecological health. [*Conservancy of Southwest Florida*] How will project affect the full range of federally-protected conservation lands/interests both within the project area and in the adjacent federal lands, especially those to the south? [*Big Cypress National Preserve*] Proposed losses of the Primary Zone near the Florida Panther NWR are of particular concern as this area should be maintained and the corridor width increased. [*Sierra Club, Florida Chapter*] The HCP proposes to allow development within the Big Cypress Area of Critical State Concern that would seem at odds with this designation. The impacts to this area should be spelled out and a determination made whether they are reasonable and consistent with the ACSC designation. [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	There will be increased management difficulties of the HCP designated conservation lands as well as existing conservation lands in close proximity to the proposed developed areas. Fire management of natural areas is a primary tool used extensively by CREW, Corkscrew, OK Slough SF, Florida panther NWR, and Big Cypress National Preserve as well as the ECP areas to maintain fire dependent habitats. Smoke impacts on developed areas are likely to cause conflicts and increase management costs. If development includes hospitals, nursing facilities, or similar development fire management may be precluded or severely limited for downwind conservation areas. Management of fire dependent habitats needs to be assessed. [*Citizen*] I am writing to express my sincere concern at activity that would adversely affect the natural habitat for endangered and threatened species in areas bordered by the Florida Panther National Wildlife Refuge to the south, the Okaloacoochee Slough State Forest to the north and east, and the Audubon Corkscrew Swamp Sanctuary to the northwest. [*Citizen*]
Species Major Points: *>Add gopher frog* *>Substantially more detail needed on each species, available habitat, and impacts*	Gopher frog (Lithobates capito) should be added to analyses. [USFWS; SW FL Gulf Coast Refuge Complex] The Florida burrowing owl and little blue heron have had recent status reviews and will become state-designated Threatened species with the completion of the state's Imperiled Species Management Plan (ISMP). [*FWC*] The HCP is heavily focused on Florida panther and the sections on the other 15 species are far too brief. The scoping phase should ensure that all covered species are sufficiently addressed in the HCP, both individually and as a community. The scoping phase should also address the presence of other federally protected species, such as migratory birds and plants, in the HCP area. [*Defenders of Wildlife*] FWS' analysis of the environmental baseline will need to: 1) take into account the fact that there is currently not enough habitat available to support the existing panther population; and 2) analyze the impact of other projects in the area. FWS will need to explain how the removal of any panther habitat will not impact the panther when the existing population demands more land than is currently available. FWS needs to provide a complete picture of its consultation history of the panther in the action area and analyze the impacts of those projects. [*Center for Biological Diversity*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	The USFWS 2008 Panther Recovery Plan states that a panther population needs to number 240 to be viable. This number is necessary for genetic variation and to withstand the threat of disease. To allow such a significant amount of primary zone panther habitat to be destroyed as proposed in the HCP is contrary to the Panther Recovery Plan. [*Citizen*] FWS should require the applicant to provide more information regarding the location of patches of scrub jay habitat and any measures that will be taken to promote the conservation of the species. The HCP indicates that the "permit holder may mitigate the action by attempting to rehabilitate scrub patches"; however, the applicant has not indicated a specific plan to do so. Therefore, the HCP does not provide all information required by law for this covered species. [*Center for Biological Diversity*] FWS will need to calculate the loss of wetlands and other surface waters (jurisdictional and non-jurisdictional) that will result from the project and the effect that will have on the wood stork. The HCP does not contain sufficient information to address the needs of the wood stork, and it fails to identify with any specificity the impacts that are likely to result from the development. [*Center for Biological Diversity*] The HCP does not adequately address the conservation needs of the red-cockaded woodpecker, nor do the applicants indicate they will pursue any of the conservation measures outlined in the RCW Recovery Plan. The HCP fails to adequately address the habitat impacts to the RCW and fails to provide sufficient monitoring provisions. [*Center for Biological Diversity*] The HCP does not adequately address the conservation needs of the snail kite, nor do the applicants indicate they will pursue any of the conservation measures outlined in the Snail Kite Recovery Plan. [*Center for Biological Diversity*] The HCP indicates that crested caracara have been documented in the plan area, including in areas where intensified development would be authorized; however, the applicant does not provide caracara nesting locations and thus cannot adequately address what measures will take place within the proposed development area. [*Center for Biological Diversity*] Although the HCP provides general information about threats to the eastern indigo snake, it fails to provide sufficient information regarding specific impacts the proposed activities will have on the snake. The HCP also fails to describe sufficient measures to avoid, minimize, or mitigate negative effects on the species. [*Center for Biological Diversity*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	The HCP does not provide adequate data to accurately assess impacts to the eastern diamondback rattlesnake and fails to specifically and accurately account for potential impacts to the species. [*Center for Biological Diversity*]
	The applicant has not acquired sufficient data to provide a full picture of environmental impacts to the bonneted bat. Furthermore, the Service is currently considering critical habitat designation for the species and should take no action on the HCP until the critical habitat has been determined for this species. [*Center for Biological Diversity*]
	Since the FWS cannot effectively determine at this time the conservation measures needed to conserve the bonneted bat and protect it from no net loss based on such limited data, the FWS should not issue a take permit for this species for which little is known. [*Conservancy of Southwest Florida*]
	Not only does the proposed HCP fail to properly avoid impacts to the priority Primary Zone for panthers, but it does not even identify prime existing habitat for other covered species. Where nests or other occupied areas are known, as seen in **Figures 5-1 and 5-4**, they are not avoided. [*Conservancy of Southwest Florida*]
	The plan virtually ignores the unique habitats of all covered species except the Florida panther; activities do not avoid known locations of nests or dens. [*Stone Crab Alliance*]
	Insufficient details has been provided as to how many acres of species-specific habitat would be impacted (using panther habitat as a surrogate), and estimation of how many individuals would be subject to take by the proposed activities. [*Conservancy of Southwest Florida*]
	The impacts on the unique habitats of 15 other protected species receive little to no consideration in the plan. The HCP does not provide adequate avoidance, minimization or mitigation for all covered species. [*Sierra Club, Florida Chapter*]
	Can the impact on panther prey biomass and correlated changes in panther range size be evaluated? [*Naples Zoo at Caribbean Gardens*]
	How will negative impacts to federally listed species not covered by the HCP be considered and addressed? These species include plants and migratory wildlife. [*Florida Wildlife Federation*]
	Two of the covered species are scrub jays and red-cockaded woodpeckers. Please address the opportunities, if any, to translocate birds to the HCP preserve lands. [*Florida Wildlife Federation*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	Should the HCP be required to assess the issue of loss of habitat for T&E plants, in particular the ghost orchid, *Dendrophylax lindenii*, as well as other T&E species that live in our area? [*Citizen*] Affects to other wildlife species is largely missing. Habitat use models could be used to provide some assessment of effects to these species. [*Citizen*] The applicants are seeking incidental take authorization for the following federally listed species: the (1) Florida scrubjay, (2) Audubon's crested caracara, (3) wood stork, (4) redcockaded woodpecker, (5) Everglade snail kite, (6) eastern indigo snake, (7) Florida bonneted bat, and (8) Florida panther. The gopher tortoise, which is a candidate species, would also be included, as would the following state listed and unlisted species: (10) the burrowing owl, (11) eastern diamondback rattlesnake, (12) Florida Sandhill crane, (13) little blue heron, (14) Southeastern American kestrel, (15) tricolored heron, and (16) Big Cypress fox squirrel. Yet the Plan virtually ignores the unique habitats of all the species excepting the panther. [*Citizen*] I wanted to clarify if the survival of endangered or imperiled plant species in this area would not be considered a factor in the review of the EIS. [*Citizen*] The HCP does not consider the increasing effects of invasive species (i.e. pythons) on the ability of the panther to thrive. [*Citizen*] How much viable habitat exists in the State to accommodate the list of Threatened and Endangered species? [*Citizen*]
Transportation Major Points: *>Analyze all roads in Action Area, not just those internal to the developments* *>Wildlife crossings*	All proposed roadway widening projects (and power infrastructure) in HCP area should be part of cumulative analyses. [*USFWS; SW FL Gulf Coast Refuge Complex*] It is important for the applicants to recognize that FDOT uses the FDOT Wildlife Crossing Guidelines for wildlife crossings on state roads. The applicants/FPPP would need to apply the most current version of the FDOT guidelines at the time a crossing is under consideration. Coordination regarding these crossings shall be handled through the FDOT State Environmental Management Office in coordination with the FDOT District One Environmental Management Office. [*FDOT – State Environmental Management Office*] Collier County transportation planning documents that may be helpful in review of the HCP include "Master Mobility Plan Phase II Final Report" and "Long Range Transportation Plan:"

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	• Section 4 of the Master Mobility Plan includes conceptual plans and potential benefits. Section 4.4 provides a Conceptual Wildlife Crossing & Habitat Preservation Plan. • Section 4 of the Long Range Transportation Plan identifies the system-wide needs absent fiscal constraints. Section 6 includes the anticipated improvements based on projected revenues. [*Capital Project Planning, Impact Fees & Program Management Division, Collier County Growth Management Department*] The cumulative effects of the overall road network need to be evaluated during the NEPA process, which should analyze and evaluate the effects of existing and future state, county and internal roads on the covered species, as well as plans for avoiding, minimizing and mitigating take of the covered species. [*Defenders of Wildlife*] Project Development and Engineering (PDE) for the widening of State Road 29 north of I-75 is expected to start in summer 2016. Given the proximity in time and space of these two parallel projects, it would appear to be a necessary requirement of NEPA to treat them holistically as the dual tracks of the same train: regional-scale development of an area that portends profound changes for habitat within the footprint of the proposed ECMSHCP and federal and state conservation lands to the south downstream. [*Big Cypress National Preserve*] Collier MPO 2040 LRTP projects deemed cost-feasible over the next 25 years clearly demonstrate that funding is simply not available for accommodating the infrastructure necessary to support massive intensification in the RLSA during the MPO's 2040 planning horizon. [*Conservancy of Southwest Florida*] Roadways will also result in a direct loss of habitat through construction. As recommended by the PRT, these habitat losses should be included in the 45,000-acre cap. The draft HCP states that the applicants do not seek incidental take permit coverage for panther-related vehicle collisions, "except to the extent such vehicle strikes occur in the course of a Covered Activity," meaning only those impacts related to construction and maintenance of internal roads. The applicants do not seek coverage for panther roadkills on the internal roadways or beyond the mines and development under the 45,000 acres of Covered Activities. This approach ignores the full impact of the proposed activity and segments ESA consultation. The EIS should review the full effect of roadkill and habitat fragmentation on the Covered Species from internal roadways and from traffic generated from the Covered Activities. [*Conservancy of Southwest Florida*] Take a hard look at underpass placement and fencing and avoid roads that will create mortalities. Adopt the PRT's "No Build Roadways" recommendations. [*Stone Crab Alliance*]

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	To the extent possible, please evaluate the need and location for wildlife crossings or similar features on public roads not included in the HCP. Collier County's Master Mobility Plan discusses habitat and wildlife crossings (see Section 4.4 and Map 4-2 in the Mobility Plan). [*Florida Wildlife Federation*] A thorough analysis of new and expanded road network would help to visualize the future of the Florida panther in the project area. We need to take into consideration the fact that Florida panther numbers are being reduced precisely due to road kill. [*South Florida Wildlands Association*] Pushing off consideration of avoidance and minimization of incidental take for each separate road project will result in the responsible federal agency (FHWA) having very limited ability to develop reasonable and prudent measures to minimize the take. [*Citizen*] I question the claim of developers that a community designed around a "town center" will significantly mitigate the amount of traffic generated. Residents will continue to access attractors/services in Naples, and significant number of vehicles servicing (i.e. FedEx, maintenance services) will not be affected by the structure of the development. A study of conditions observed in the area of a similar development, Ave Maria, should be conducted. [*Citizen*] Section 4.3.1.1 of the Plan (p. 84) states that the HCP does not include the existing state and county road network, and notes that addressing the environmental impacts of future improvements to the transportation network is the responsibility of local, state, and Federal authorities. This segmentation of study and failure to address the transportation network changes that will flow from the development proposed in the HCP is unacceptable. Transportation systems impacts should be fully evaluated by the Service as part of the HCP. [*Citizen*] The largest cause of mortality in Panthers and other wildlife are roadways. These "preserved" areas will be bisected by roadways and again, there is no published science that concludes with a successful model for low impact of species with added roadways. Please consult my colleagues at the UC Davis Road Ecology Center (http://roadecology.ucdavis.edu/) for more information as you evaluate the Stantec plan for road kills. [*Citizen*] Although FWS is not considering the transportation element of this plan, it is imperative that the impact of additional roads be considered when determining the fate of the endangered species the FWS is tasked with protecting. [*Citizen*] The Florida Department of Transportation has shown a 95% increase on some segments of I75 in just 15 years and the increase in traffic (i.e. development) can be directly correlated to the increase in Panther mortality. [*Citizen]*

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	Adding 100 miles of new roads and thousands of additional residents who will drive cars in eastern Collier County can only jeopardize the survival and recovery of this federally listed species (and thus directly conflict with Section 10 (a) criteria). [*Citizen*]
Water Resources/Hydrology Major Points: *>Regional restoration plans/projects* *>Drinking water supply* *>Contamination*	The EIS should reflect the hydrologic restoration projects described in the "Southwest Florida Comprehensive Watershed Management Plan" (SWFCWMP). Some of the proposed HCP actions may be in direct conflict with some of these restoration plans. The water quantity and quality and landscape connectivity components of the plan will affect the way PHUs are valued in the HCP. [*USFWS; SW FL Gulf Coast Refuge Complex*] As it stands, the plan's local-scale vision of "within footprint" preservation does not consider hydrologic connectivity or treatment of polluted waters on downstream federally-protected lands. The HCP/EIS should adequately address that the HCP area forms the upstream water source to downstream federally-protected lands (and state-protected) to the south (Big Cypress, FPNWR, Picayune SF, etc.). The HCP should be designed to protect and maintain the natural hydrology of these flow ways (OK Slough, SR29 Canal, Camp Keais Strand), including overall spatial extent, connectivity across barriers (i.e., roads and levees) and maintenance/restoration of natural hydroperiods, discharge volumes, and timing. [*Big Cypress National Preserve*] The HCP must clearly identify steps for maintaining/improving water quality both within the project footprint and for water discharged outside the HCP area onto downstream public lands (designated OFWs) through the OK Slough, SR29 Canal, and Camp Keais flow ways. What had previously been a multiple source pollution problem (i.e., "no one landowner was to blame") may become an inherited problem of the HCP *as a unit*, and thus should not be grandfathered, maintained status quo, or ignored. The HCP should explicitly design and plan for water quality improvement projects within its footprint. The SWFCWMP identifies three projects within the HCP area that are conceptually designed to restore water quantity and quality to the FPNWR and Big Cypress National Preserve and to reduce point source discharges into the estuary downstream from the SR29 Canal. These three projects are Camp Keais Strand Project, OK Slough Project, and SR29/Barron River Flow-Way Restoration Project. Proposed roadway improvements in the HCP area, especially to SR29, should integrate hydrologic and water quality restoration of OK Slough, SR29 Canal, and Camp Keais Flow-Way. [*Big Cypress National Preserve*] The USACE and SFWMD are completing construction on the Comprehensive Everglades Restoration Plan Picayune Strand Restoration Project (in Picayune SF). The EIS should analyze the impacts from all proposed alternatives to this CERP project and specifically to the water reservations. These flows are subject to water reservations for the

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	Picayune Strand and Fakahatchee Estuary which can be found at Florida Administrative Code Chapter 40E-10. The EIS should analyze the impacts from all proposed alternatives to this CERP project and specifically to the water reservations. [*The Nature Conservancy*] Given the HCP plan area proximity to Picayune Strand, the EIS review needs to include the impact of the HCP on Everglades Restoration. [*Conservancy of Southwest Florida*] USFWS must also consider the impact of increasing development to current state water quality and quantity issues, upon imperiled species. More development would also put more strain on drinking water aquifers, which have shrunk several feet in many areas of Southwest Florida over the past 20 years. [*Animal Defenders International*] Surface water management is supposed to be part of the total cap of Covered Activities. However, some WRAs have been used as part of stormwater management systems or for stormwater attenuation. If WRAs are in natural conditions, how will their water quality and hydroperiod be altered by use as part of the stormwater system? [*Conservancy of Southwest Florida*] Existing water quality impairments indicate that many of the waters in the HCP plan area are polluted for dissolved oxygen and nutrients. Current stormwater regulations are ineffective to capture the amount of nutrients from urban development sources. Development will need to implement additional means to capture and treat stormwater to ensure that the Covered Activities will not contribute to further impairment. [*Conservancy of Southwest Florida*] The HCP should include a ban on oil well stimulation and minimize new oil drilling because it threatens our water resources with contamination and depletion. Collier County residents are already subject to water restrictions. Where will we get the water needed to sustain all this development given salt-water intrusion and intensified oil operations and single use permits? [*Stone Crab Alliance*] Oil drilling, including use of hydraulic fracking, acidizing, and other chemical treatments, present a risk to water supply and environmentally-sensitive lands. These techniques require large quantities – millions of gallons – of freshwater, and there has been no study to understand how these practices would impact Florida's unique geology and hydrology. [*Conservancy of Southwest Florida*] Waste water run off problems we currently face near Lake Okeechobee and surrounding agriculture will be compounded as we add more development. Fresh water aquifers that we (humans and endangered species) depend

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	on for drinking are already having progressive salt water intrusion. Adding more development will increase pressure on those vulnerable, including the endangered species. [*Citizen*] The HCP additionally does not spell out the threats to local water supply that would result from the covered and plan wide activities. This HCP poses potential damage to the Floridian aquifer. [*Citizen*] How will water flow into the FPNWR be affected by the new developments throughout the ECMSHCP? Altered hydrology from existing land uses has already necessitated the Refuge performing removal of invasive sabal palm trees on a large scale. The EIS should review the effects of further changes to hydrology by the proposed mines –some which may be greater than 100 feet deep as well as the effects of removing large areas of floodplain storage which is provided currently on agricultural lands but would be lost due to development and converted to impervious pavement and stormwater systems. [*Citizen*] A significant amount of the "protected lands" close to Refuge are actually designated Water Retention Areas under the Collier County Rural Lands Stewardship Program. How will these WRA benefit the Florida panther and the 15 additional identified species if they are not natural wetlands? If there is no benefit to the identified species why should they be included as "protected lands", especially if they are surrounded by development or mining? If some these WRAs are similar to the retentions ponds in Ave Maria they will be detrimental to wildlife and possibly introduce exotic plants to the watershed. If the WRA is a natural wetland, they should be avoided by development and restored to improve their function as wildlife habitat. [*Friends of the Florida Panther Refuge, Inc.*]
Funding Major Points: *>More detail needed*	Many questions related to how funding for maintenance, management, and habitat improvements will occur and how PHU values will be addressed. HCP/EIS needs detailed explanations of funding mechanisms and how they will work. [*USFWS; SW FL Gulf Coast Refuge Complex*] The Twelve Mile Slough Florida Forever project, along with what are now Okaloacoochee Slough SF and the Spirit of the Wild WMA should also be protected through region-wide mitigation funds, including the Marinelli Fund. It should be noted, to, that the Marinelli Fund should also be considered for the purchase of conservation easements for land protection, not just fee simple land acquisition. [*The Nature Conservancy*] For the NEPA analysis to be complete and defensible, the HCP must provide key details regarding conservation funding, including strategies for increasing the fund, clarifying that the Board of Directors for the Florida Panther Protection Fund has the discretion to allocate funds to activities addressing other covered species, and requiring Ave

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	Maria to serve its funding role since it is included in the 45,000-acre development cap. [*Defenders of Wildlife*] The FWS should review the Marinelli Fund and propose a revised formula to this mechanism to restore emphasis on avoidance and disincentivizing impacts to the Primary Zone. The EIS should review this mechanism to ensure the dollars generated will be adequate to fund the types of mitigation measures the applicants are promising. [*Citizen*] How will PHU's financial value be determined and is that affected by the earlier $150 million USD estimate for what would be generated for the Marinelli Fund? Is the Marinelli Fund being viewed as a supplemental source for additional conservation activities not prescribed during permitting or the main source for them? If viewed as the main source, how would the Marinelli Fund be populated on the front end to cover these costs since funds would likely be needed early in the process for panther crossings and other protections prior to development? [*Naples Zoo at Caribbean Gardens*] Is the organizational setup and funding of the Marinelli Fund able to responsibly implement the HCP, monitor habitat restoration, and ensure proper management of the preserved lands? Florida Wildlife Federation recommends a partnership between the Marinelli Fund and IFAS or Florida Gulf Coast University if and when FGCU has expertise on staff to do the tasks. A consideration is that the Marinelli Fund endows a seat at FGCU to assist the Marinelli Fund in carrying out its responsibilities. [*Florida Wildlife Federation*] The Paul Marinelli Fund does not specify clearly enough that satisfactory funding will be available for conservation measures, and does not further address additional financial burdens, placing undue hardship on local taxpayers via road and infrastructure costs. [*Citizen*]
RLSP/RLSA Major Points: *>An accurate and thorough analysis of the RLSA program is key to development of the project baseline and No-Action Alternative*	The issue was (and is) – where does the 45,000 acres which the landowners would claim as the defacto acreage for development come from? The number developed and agreed upon earlier was 16,805 acres. No one has explained this discrepancy. [*Citizen*] Alternatives to the development patterns proposed in the current HCP – what if the RLSA developed only under baseline standards? The RLSA 5-year review contemplates this development pattern. [*Engineering & Natural Resources Division, Collier County Growth Management Department*] The HCP does not make it clear how existing stewardship sending areas that have already been placed under local easements would be accounted for as mitigation for the covered activities. More clarity is needed about the relationship between the HCP, the Rural Land Stewardship Program (RLSP), the RLSP if the Five-year Review

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	recommended amendments are adopted by Collier County, and the FPPP proposal. While the RLSP entitles covered activities on a similar mapped landscape, based on the same habitat and resource mapping forming the scientific basis for the HCP, the respective maps are not the same and this creates confusion. [*Audubon Florida* and *Audubon of the Western Everglades*] There is a discrepancy between the larger Stewardship Sending Area preserves of approximately 134,000 acres required for entitling the 45,000 acres of Covered Activities under the RLSP enhanced with the 5-year Review amendments and the proposed 107,000 acres of preserved needed to entitle the 45,000 acre Covered Activities for the HCP. [*Audubon Florida* and *Audubon of the Western Everglades*] There is a need for the RLSP Five-year Review Amendments to enable the HCP to achieve its fullest potential of habitat, agricultural and economic balance and benefits. In particular, the Agricultural Stewardship Credits proposed are the most effective way to achieve up to 40,000 acres of permanently protected agriculture through incentives. [*Audubon Florida* and *Audubon of the Western Everglades*] While the HCP states that the "No Action Alternative" will result in piecemeal development without any plan [the HCP], this does not appear correct. The existing RLSP guides development, with sustainability criteria for development forms, and directing impacts away from wetlands and habitats. Audubon agrees that the HCP's federal permit and implementation agreement will achieve important benefits, and seeing the County adopt the Five-year Review amendments will greatly improve the outcome. "No Action" will very possibly add as much as 43,700 acres of current baseline zoning development of one unit per five acres. [*Audubon Florida* and *Audubon of the Western Everglades*] The EIS should analyze the relationship and the impacts of the RLSA program to the HCP. Land development under the RLSA program is reasonably foreseeable. The RLSA program requires certain infrastructure such as schools, government buildings and hospitals. These are not included in the acre caps for RLSA towns, villages and other developed communities. RLSA-requisite developments and infrastructure need to be evaluated during the EIS process. Our understanding is that landowners have not considered schools, hospitals, government buildings and other infrastructure required by the RLSA overlay program as acreage contributing to the 45,000-acre cap. [*Defenders of Wildlife*] Reliance simply on the RLSA program designations to direct development does not satisfy ESA requirements of minimizing to the maximum extent practicable. This is in part because the program has not incorporated best

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	available science regarding panther habitat (including Kautz et al.) into its map designations of where land use intensification is or is not appropriate. [*Conservancy of Southwest Florida*] Approximately 92,185 acres of the 107,000 acres referenced has significant protection and land use limitations already in effect through the Collier County Growth Management Plan's RLSA Overlay and state regulations applicable to the Big Cypress Area of Critical State Concern (ACSC). A more comprehensive discussion of the relationship between the RLSA policies, ACSC regulations and the draft HCP is necessary to determine the actual vulnerability of the 107,000 acres proposed for preservation. [*Conservancy of Southwest Florida*] The HCP does not preserve 107,000 acres; these lands are already protected by the local Rural Lands Stewardship Area program. No meaningful preservation is being offered. Acknowledge that the 107,000 acres are already protected by the local RLSA and exempt HCP from claiming it for double-crediting mitigation PHUs. [*Stone Crab Alliance*] The HCP is not a build-out plan demonstrating the total impacts that will not occur, nor will the HCP eliminate one unit per five-acre development. If the FWS conducts a No-Action Alternative analysis assuming one per five, we ask that the regulatory policies of the RLSA be applied, which would not allow for ranchettes to be located in SSAs, FSA or HSAs. [*Conservancy of Southwest Florida*] The fact that Golden Gate Estates, which offers ranchettes closer to the beaches and amenities of Naples, is only half built out over the course of several decades show that there is very little market for such development. Additionally, the infrastructure costs to the developer are much greater than that of a higher-density development; therefore, these proposed cities are more profitable and appealing. Thus, we ask the FWS to evaluate an alternative that would represent the true likely "No Action" scenario of assuming that development, in the form of new towns, villages, hamlets and mines, will occur and be permitted through the Section 7 process on a project-by-project basis if the HCP is not approved. Not approving the HCP does not preclude the continuation of the RLSA program as Ave Maria and the proposed Town of Big Cypress (aka Rural Lands West) illustrate. [*Conservancy of Southwest Florida*] Can all current ranching and forestry be converted to crop cultivation potentially reducing panther breeding habitat in Preservation lands? Specifically, will there be potential for RLSP requirements, such as modifications to agricultural use, to be lessened at the county level if ECMSHCP requirements are below the RLSP threshold? [*Naples Zoo at Caribbean Gardens*]

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	How much of the proposed 107,000 acres of Preservation lands is currently under protection through the RLSA and other programs? What is the overall gain in Florida panther habitat between that number and the proposed Preservation? [*Naples Zoo at Caribbean Gardens*] The RLSA program calls for allowing development of 39,375 acres within the RLSA plus 3,937 acres (10%) for roads and infrastructure for a total of 43,312 acres. The HCP is seeking 45,000 acres, more than the in-place RLSA Program allows. [*Citizen*] Limitations on development and non-agricultural clearing already exist as part of local regulations (the RLSA program). As significant portions of the land proposed for protection are already protected under the RLSA, how much credit, if any, should be provided? Specifically, it would seem that they should have to provide lands that aren't already encumbered as mitigation. [*Citizen*] The initial RLSA committee produced a report in 2002, estimating a "peak" number of credits as a "reasonable maximum," that could be generated by the Stewardship program. Per that report, "The net result is 134,388 credits generated for the rural compact development of 16,805. A more recent assessment now identifies an expected 45,000 acres of development -- a 270 percent increase. What is the cap on development in the RLSA? Once granted, development rights are nearly impossible to take away. [*Citizen*]
Action Area <u>Major Points:</u> *>Include other portions of Collier County and parts of Hendry/Lee counties* *>Important for cumulative effects analysis*	According to ESA, the Action Area is defined by the influence of direct and indirect impacts of certain activities. The Action Area may or may not be contained completely within the HCP boundary. The HCP must be reviewed and considered with the large-scale Sector Planning efforts now underway in adjacent Hendry County. [*The Nature Conservancy*] Because of habitat and wetland values in and adjacent to the OK Slough, the entire Big Cypress Area of Critical State Concern (ACSC) should be prioritized for protection and mitigation areas to the maximum extent possible. There are HCP-proposed Covered Activity areas within the ACSC that appear in conflict with landscape scale habitat/agricultural preservation objectives for the ACSC. [*Audubon Florida* and *Audubon of the Western Everglades*] Several large-scale developments are planned for Hendry, Collier, and Lee counties and the EIS should consider the synergistic and cumulative effects of these planned nearby projects. [*Center for Biological Diversity*] Hendry County has approved large-scale Sector Plans that would allow tens of thousands of acres of development just north of the HCP, including the Southwest Hendry (King's Ranch) and Rodina Sector Plans. Also, in Lee County,

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	there are large existing and proposed development in panther habitat. All of these need to be considered in the cumulative impact analysis. [*Conservancy of Southwest Florida*] The USFWS should also consider ongoing development elsewhere in the region, which also effect [sic] the impacted species, including for example, the recent approval of a large solar farm (near Hendry County) within panther territory. [*Animal Defenders International*] The NEPA analysis should include large-scale activities in the surrounding landscape, and detailed large-scale development within the HCP area. We believe acreages for Hogan Island Quarry and Immokalee Sand Mine should be deducted from the 45,000-acre development cap. Rural Lands West will comprise at least 4,000 acres of the 45,000 acres of the development footprint in the draft HCP. [*Defenders of Wildlife*] Future development within non-applicant lands, including Half Circle L Ranch could occur on over 26,000 acres within the Plan area and are more likely to be developed in the future if the HCP is approved. These impacts should be considered in a cumulative impact analysis both under the ESA and EIS. [*Conservancy of Southwest Florida*] The Plan does not consider cumulative impacts on habitat caused by Lee and Hendry County development and mining proposals. [*Sierra Club, Florida Chapter*] When evaluating alternatives, FWS should consider the PRT' report recommendations with keen attention to the **Figure 13** map. FWS should also evaluate the Conservancy of Southwest Florida's recommended Build-Out Concept map. [*Florida Wildlife Federation*] How will impacts outside the HCP boundaries be addressed? Of particular concern is increased development pressure in the now remote southeastern North Golden Gate Estates. Troubling is the fact that single family homes in North Golden Gate Estates are not now required to compensate for the loss of Florida panther and other endangered species habitat. [*Florida Wildlife Federation*] Success of this project in terms of protecting federally-listed and candidate species cannot be achieved by *solely* focusing on the area within the ECMSHCP footprint, as it currently stands. [*Big Cypress National Preserve*]

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Covered Activities Major Points: *>Considerably more detail needed on activities*	Towns and villages within "Covered Activities" areas should utilize state of the art sustainable community design features for both quality of life benefits and reduction of conflicts with regional resources. Such features and criteria are already contemplated in the RLSP to some extent, but new strategies such as transit-oriented development designs, enhanced car-trip capture planning, low stormwater impact design, and dark skies, should be required or incentivized. [*Audubon Florida* and *Audubon of the Western Everglades*]
>Ancillary development	The HCP characterizes the use of the 107,000 acres [of preserved land] for oil and gas development, among other activities, as compatible with the habitat needs of listed species. The HCP also calls for allowing development in the form of residential and mining. The HCP does not provide enough information to evaluate the effect of these land uses on the species or their habitats. [*Center for Biological Diversity*]
	Additional schools, emergency and fire districts, and other public services will be prompted by increased development and human population in this currently rural area. These projects, and the habitat lost to accommodate them, should be considered interrelated/interdependent to the covered activities sought under the HCP. [*Conservancy of Southwest Florida*]
	The HCP lists mining as a covered activity; however, it does not list what exact activities in terms of size and scope, would be carried out and their duration. More details are needed on the type of mining activities to fully understand the impact it would have. [*South Florida Wildlands Association*]
	The HCP's 45,000-acre cap on development errs in excluding acreage for the road network to support the proposed development and three mines in the RLSA. At least 10% should be reserved for roads, as was done in the RLSA program adopted by Collier County. [*Citizen*]
	In light of the significant expansion of oil and gas exploration activities currently being proposed and planned in the region, the effects of such development on the panther should be assessed. Big Cypress National Preserve General Management Plan/EIS from 1991 discussed the impacts of oil and gas development on wildlife (**Appendix B** is attached, see pp. 334-335). The Appendix notes that large predators can be severely affected by human activity. The Appendix also points out that the diminished size of the panther population was attributable to loss of habitat quality due to, among other things, petroleum operations. [*Citizen*]

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Adaptive Management/Monitoring Major Points: *>Detailed management & monitoring strategy needed*	We expect the Service to respond to the lack of an adaptive management strategy by viewing this as a gap in the HCP, and requiring inclusion of a well-developed plan for the panther as well as other covered species. The HCP should develop and detail a regular (annual, bi-annual, or five-year) evaluation by a panel of independent reviewers to afford the permittees and the Service the opportunity to minimize the negative effects and maximize the positive effects on the covered species as the HCP is implemented. [*Defenders of Wildlife*] The FWS should require that the applicants provide an adequate and appropriate monitoring regimen as a part of this HCP. The applicants need a well-described monitoring plan with a timeline to allow for evaluation of the HCP's success, if permitted, and quantifiable benchmarks to ensure that the minimization and mitigation are implemented as anticipated. [*Conservancy of Southwest Florida*]
Impact Minimization/Avoidance Major Points: *>Development should not be in Primary Zone*	Locate development out of the primary zone and into the secondary zone. Require avoidance and minimization to the maximum extent practicable before mitigation. [*Stone Crab Alliance*] Covered activities should be moved out of the Primary Zone. The PRT recommends that future development occurs first in Open Lands that are within the Secondary Zone before lands within the Primary Zone are considered for conversion to urban uses. All PRT recommendations should be considered under the EIS. The EIS must consider an alternative that moves the Covered Activities completely out of these important areas, such as demonstrated on our vision map. [*Conservancy of Southwest Florida*] We find that designation of the approximate 105,000 acres for Preservation and Low Density is actually the compensatory mitigation for development, not avoidance. There is a general lack of discussion of avoiding impacts, which should be addressed in the scoping phase. [*Defenders of Wildlife*] The plan shows little evidence of avoidance/minimization of impacts to the panther's Primary Zone. There should be no land use intensification in the Primary Zone. The areal extent of the Primary Zone must be maintained. [*Sierra Club, Florida Chapter*] The locations of developments within the RLSA is not proposed as a clustered development in the higher, drier secondary panther lands, but rather the HCP shows development as widely distributed throughout the area. [*League of Women Voters of Florida and League of Women Voters of Collier County*]

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Issue	Comment Summary [Author]
	Even though a stated purpose of the FPPP is to avoid impacts to areas within the panther Primary Zone, the HCP makes no effort to avoid impacts to the panther's Primary Zone; the HCP did not accept the PRT's recommendation concerning development of the Secondary Zone first. [*Citizen*] The applicants do not propose to mitigate the impact to panthers by avoidance or even minimization, but rather propose to compensate by preservation of other land in the area. The ESA requires efforts first be made to avoid the impact, then to minimize the impact. Compensation is the last order in priority. The HCP fails to avoid, minimize and mitigate the impacts to the maximum extent practicable for the other federally listed species. [*Citizen*] There are 46,134 acres in non-primary panther habitat within the RLSA boundary and most of those are within the RLSA open category (43,324 acres). Subtracting the 5,027 acres of primary and secondary habitat permitted already for Ave Maria, that leaves enough area outside of both the priority Primary Zone and the RLSA HSAs, FSAs and WRAs to accommodate all of the proposed development in the Open Secondary Zone. However, the HCP does not direct development to this area. [*Citizen*] Much of the 107,000 acres that the Plan designates for conservation is already set aside for conservation, meaning that the same acreage would be counted twice in the mitigation process. Furthermore, this "conserved" acreage could be used for conventional farming, oil exploration, and fracking, intensive and highly polluting activities that are incompatible with conservation and would render meaningless the applicants' attempt to mitigate the damage development would do. [*Citizen*] How will the developments deal with the release of exotic plants and other organisms (exotic plant pests plus released reptiles and fish)? How will increased free roaming domestic and feral cats be dealt with? Feline leukemia is known to be transferred from domestic cats to Florida panthers. [*Friends of the Florida Panther Refuge, Inc.*]
Legalities Major Points: *>Varied comments but mostly dealing with HCP failure to meet Section 10 criteria*	The HCP cannot currently serve as state authorization for take as outlined in Chapter 68A-27, FAC. [*FWC*] The applicants propose that FWC monitor the implementation of the HCP. It would be unwise, and unethical given one of the applicant's position as an FWC commissioner, to rely on FWC to monitor the HCP. [*Center for Biological Diversity*] The HCP lacks the necessary information to determine what impacts will result from the planned activities within the permit area. The applicant has not provided any specific information regarding the amount of take anticipated to

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	result from the proposed activities. Thus, the proposed take is too general to meet the requirements for an ITP and HCP under the ESA. [*Center for Biological Diversity*] Regarding the April 2016 Third District Court of Appeals reversal of a 2014 decision by Florida Governor Rick Scott approving the construction of two FP&L nuclear reactors near the Everglades, holding that the state Governor and Cabinet failed to account for environmental regulations protecting the Everglades and endangered species, we urge USFWS, as the agency tasked with federal oversight to protect endangered species per its ESA mandate, to visit the court opinion and note its parallels to the HCP controversy, including the court's findings holding that the wood stork and snail kite would be greatly affected through loss of foraging habitat and collisions with transmission poles and lines. [*Animal Defenders International*] One of Defenders' leading concerns with the draft HCP is the information that is <u>not</u> presented. The lack of detail that is provided means that the impacts analysis cannot be performed with the precision that is required. [*Defenders of Wildlife*] The applicants do not seek coverage for panther roadkills on the internal roadways or beyond the mines and development under the 45,000-acre Covered Activities. This approach ignores the full impact of the proposed activity and segments the ESA consultation. Under Section 10, the applicants need to provide an assessment of the full impact and take anticipated. The EIS should review the full effect of roadkill and habitat fragmentation on the covered species from internal roadways and from traffic generated from the covered activities. [*Conservancy of Southwest Florida*] The HCP fails to meet Section 10(a) criteria because the HCP does not identify the impacts of the taking, the HCP does not adequately avoid or minimize the impacts of the proposed development, and the HCP does not specifically determine that suitable habitat exists for each covered species in the preservation area. [*League of Women Voters of Florida and League of Women Voters of Collier County*] The HCP's proposed mitigation for the impacts on the panther fails to meet the criteria for a Section 10 permit. The applicants do not propose to mitigate the impact to panthers by avoidance or even minimization, but rather propose to compensate by preservation of other land in the area. Furthermore, the 102,000 acres of conservation lands will be subject to agriculture, ranching, forestry/silviculture, recreation, and oil and gas exploration/production through a conservation easement. A strategy based on compensation by preserving habitat alone will result in a net loss of habitat. More must be required to meet Section 10 issuance criteria. [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	The September 2015 Panther Position Statement issued by FWC simply is a commitment for the FWC to do the least possible and a directive to the FWS that panther protection is now a federal problem; the FWC has essentially abandoned the panther. The HCP, drafted in April 2015 and prior to the finalization of the Panther Position Statement, is now inconsistent with the FWC commitment and the Panther Position Paper actually referenced in the HCP. [*Citizen*] The HCP does not meet ESA Section 10 criteria for other federally listed species. The HCP does not adequately assess the take of other federally listed species. The HCP fails to avoid, minimize and mitigate the impacts to the maximum extent practicable for the other federally listed species. The HCP fails to compensate for the impacts by assuring preservation of suitable mitigation lands. The HCP fails to set out appropriate mitigation prior to granting of ITP. Before an ITP can be granted, an applicant has to show that it has mitigated and minimized the impacts to the maximum extent practicable. Here, ECPO seeks an ITP based on a promise to figure out appropriate mitigation as they go along. This does not meet ESA Section 10 requirements. [*Citizen*] The ESA (section 10(a)(2)(A), 50 CFR 17.22(b)(1)) provides that no ITP may be issued unless, among other things, the habitat conservation plan details the impact that will likely result from such taking. The HCP fails to minimize and mitigate to the maximum extent possible the impact because it has not accurately described the impact. [*Citizen*] The FWS has not given enough notice for any government group or committee to have a special meeting in the "Sunshine" to discuss the HCP or make a formal comment by self-imposing a deadline of April 25th. The letter addressed to the Honorable Commissioner Donna Fiala gave a deadline of April 24th to the BCC. [*Citizen*] This plan does not meet minimum FWS criteria per Section 10(a). The plan neither avoids, minimizes, nor mitigates the impact of proposed development on endangered species, including the Florida Panther. The plan also misses the minimum impact proposal on water resources, and habitat conservation to the maximum extent practicable for the issuance of an Incidental Take Permit of such scope and geographic size. [*Citizen*] The HCP – drafted in April 2015 and prior to the finalization of the State's Panther Position Statement, is now inconsistent with the FWC commitment and the Panther Position Paper referenced in the HCP. [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
Climate Change Major Points: *>More robust analysis/discussion needed, especially regarding habitat loss and saltwater intrusion*	The HCP treats climate change as a potential "changed circumstance" in its evaluation of the effects of the project, stating that there will be no effects or that the effects are unknown or not relevant on the time scale of the project. The EIS must consider all available climate change science in evaluating the effects of the project. [*Center for Biological Diversity*] The draft HCP does not take proper account of several risk factors due to climate change. [*Conservancy of Southwest Florida*] It comes as a surprise to find just half a page on climate change in the proposed HCP. How will warmer temperatures affect the panther, their prey and habitat? An analysis of this outcome is a must in order to have a management plan in place for when the species' habitat begins changing and places additional pressures on the nine species and their prey. How will salt water intrusion affect these ecosystems or interfere with the aquifer's ability to sustain the newly developed communities? How will the area's hydrologic cycle be expected to change? [*South Florida Wildlands Association*] In your preparation of the EIS, I would like to be sure that you will be addressing sea level rise that will have a huge impact on the endangered species, the environment and the proposed developments in the next 50 years. [*Citizen*]
Jobs/Environmental Justice	The EIS review should cover the loss of agricultural jobs that will result from nearly half of those lands that support the County's agricultural economy. [*Conservancy of Southwest Florida*] The HCP is scheduled to turn 24,000 acres of farmlands into urban development thereby taking away jobs from the poorest of the poor; our Immokalee farmworkers. We need our crops and we need the hard labor of our Immokalee farmworkers who put the food on all our tables. [*Stone Crab Alliance*] Is there a process for determining the impact of expanded development in this area for its likelihood to reduce availability of lower income housing for area workers? [*Naples Zoo at Caribbean Gardens*]
Compensation/Mitigation Banks and PHUs	The EIS review should include the effect on compensation/mitigation banks, particularly those generating PHUs. [*Conservancy of Southwest Florida*] The water quantity and quality and landscape connectivity components of the plan will affect the way PHUs are valued in the HCP. [*USFWS; SW FL Gulf Coast Refuge Complex*] The landowners should not be awarded full PHU credit for SSA lands no longer vulnerable to development and

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	intensification. Only enough PHUs necessary for the Covered Activities should be allowed. Further, excess PHUs should not be allowed to mitigate for panther habitat loss outside of the area covered by the HCP. [*Citizen*] It appears that they would like to establish a Habitat Conservation Bank without engaging in the process prescribed by the Service to become a Habitat Conservation Bank. It appears the conservation easement would only last for 50 years, not in perpetuity as required of a Bank. There is no discussion of specific restoration or management plans, goals objectives, or timelines. Monitoring and Reporting events seemed to be on an ad hoc basis. There is no way to evaluate whether the revenue generated from the proposed Marinelli Fund would be adequate to pay all the expenses of maintaining such a large track of land. There is no mention of an Interim Management Account or an Interim Management Fund. There is no restriction to current land use practices, which in many cases would be prohibited in a Bank. They should be required to comply with all of the Service requirements before the first Conservation Credit is issued. [*Florida Panther Conservation Bank*]
Human-Wildlife Conflict Major Points: *>Need conflict avoidance and mitigation measures*	The HCP needs to specifically address avoiding human-wildlife conflict. While the details of a coexistence program may be specified elsewhere, such as in the Implementing Agreement, this subject warrants a section in the HCP. Preventative measures should include such actions as outreach about conservation and recovery actions, education about conflict avoidance, homeowner documents/rules that require responsible property upkeep, and disclosure that prospective buyers will be living in proximity to wildlife. [*Defenders of Wildlife*] With the addition of over 300,000 additional people to the HCP area, human-wildlife conflicts, which can take many forms, will increase. [*Conservancy of Southwest Florida*] Although there is not a high degree of certainty that it will occur, the introduction of free-roaming and feral house cats associated with more residential development should be analyzed and properly mitigated for in the EIS. This is especially true for indirect and cumulative effects analysis. Not only do free-roaming and feral cats have the potential to impact native wildlife (including migratory birds) by killing them, they also have the potential to adversely impact the Florida panther by introducing deadly diseases (e.g., feline leukemia). Numerous cases of feline leukemia have been documented in Florida panthers during the past 10-20 years. [*USFWS; SW FL Gulf Coast Refuge Complex*] Domestic cats (feral and outdoor) would increase panther exposure to the feline leukemia virus (FeLV). While rare, the Recovery Plan states that "recent outbreak of the disease…shows the potential of this disease to be of population significance." [*Conservancy of Southwest Florida*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
	The HCP proposes turning a rural area into urban sprawl with 235,000 new residents creating the certainty of significantly increased human/panther conflict. [*League of Women Voters of Florida and League of Women Voters of Collier County*] Given the potential population increase to over 230,000 people in current wildlife habitat in the HCP area, will there be changes to code requirements regarding trash, livestock protection, etc. to address the expected increase in wildlife conflict? [*Naples Zoo at Caribbean Gardens*] The HCP is completely silent on human/panther conflicts. [*Citizen*] Wildlife / human conflict is already a significant drain on FWC staff's time. The proposed development scenario will likely locate urban density contiguous or in close proximity with conservation lands and result in additional conflict. [*Citizen*]
Timeframe/Permit Duration Major Points: *>Calls for reduction of timeframe of permit*	Although adaptive management is an option, the "No Surprises" policy limits the FWS' ability to manage species occurring within the plan area. Therefore, the timeframe of an HCP should be greatly reduced to a period of no more than 25 years. Fifty years ago we could not predict the magnitude of threats to the panther or the current management strategies necessary to recover the species. A term of 50 years based on today's understanding is exceedingly risky. [*Conservancy of Southwest Florida*] Reduce the 50-year duration or more easily allow for modification of terms. [*Stone Crab Alliance*] A 50-year permit is excessive and would prevent necessary adjustments to attempt to reverse covered species population declines from this massive development. [*Sierra Club, Florida Chapter*] What if the panther population declines or the populations of the other federally listed species decline during the 50-year permit period? There are no provisions in the HCP to address this possible outcome. Once the homes, businesses, and roads are built, there is no going back. [*League of Women Voters of Florida and League of Women Voters of Collier County*] The length of the permit—50 years—is unacceptable. If populations begin to decline or fail to meet recovery goals, which they're liable to do in the midst of intensive development, it would be virtually impossible to reverse development allowances once the permit is in place. [*Citizen*]

TABLE 3-2
SUMMARY OF SIGNIFICANT COMMENTS
(Continued)

Issue	Comment Summary [Author]
Hurricane Evacuation	With the projected addition of over a quarter million people to this area, the EIS review must include the effect of the HCP on hurricane and other emergency evacuation. [*Conservancy of Southwest Florida*]
HCP Format	There is a need for a Definition and Reference sections in the HCP. For example, the ongoing activities listed in "2.2 Preservation/Plan-Wide Activities and Very Low Density Use" have no details. Will the definitions align with the RLSA program? [*Nancy Payton*]
Panther Science	Please include a discussion that clarifies use and recovery significance of the terms carrying capacity, population density, and population size. The Panther Subteam urged careful use of these terms, both in official documents and in statements to the press, yet confusion persists. [*Citizen*] While it is encouraging that there are efforts to develop technologies that provide a more accurate count of the Florida panther, everyone certainly agrees that there is a significant difference between a panther population in the low 100's versus the high 100's. Until proven technologies are in place to provide a count with a much greater level of confidence, any proposal that would destroy panther habitat simply should not be approved. [*Citizen*] The largest cause of mortality in panthers and other wildlife are roadways. There is no published science that concludes with a successful model for low impact of species with added roadways. [*Citizen*] Many aspects of panther science habitat use, movement behaviors, population viability, reproductive and survival parameters, genetic health had been contorted and misrepresented in ways that favored specific development friendly scenarios. When USFWS continued to reference and use science known to be unsound, PEER and Eller filed a successful complaint under the Data Quality Act (PEER and Eller, 2004a, 2004b). [*Citizen*]
Cultural/Historical	Pursuant to Section 106 of the National Historic Preservation Act, the Service ought to consult with appropriate state and American Indian tribes, especially the Seminole and Miccosukee, regarding the rich history of Collier County, which includes, among other things, the pioneering Deaconess Harriet Bedell of the Glade Cross Mission which was located near Immokalee. [*Citizen*]

Appendix A
FEDERAL REGISTER NOTICE OF INTENT

We may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. However, under OMB regulations, we may continue to conduct or sponsor this information collection while it is pending at OMB.

DATES: You must submit comments on or before April 25, 2016.

ADDRESSES: Send your comments and suggestions on this information collection to the Desk Officer for the Department of the Interior at OMB–OIRA at (202) 395–5806 (fax) or *OIRA_Submission@omb.eop.gov* (email). Please provide a copy of your comments to the Service Information Collection Clearance Officer, U.S. Fish and Wildlife Service, MS BPHC, 5275 Leesburg Pike, Falls Church, VA 22041–3803 (mail), or *hope_grey@fws.gov* (email). Please include "1018–0007" in the subject line of your comments.

FOR FURTHER INFORMATION CONTACT: To request additional information about this ICR, contact Hope Grey at *hope_grey@fws.gov* (email) or 703–358–2482 (telephone). You may review the ICR online at *http://www.reginfo.gov*. Follow the instructions to review Department of the Interior collections under review by OMB.

SUPPLEMENTARY INFORMATION:

Information Collection Request

OMB Control Number: 1018–0007.

Title: Annual Certification of Hunting and Sport Fishing Licenses Issued, 50 CFR 80, subpart D.

Service Form Numbers: 3–154a and 3–154b.

Type of Request: Extension of a currently approved collection.

Estimated Number of Respondents: 56.

Description of Respondents: States, territories (Commonwealth of Puerto Rico, Commonwealth of the Northern Mariana Islands, Guam, U.S. Virgin Islands, and American Samoa), and District of Columbia.

Respondent's Obligation: Required to obtain or retain a benefit.

Frequency of Collection: Annually.

Activity	Number of responses	Completion time per response (hours)	Total annual burden hours
FWS Form 3–154a	56	12	672
FWS Form 3–154b	56	20	1,120
Totals	112		1,792

Estimated Annual Nonhour Burden Cost: None.

Abstract: The Pittman-Robertson Wildlife Restoration Act (16 U.S.C. 669 *et seq.*) and the Dingell-Johnson Sport Fish Restoration Act (16 U.S.C. 777 *et seq.*, except 777e–1) provide authority for Federal assistance to the States for management and restoration of fish and wildlife. These Acts and our regulations in the Code of Federal Regulations (CFR) at 50 CFR 80, subpart D, require that States, territories, and the District of Columbia annually certify their hunting and fishing license sales. States, territories, and the District of Columbia that receive grants under these Acts use FWS Forms 3–154a (Part I–Certification) and 3–154b (Part II–Summary of Hunting and Sport Fishing Licenses Issued) to certify the number of hunting and fishing licenses sold and the amount of sales. We use the information collected to apportion and distribute funds according to the formula specified in each Act.

Comments Received and Our Responses

Comments: On December 23, 2015, we published in the **Federal Register** (80 FR 79924) a notice of our intent to request that OMB renew approval for this information collection. In that notice, we solicited comments for 60 days, ending on February 22, 2016. We received one comment in response to this notice. The respondent objected to the Wildlife Restoration Act, but did not address the information collection requirements. We did not make any changes to our requirements.

Request for Public Comments

We again invite comments concerning this information collection on:

- Whether or not the collection of information is necessary, including whether or not the information will have practical utility;
- The accuracy of our estimate of the burden for this collection of information;
- Ways to enhance the quality, utility, and clarity of the information to be collected; and
- Ways to minimize the burden of the collection of information on respondents.

Comments that you submit in response to this notice are a matter of public record. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask OMB and us in your comment to withhold your personal identifying information from public review, we cannot guarantee that it will be done.

Dated: March 21, 2016.

Tina A. Campbell,

Chief, Division of Policy, Performance, and Management Programs, U.S. Fish and Wildlife Service.

[FR Doc. 2016–06781 Filed 3–24–16; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R4–ES–2016–N037]; [40120–1112–0000–F2]

Draft Environmental Impact Statement; Eastern Collier Multi-Species Habitat Conservation Plan; Collier County, Florida

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of intent; announcement of public meeting.

SUMMARY: Under the National Environmental Policy Act (NEPA), we, the Fish and Wildlife Service (Service), advise the public that we intend to gather information necessary to prepare a draft environmental impact statement (dEIS) related to an anticipated permit application from nine Collier County, Florida, landowners (prospective applicants) for the incidental take of federally listed species. The permit application would include an Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP) prepared

in accordance with the Endangered Species Act of 1973, as amended (Act). We provide this notice to (1) describe the anticipated action; (2) advise other Federal and State agencies, affected Tribes, and the public of our intent to prepare a dEIS; (3) announce the initiation of a public scoping period; and (4) obtain suggestions and information on the scope of issues and alternatives to be included in the dEIS as well as any other written data, views, or arguments with respect to the anticipated permit application.

DATES: *Comments:* We must receive any written comments at our Field Office (see **ADDRESSES**) on or before April 25, 2016.

Public Meetings: One public scoping meeting will be held on April 12, 2016: From 5 to 7 p.m.

ADDRESSES: *Public Meeting:* University of Florida/Institute of Food and Agricultural Sciences Collier County Extension, 14700 Immokalee Road, Naples, Florida. *Document Availability:* Documents will be available for public inspection by appointment during normal business hours at the South Florida Ecological Services Office, 1339 20th Street, Vero Beach, FL 32960. Documents are also available at: *www.easterncollierHCPEIS.com.*

Comments: For how and where to submit comments, see Public Comments under **SUPPLEMENTARY INFORMATION.**

FOR FURTHER INFORMATION CONTACT: Kenneth McDonald, (*Kenneth_mcdonald@fws.gov*) Project Manager, at the South Florida Ecological Services Office (see **ADDRESSES**), telephone: 772/469–4284.

SUPPLEMENTARY INFORMATION: Under NEPA (42 U.S.C. 4321 *et seq.*), we announce our intention to gather information necessary to prepare a dEIS on the anticipated permit application under the Act (16 U.S.C. 1531 *et seq.*). The Department of the Army, through its bureau the U.S. Army Corps of Engineers, will be a cooperating agency in the development of the dEIS.

Background

Section 9 of the Act and the Service's implementing regulations in the Code of Federal Regulations (CFR) at 50 CFR Part 17 prohibit the "take" of federally listed "endangered" and "threatened" species (16 U.S.C. 1538). The Act defines the term "take" as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect listed species or to attempt to engage in such conduct (16 U.S.C. 1532). "Harm" includes an act that actually kills or injures a listed species and may include significant habitat modification or degradation that actually kills or injures a species by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering (50 CFR 17.3). Under section 10(a)(1)(B) (16 U.S.C. 1539) of the Act, the Service may issue permits authorizing "incidental take" of listed species. "Incidental take" is defined as take otherwise prohibited but incidental to, and not the purpose of, carrying out an otherwise lawful activity (50 CFR 17.3). Regulations governing incidental take permits for endangered species and threatened species, respectively, are found in 50 CFR 17.22 and 50 CFR 17.32.

Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP)

The prospective applicants intend to seek an incidental take permit (ITP) that would authorize take resulting from the residential and commercial development and earth mining activities described in the ECMSHCP on certain lands ("covered lands"). The ECMSHCP would include measures to avoid, minimize, and mitigate for incidental take with an emphasis on preserving some of the lands to maintain the viability and continued existence of populations of federally- listed threatened and endangered species.

The ECMSHCP also would include a funding mechanism for the avoidance, minimization, and mitigation measures, such as land acquisition, habitat mitigation, establishment of wildlife crossings, ecological restoration, land management, and actions to assist in the conservation of species through research. The proposed term of the ITP would be 50 years.

The prospective applicants are expected to seek incidental take authorization for the following federally listed species: The Florida scrub-jay (*Aphelocoma coerulescens*), Audubon's crested caracara (*Polyborus plancus*) (alternatively identified as the northern crested caracara (*Caracara cheriway*)), wood stork (*Mycteria americana*), red-cockaded woodpecker (*Picoides borealis*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), eastern indigo snake (*Drymarchon corais couperi*), Florida bonneted bat (*Eumops floridanus*), and Florida panther (*Puma concolor coryi*) ("covered species"). The gopher tortoise (*Gopherus polyphemus*), which is a candidate species, would also be included as a covered species for which the prospective applicants would seek incidental take authorization. The prospective applicants' ECMSHCP would also cover the following State listed and unlisted species: The burrowing owl (*Athene cunicularia*), eastern diamondback rattlesnake (*Crotalus adamanteus*), Florida sandhill crane (*Grus canadensis pratensis*), little blue heron (*Egretta caerulea*), Southeastern American kestrel (*Falco sparverius paulus*), tricolored heron (*Egretta tricolor*), and the Big Cypress fox squirrel (*Sciurus niger avicennia*).

The covered lands of the ECMSHCP encompass approximately 152,124 acres in northeastern Collier County, Florida, that surround the town of Immokalee. The covered lands are bordered to the south by the Florida Panther National Wildlife Refuge and Big Cypress National Preserve, to the north and east by the Okaloacoochee Slough State Forest, and to the northwest by the Audubon Corkscrew Swamp Sanctuary. The prospective applicants are expected to propose a conservation strategy in the ECMSHCP that would preserve a large portion of the covered lands as habitat for the covered species while conducting activities on smaller, clustered portions of the covered lands.

Biologically, the ECMSHCP would focus on maintaining areas of high-value habitat for the covered species while engaging in residential and commercial development and earth mining on 45,000 acres of the lands. The prospective applicants also would maintain suitable habitat within the impacted areas to ensure the availability of corridors for dispersal of the covered species.

Draft Environmental Impact Statement

The dEIS will consider a range of alternatives, including the proposed action (*i.e.*, the issuance of an ITP to the prospective applicants, no action (non-issuance of an ITP), variations in the scope and location of the covered activities or a combination of both. It will also provide a detailed description of the proposed action and alternatives, as well as identify and analyze the potential significance of direct and indirect impacts from the proposed action and alternatives to biological resources, land use, air quality, water quality, water resources, economics, and other environmental resources. We also will consider different strategies for avoiding, minimizing, and mitigating the impacts of incidental take from the proposed action. The primary purpose of the scoping process is to allow the public to identify important issues associated with the proposed action.

Public Comments

Outside of the public scoping meeting, we will accept comments in written form only. To assist us in identifying the full range of issues related to the prospective permit

application, we invite written comments from interested parties. Any comments submitted to us after the public meeting must be in writing. Please reference the ECMSHCP in such comments.

Comments may be submitted by any one of the following methods:

U.S. mail: South Florida Ecological Services Office (see **ADDRESSES**).

Email: comments-eastcollierhcp@fws.gov. Please include your name and return mailing address in your email message. If you do not receive a confirmation from us that we received your email, contact us directly at either of the telephone numbers listed (see **FOR FURTHER INFORMATION CONTACT**).

Hand delivery: To the South Florida Ecological Services Office (**ADDRESSES**).

Availability of Public Comments

Before including your address, phone number, email address, or other personal identifying information in your comment, be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, there is no guarantee that we will be able to do so.

Reasonable Accommodation

Persons needing reasonable accommodations in order to attend and participate in the public meeting should contact Vickie Scott at 813/675–6546 by no later than one week before the public meeting. Information regarding this proposed action is available in alternative formats upon request.

Authority

We provide this notice under section 10 of the Act (16 U.S.C. 1531 *et seq.*) and NEPA regulations (40 CFR 1506.6).

Dated: March 2, 2016.

Mike Oetker,

Acting Regional Director, Southeast Region.

[FR Doc. 2016–06792 Filed 3–24–16; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[Docket No. FWS–HQ–IA–2016–0054; FXIA16710900000–156–FF09A30000]

Endangered Species; Marine Mammals; Issuance of Permits

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of issuance of permits.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), have issued the following permits to conduct certain activities with endangered species, marine mammals, or both. We issue these permits under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA).

ADDRESSES: Brenda Tapia, U.S. Fish and Wildlife Service, Division of Management Authority, Branch of Permits, MS: IA, 5275 Leesburg Pike, Falls Church, VA 22041; fax (703) 358–2281.

FOR FURTHER INFORMATION CONTACT: Brenda Tapia, (703) 358–2104 (telephone); (703) 358–2281 (fax); *DMAFR@fws.gov* (email).

SUPPLEMENTARY INFORMATION: On the dates below, as authorized by the provisions of the ESA (16 U.S.C. 1531 *et seq.*), as amended, and/or the MMPA, as amended (16 U.S.C. 1361 *et seq.*), we issued requested permits subject to certain conditions set forth therein. For each permit for an endangered species, we found that (1) The application was filed in good faith, (2) The granted permit would not operate to the disadvantage of the endangered species, and (3) The granted permit would be consistent with the purposes and policy set forth in section 2 of the ESA.

ENDANGERED SPECIES

Permit No.	Applicant	Receipt of application **Federal Register** notice	Permit issuance date
59838B	The Wild Animal Sanctuary	80 FR 47947; August 10, 2015	10/13/2015
63281B	University of Tennessee	80 FR 53323; September 3, 2015	11/5/2015
63550B	Houston Zoo, Inc	80 FR 55868; September 17, 2015	12/11/2015
756101	Rare Species Conservatory Foundation	80 FR 55868; September 17, 2015	01/04/2016
676508	Six Flags Discovery Kingdom	80 FR 55868; September 17, 2015	1/21/2016
64786B	Peter Langegger	80 FR 58768; September 30, 2015	01/13/2015
76168B	Luke Snyder	80 FR 58768; September 30, 2015	11/10/2015
75313B	Wildlife & Environmental Conservation, Inc	80 FR 58768; September 30, 2015	12/01/2015
63829B	City of Bridgeton/Cohanzick Zoo	80 FR 58768; September 30, 2015	12/26/2015
64101B	University of Colorado	80 FR 58768; September 30, 2015	12/11/2015
78222B	Michael Long	80 FR 62089; October 15, 2015	11/24/2015
76169B	Joshua Braun	80 FR 62089; October 15, 2015	11/25/2015
74563B	Cheadle Center for Biodiversity and Ecological Restoration.	80 FR 62089; October 15, 2015	12/08/2015
66556B	Abilene Zoological Gardens	80 FR 62089; October 15, 2015	12/09/2015
77387B	St. Catherines Island Foundation	80 FR 62089; October 15, 2015	12/15/2015
59839B	The Wild Animal Sanctuary	80 FR 62089; October 15, 2015	12/11/2015
61197B	Megan Cattau	80 FR 64441; October 23, 2015	12/02/15
68848B	Toledo Zoological Gardens	80 FR 68554; November 5, 2015	02/10/16
68850B	Toledo Zoological Gardens	80 FR 68554; November 5, 2015	02/09/16
73299B	Palm Beach Zoo and Conservation Society	80 FR 68554; November 5, 2015	02/18/2016
71725B	Fox Brown Outfitters	80 FR 68554; November 5, 2015	3/11/2016
78797B	David Hessler	80 FR 70249; November 13, 2015	02/11/2016
79073B	Margaret Williams	80 FR 70249; November 13, 2015	02/11/2016
71096B	Point Defiance Zoo & Aquarium	80 FR 70249; November 13, 2015	02/25/2016
677611	Sacramento Zoological Society, dba Sacramento Zoo.	80 FR 70249; November 13, 2015	2/24/2016
71724B	Fox Brown Outfitters	80 FR 70249; November 13, 2015	3/11/2016
66999B	Angelica Rodriquez/American Museum of Natural History.	80 FR 70249; November 13, 2015	2/23/2016
80785B	Kevin Poynter	80 FR 73207; November 24, 2015	1/27/2016
75301B	Big Cat Rescue Corporation	80 FR 73207; November 24, 2015	3/16/2016

Appendix B
SCOPING MEETING PRESS RELEASE AND NEWSPAPER ADVERTISEMENT

Naples Daily News

> Ad Proof

Sales Rep: Ivonne Gori (N9103) Phone: (239) 262-3161 Email: ivonne.gori@naplesnews.com

> Account Information

Date: 04/01/16

Account Number: 525206 (N077563)

Company Name: AECOM

Contact Name:

Email: Soone.Park@AECOM.COM

Address: 3101 WILSON BOULEVARD, ARLINGTON, VA, 22201

Phone: (919) 854-6200 Fax: (000) 000-0000

> Insertion Information

This is a proof of your ad scheduled to run on the dates indicated below.

Please confirm placement prior to deadline by contacting your account rep at (239) 262-3161 .

Ad Id: 1022051 P.O. No.: QUOTE Total Cost: $266.91

Tag Line: Public Meeting US Fish and Wildlife

Start Date: 04/06/16 Stop Date: 04/06/16

Number of Times: 1 Class: 16250 - Public Notices

Publications: ND-Naples Daily News, ND-Internet-naplesnews.com

> Ad Proof

I agree this ad is accurate and as ordered.

Public Meeting
US Fish and Wildlife Service
FWS-R4-ES-2016-N037; 40120-1112-0000-F2

Under the National Environmental Policy Act (NEPA), the U.S. Fish and Wildlife Service (Service) advises the public that we intend to gather information necessary to prepare a draft environmental impact statement (dEIS) related to an anticipated permit application from nine Collier County, Florida, landowners (prospective applicants) for the incidental take of federally listed species. The permit application would include an Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP) prepared in accordance with the Endangered Species Act of 1973, as amended (Act). Federally-listed species covered by the ECMSHCP include Florida scrub jay, northern crested caracara, wood stork, red-cockaded woodpecker, snail kite, eastern indigo snake, Florida bonneted bat, Florida panther, gopher tortoise (candidate species), and eastern diamondback rattlesnake (under review). We provide this notice to announce a public meeting to be held on April 12, 2016, from 5 to 7 p.m. at University of Florida/ Institute of Food and Agricultural Sciences Collier County Extension, 14700 Immokalee Road, Naples, Florida. Documents will be available for public inspection by appointment during normal business hours at the South Florida Ecological Services Office, 1339 20th Street, Vero Beach, FL 32960. Participants also have the option of attending a concurrent online meeting. Instructions for accessing the online meeting are posted on the project website at: www.easterncollierHCPEIS.com. Documents and other project information are also available at: www.easterncollierHCPEIS.com.

For further information contact: Kenneth McDonald, (Kenneth_mcdonald@fws.gov) Project Manager, at the South Florida Ecological Services Office, telephone: (772) 469-4284; or Ken Warren, (ken_warren@fws.gov) Public Affairs Officer, South Florida Ecological Services Office, telephone (772) 469-4323.
April 6, 2016 No. 1022051

Scott, Vickie

From: Pride, Tom
Sent: Wednesday, April 06, 2016 10:25 AM
To: Warren, Ken
Cc: Constance Cassler; Kenneth Mcdonald; Purcell, Adam; Scott, Vickie; Mayo, Jim; Levy, Dan
Subject: Re: Heads Up: US Fish & Wildlife Service Sets Public Meeting on Eastern Collier Multiple Species Habitat Conservation Plan

Thanks Ken!

Sent from my iPhone

On Apr 6, 2016, at 10:03 AM, Warren, Ken <ken_warren@fws.gov> wrote:

> Hi Tom,
>
> I just sent out below news release this morning.
>
> It went to:
>
> Naples Daily News (Eric Staats)
> Ft Myers News Press (Kevin Lollar and Chad Gillis)
> The Ledger (Tom Palmer)
> Miami Herald (Jenny Staletovich)
> South Florida Sun Sentinel (David Fleshler)
> Tamp Bay Times (Craig Pittman)
> Sarasota Herald Tribune (Zac Anderson)
> Palm Beach Post (Metro Desk)
> Orlando Sentinel (Kevin Spear)
> WGCU Radio (Amy Tardiff)
> Naples Florida Weekly (News Editor Desk)
> WBBH TV (NBC) Channel 2 (Assignment Desk)
> WZVN TV (ABC) Channel 7 (Assignment Desk)
> WINK TV (CBS) Channel 11 (Assignment Desk)
> WFTX (Fox) Channel 4 (Assignment Desk)
>
> No call backs so far.
>
> Ken Warren
>
> ---------- Forwarded message ----------
> From: **Warren, Ken** <ken_warren@fws.gov>
> Date: Wed, Apr 6, 2016 at 9:40 AM
> Subject: Heads Up: US Fish & Wildlife Service Sets Public Meeting on Eastern Collier Multiple Species Habitat Conservation Plan
> To:

News Release

U.S. Fish and Wildlife Service

April 6, 2016

Contact: Ken Warren, (772)469-4323,
ken_warren@fws.gov

U.S. Fish and Wildlife Service Sets Public Meeting on

Eastern Collier Multiple Species Habitat Conservation Plan

VERO BEACH, Fla. – The U.S. Fish and Wildlife Service (Service) is hosting a public meeting to gather input that will help develop the Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP). The meeting is set for Tuesday, April 12, 2016, from 5 to 7 p.m. at University of Florida/Institute of Food and Agricultural Sciences Collier County Extension, 14700 Immokalee Road, Naples, Fla.

This meeting is free and open to the public. Persons attending the meeting will be allowed to make oral comments during the comment portion of the meeting. Each commenter will be allowed up to two minutes. Commenters will not be allowed to defer or transfer their time to another commenter.

The information is being gathered under the National Environmental Policy Act (NEPA) and is needed to prepare a draft environmental impact statement (dEIS) related to an anticipated permit application from nine Collier County, Fla., landowners (prospective applicants) for the incidental take of federally listed species. The permit application would include the ECMSHCP prepared in accordance with the Endangered Species Act of 1973, as amended.

The Service also will accept written comments at the meeting. Any comments received after the public meeting must be in writing and sent to the Service via one of these methods:

Fax: 512-490-0974

Email: comments-eastcollierhcp@fws.gov

U.S. Mail: Comments–Eastern Collier HCP EIS, U.S. Fish and Wildlife Service, South Florida Ecological Services Field Office, 1339 20th Street, Vero Beach, Florida 32960-3559

Federally-listed species covered by the ECMSHCP include the Florida scrub jay, northern crested caracara, wood stork, red-cockaded woodpecker, snail kite, eastern indigo snake, Florida bonneted bat, Florida panther, gopher tortoise (candidate species), and eastern diamondback rattlesnake (under review).

Related documents are available for public inspection by appointment during normal business hours here in Vero Beach at the South Florida Ecological Services Office at 1339 20th Street. Participants also have the option of attending a concurrent online meeting on April 12. Instructions for accessing the online meeting are posted on the project website at: www.easterncollierHCPEIS.com. Documents and other project information are also available at: www.easterncollierHCPEIS.com.

Habitat conservation plans are planning documents required as part of an application for an incidental take permit. They describe the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated; and how the HCP is to be funded.

For further information contact: Ken Warren, Public Affairs Officer, South Florida Ecological Services Office, (772) 469-4323 or ken_warren@fws.gov.

####

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals, and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov.

--
Ken Warren
Public Affairs Officer
U.S. Fish & Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960-3559
Office Phone: 772.469.4323
Mobile Phone: 772.643.4407
Fax: 772.778.5498

"Being considerate of others will take you and your children further in life than any college or professional degree." - Marian Wright Edelman

Follow us on Twitter @USFWSVERO

--
Ken Warren
Public Affairs Officer
U.S. Fish & Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960-3559
Office Phone: 772.469.4323
Mobile Phone: 772.643.4407
Fax: 772.778.5498

"Being considerate of others will take you and your children further in life than any college or professional degree." - Marian Wright Edelman

Follow us on Twitter @USFWSVERO

Appendix C
SCOPING MEETING INFORMATIONAL BROCHURE AND COMMENT FORM

Useful Comments

To assist us in identifying the full range of issues related to the prospective permit application, we invite written comments from interested parties.

Comments that raise **significant issues** are the most helpful. An **issue** is a point of disagreement, debate, or dispute with a proposed action based on some anticipated environmental effect. **Significant issues** are those **issues** that are related to significant or potentially significant effects. *An **issue** is more than just a position statement.*

An **issue**:

- has a cause and effect relationship with the proposed action or alternatives;
- is within the scope of the analysis;
- has not been decided by law, regulation, or previous decision;
- and is amenable to scientific analysis rather than conjecture.

The U.S. Fish and Wildlife Service will use scoping comments to develop/refine Alternatives for analysis in the EIS

Comment Submittal - Options

Several options are available for those who would like to submit comments regarding the scope of the EIS. Those options include the following:

- Provide a statement during tonight's comment period
- Complete a comment card and place it in the comment box
- E-mail comments to: comments-eastcollierhcp@fws.gov
- Fax comments to: (772) 562-4288
- Mail written comments to:

  Comments – Eastern Collier HCP EIS
  U.S. Fish and Wildlife Service
  South Florida Ecological Services Office
  1339 20th Street
  Vero Beach, FL 32960

Please have all scoping comments submitted by April 25, 2016.

Eastern Collier Multiple Species Habitat Conservation Plan

Environmental Impact Statement

Scoping Meeting

April 12, 2016 (Naples, FL)

2007 Tim Donovan / FWC

Project Summary

To meet the provisions of the National Environmental Policy Act (NEPA), the Fish and Wildlife Service (Service) is gathering the information necessary to prepare a draft environmental impact statement (EIS) related to an anticipated permit application from nine Collier County, Florida landowners (prospective applicants) for the incidental take of federally-listed species. The permit application would include an "Eastern Collier Multiple Species Habitat Conservation Plan" (ECMSHCP) prepared in accordance with the Endangered Species Act of 1973, as amended. A copy of the Draft ECMSHCP can be found at www.easterncollierHCPEIS.com . The prospective applicants include:

- Alico, Inc.
- Barron Collier Investments, Ltd.
- Collier Enterprises Management, Inc.
- Consolidated Citrus Limited Partnership
- English Brothers Partnership
- Heller Bros. Packing Corp.
- John E. Price, Jr. Trust
- Pacific Land, Ltd.
- Sunniland Family Limited Partnership

Scoping

The purpose of the public scoping process is to identify relevant issues that will influence the scope of the environmental analysis, including alternatives, and guide the process for developing the EIS. The purpose of this Scoping Meeting is to obtain suggestions and information on the scope of issues and alternatives to be included in the draft EIS as well as any other written data, views, or arguments with respect to the anticipated permit application.

Proposed Action

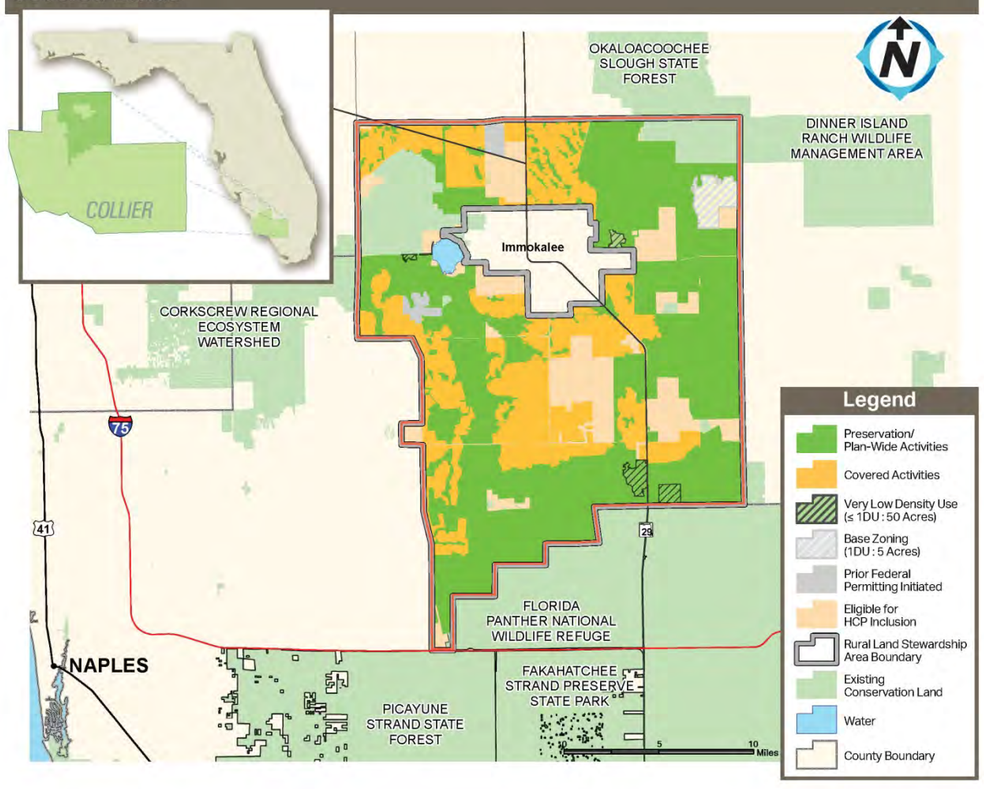
The prospective applicants intend to seek an incidental take permit (ITP) that would authorize take resulting from the residential and commercial development and earth mining activities described in the ECMSHCP on certain lands ("covered lands"). The ECMSHCP would include measures to avoid, minimize, and mitigate for incidental take with an emphasis on preserving some of the lands to maintain the viability and continued existence of populations of federally-listed threatened and endangered species.

The ECMSHCP also would include a funding mechanism for the avoidance, minimization and mitigation measures, such as land acquisition, habitat mitigation, establishment of wildlife crossings, ecological restoration, land management, and actions to assist in the conservation of species through research. The proposed term of the ITP would be 50 years. The figure below provides a map of the areas discussed in the ECMSHCP.

Summary of Proposed Action

- Issuance of Incidental Take Permit (ITP) by the U.S. Fish and Wildlife Service
- Covers effects to:
  - 10 Federally-Listed and Candidate Species
  - 6 State-Listed Species
- Covers approximately 152,124 acres of privately owned lands in Eastern Collier County, FL
- Duration of the ITP proposed to be 50 Years

Covered Lands



USFWS Role in this Process

The Service is providing technical assistance to the applicants and reviewing the Eastern Collier Multiple Species HCP to ensure issuance of an Incidental Take Permit under Section 10(a)(1)(B) of the ESA, to the applicants;

- will not jeopardize the survival and recovery of federally-listed species,
- will not lead to the listing of other species of conservation concern.

Process Overview

1. **The Eastern Collier Property Owners have developed a draft HCP to support a future ITP application. The draft HCP has been submitted to the U.S. Fish and Wildlife Service (April 2015) for review.**
2. **The Service is preparing a Draft EIS for public review that details potential impacts of the ITP and HCP. After public comment, the Final EIS will be published and the Service will prepare a Record of Decision (ROD).**
3. **If the Service determines that the Final HCP meets the ESA Section 10(a) criteria, the Service will issue the ITP.**

The National Environmental Policy Act (NEPA) requires the Service prepare an EIS for any Federal action that significantly affects the quality of the human environment.

The issuance of an incidental take permit (ITP) by the Service is a major federal action

What is an HCP? What is an EIS?

- **HCP**s describe the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated, and how it will be funded. It can apply to both listed and nonlisted species, including those that are candidates or have been proposed for listing.
- An **EIS** is a document prepared to comply with the requirements of the National Environmental Policy Act (NEPA), to analyze and disclose the effects of proposed activities on the environment. It consider potentially significant short, long-term, direct, indirect, and cumulative effects of the proposed action and its reasonable alternatives.
- The **EIS** incorporates public and agency comments regarding scope and alternatives.

Key Definitions

"Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species.

"Harm" may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior.

Section 10 (a) Criteria

- The taking will be incidental;
- The applicant will, to the maximum extent practicable, minimize and mitigate the impact of such taking;
- The applicant will develop an HCP and ensure that adequate funding for the plan will be provided;
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;
- The applicant will carry out any other measures that the Secretary of the Interior may require as being necessary or appropriate for the purposes of the HCP.

Next Steps

- EIS Scoping
- Draft EIS
- Public Hearing
- Final EIS
- Record of Decision

The U.S Fish and Wildlife Service may issue permits for the "incidental take" of endangered and threatened wildlife species. Incidental take is defined by the ESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."

A permit holder is authorized incidental take as long as they are compliant with the terms of the HCP, the ITP, and all other federal and state laws.

Eastern Collier Multiple Species Habitat Conservation Plan

Environmental Impact Statement Scoping Meeting

FWS-R4-ES-2016-N037; 40120-1112-0000-F2 Collier County, Florida April 12, 2016

Public Comment Form

☐ Please check if you would like to be added to the mailing list for this project

Name: _____

Address: _____

City, State, Zip: _____

E-mail: _____

Note: Please complete and place in the "Comments" box tonight, or mail to the address on the back of this Comment Form by April 25, 2016

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status.

Please tape folded Comment Form closed prior to mailing

Please fold on dotted lines.

U.S. Fish and Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960

Place Stamp Here

Comments – Eastern Collier HCP EIS
U.S. Fish and Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960

Please fold on dotted lines.

Please tape folded Comment Form closed prior to mailing

Appendix D
AGENCY/OFFICIALS SCOPING INVITATION LETTER TEMPLATE

United States Department of the Interior

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

March 30, 2016

Lisa Duncan-Pullen
Office Manager
The Nature Conservancy
2500 Maitland Center Parkway, Suite 311
Maitland, Florida 32715

Dear Ms. Duncan-Pullen,

The purpose of this letter is to provide notice that the U.S. Fish and Wildlife Service (Service) intends to prepare a draft Environmental Impact Statement (dEIS) related to an anticipated permit application from nine Collier County, Florida landowners for the incidental take of listed species. The Department of the Army, through its bureau the U.S. Army Corps of Engineers, will be a cooperating agency in the development of the dEIS.

The dEIS will be prepared in accordance with the National Environmental Policy Act (NEPA). The permit application would include an "Eastern Collier Multiple Species Habitat Conservation Plan" (ECMSHCP) prepared in accordance with the Endangered Species Act of 1973, as amended (ESA). The ECMSHCP covers approximately 152,124 acres of land in northeastern Collier County and borders Lee and Hendry counties. The enclosed information sheet provides additional details regarding the landowners, proposed action, and the NEPA and ESA processes. A copy of the ECMSHCP is available at the project website at www.easterncollierHCPEIS.com.

The Service invites you to attend an online inter-agency scoping meeting from 10:00 am – 12:00 pm, Tuesday, April 19, 2016, to provide input on the EIS scoping process. During the meeting we will discuss project component details, obtain input to understand any issues that your agency believes are important to the EIS analysis, and review the project schedule. Elected/appointed and Tribal officials and other interested parties are also welcome to attend the online inter-agency scoping meeting. Instructions for accessing the online interagency scoping meeting are provided below.

Online Inter-Agency Scoping Meeting
Tuesday, April 19, 2016 | 10:00 am – 12:00 pm
Meeting number: 593 525 539
Audio connection: 1-866-203-6896 Call-in toll-free number
Conference Code: 968 574 2310
Meeting link:
https://intercall.webex.com/intercall/j.php?MTID=m9633eb376ab1993b2926dc365fff223e

In addition to the online interagency meeting, an open-house public scoping meeting will be held at 5:00 pm, Tuesday, April 12, 2016, at the University of Florida/Institute of Food and Agricultural Sciences Collier County Extension Building, 14700 Immokalee Road, Naples, Florida. Information presented at the online inter-agency scoping meeting will be similar to that presented at the open-house public scoping meeting. You may attend the online inter-agency scoping meeting or the open-house public scoping meeting (or both if you choose).

The Service invites written comments on the scope of issues and alternatives to be included in the draft EIS as well as any other written data, views, or arguments with respect to the anticipated permit application. Please submit scoping comments to the Service via one of the following methods:

FAX: 512-490-0974
E-mail: comments-eastcollierhcp@fws.gov
US Mail: Comments–Eastern Collier HCP EIS
US Fish and Wildlife Service
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, Florida 32960-3559

We must receive any written comments on or before April 24, 2016. For further information please contact:

Kenneth McDonald, Project Manager
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, Florida 32960-3559
Office: 772.469.4284
Fax: 772.562.4288
kenneth_mcdonald@fws.gov

We look forward to your participation in the EIS process.

Sincerely yours,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Office

United States Department of the Interior

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

April 12, 2016

David Jenson
Barron Collier Companies
2600 Golden Gate Blvd.
Naples, FL 34105

Dear Mr. Jenson,

The purpose of this letter is to provide an **update to the notice** sent by the U.S. Fish and Wildlife Service (Service) on March 30, 2016 that announced the intent to prepare a draft Environmental Impact Statement (dEIS) related to an anticipated permit application from nine Collier County, Florida landowners for the incidental take of listed species. The permit application will include an "Eastern Collier Multiple Species Habitat Conservation Plan" prepared in accordance with the Endangered Species Act of 1973, as amended. This notice provides revised instructions for accessing the online meeting.

The Service invites you to attend an online inter-agency scoping meeting from 10:00am – 12:00pm, Tuesday, April 19, 2016, to provide input on the EIS scoping process. During the meeting we will discuss project component details, obtain input to understand any issues that your agency believes are important to the EIS analysis, and review the project schedule. Elected/appointed and Tribal officials and other interested parties are welcome to attend the online inter-agency scoping meeting. **Revised instructions for accessing the online inter-agency scoping meeting are provided below**.

Online Inter-Agency Scoping Meeting
Tuesday, April 19, 2016 | 10:00am – 12:00pm
Meeting number: 592 374 921
Audio connection: 1-866-203-6896 Call-in toll-free number
Conference Code: 576-673-6077
Meeting link:
https://aecom.webex.com/aecom/j.php?MTID=mccbd893a803e88b2faaf0b407ac2dfee

A direct link to the online meeting may also be accessed through the project website at www.easterncollierhcpeis.com.

The Service invites written comments on the scope of issues and alternatives to be included in the draft EIS as well as any other written data, views, or arguments with respect to the anticipated permit application. Please submit scoping comments to the Service via one of the following methods:

FAX: 772-562-4288
E-mail: comments-eastcollierhcp@fws.gov
US Mail: Comments–Eastern Collier HCP EIS
U.S. Fish and Wildlife Service
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, Florida 32960-3559

We must receive any written comments on or before **April 25, 2016**. For further information please contact:

Kenneth McDonald, Project Manager
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, Florida 32960-3559
Office: 772.469.4284
Fax: 772.562.4288
kenneth_mcdonald@fws.gov

We look forward to your participation in the EIS process.

Sincerely yours,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Office

Appendix E
LIST OF AGENCY REPRESENTATIVES AND OFFICIALS INVITED TO PARTICIPATE IN THE SCOPING PROCESS

Eastern Collier MSHCP EIS, Mailing List

ELECTED AND APPOINTED OFFICIALS

Sal.	Name	Title	Organization Name	Address 1	Address 2	City	State	Zip
FEDERAL ELECTED OFFICAILS								
The Honorable	Marco Rubio	US Senator	United States Senate		3299 Tamiami Trail East, Suite 106	Naples	FL	34112
The Honorable	Bill Nelson	US Senator	United States Senate	Justice Center Annex Building	200 Main Street, Suite 801	Ft. Myers	FL	33901
The Honorable	Curt Clawson	US Congressman, Florida District 19	United States Congress		3299 Tamiami Trail East, Suite 105	Naples	FL	34112
The Honorable	Mario Diaz-Balart	US Congressman, Florida District 25	United States Congress		4715 Golden Gate Parkway, Suite 1	Naples	FL	34116
The Honorable	Carlos Curbelo	US Congressman, Florida District 26	United States Congress		404 West Palm Dr	Florida City	FL	33034
STATE ELECTED OFFICIALS								
The Honorable	Vern Buchanan	Florida State Representative, District 16	The Florida Senate		2105 Rayburn HOB	Washington	DC	20515
The Honorable	Tom Rooney	Florida State Representative, District 17	The Florida Senate		2160 Rayburn HOB	Washington	DC	20515
The Honorable	Matt Hudson	Florida State Representative, District 80	The Florida Senate	Collier County Administrative Building	3299 Tamiami Trail East, Suite 212	Naples	FL	34112
The Honorable	Carlos Trujillo	Florida State Representative, District 105	The Florida Senate	Collier County Administrative Building	3299 Tamiami Trail East, Suite 305	Naples	FL	34112
The Honorable	Kathleen Passidomo	Florida State Representative, District 106	The Florida Senate	Collier County Administrative Building	3299 Tamiami Trail East, Suite 304	Naples	FL	34112
The Honorable	Dwight Bullard	Florida State Senate, District 39			10720 Caribbean Blvd., Suite 35	Cutler Bay	FL	33189
COLLIER COUNTY OFFICALS								
The Honorable	Donna Fiala	County Commissioner, District 1, Vice Chair	Collier County BOCC		3299 Tamiami Trail East, Suite 303	Naples	FL	34112
The Honorable	Georgia A. Hiller, Esq.	County Commissioner, District 2	Collier County BOCC		2335 Orange Blossom Drive	Naples	FL	34109
The Honorable	Tom Henning	County Commissioner, District 3	Collier County BOCC		3299 Tamiami Trail East, Suite 303	Naples	FL	34112
The Honorable	Penny Taylor	County Commissioner, District 4	Collier County BOCC		3299 Tamiami Trail East, Suite 303	Naples	FL	34112
The Honorable	Tim Nance	County Commissioner, District 5, Chair	Collier County BOCC		3299 Tamiami Trail East, Suite 303	Naples	FL	34112
Mr.	Leo E. Ochs, Jr.	County Manager	Collier County	County Manager's Office	3299 Tamiami Trail East, Suite 202	Naples	FL	34112
Sheriff	Kevin J. Rambosk	Sheriff	Collier County Sheriff's Department	Collier County Government Center, Bldg J	3319 East Tamiami Trail	Naples	FL	34112
Mr.	Abe Skinner, CFA	Collier County Property Appraiser	Collier County	Collier County Government Center	3950 Radio Road	Naples	FL	34104
Mr.	Larry H. Ray	Tax Collector	Collier County	Courthouse Building, C-1 Rm. 310	3291 Tamiami Trail East	Naples	FL	34112
Dr.	Kamela Patton	Superintendent	Collier County District School Board	Dr. Martin Luther King, Jr. Administrative Center	5775 Osceola Trail	Naples	FL	34109
The Honorable	Jennifer J. Edwards	Supervisor of Elections	Collier County	Rev Dr Martin Luther King Jr Building	3295 Tamiami Trail East	Naples	FL	34112
LEE COUNTY OFFICIALS								
The Honorable	John Manning	County Commissioner, District 1, Vice Chair	Lee County BOCC	Old Lee County Courthouse	2120 Main Street	Fort Myers	FL	33901
The Honorable	Cecil Pendergrass	County Commissioner, District 2	Lee County BOCC	Old Lee County Courthouse	2120 Main Street	Fort Myers	FL	33901
The Honorable	Larry Kiker	County Commissioner, District 3	Lee County BOCC	Old Lee County Courthouse	2120 Main Street	Fort Myers	FL	33901
The Honorable	Brian Hamman	County Commissioner, District 4	Lee County BOCC	Old Lee County Courthouse	2120 Main Street	Fort Myers	FL	33901
The Honorable	Frank Mann	County Commissioner, District 5	Lee County BOCC	Old Lee County Courthouse	2120 Main Street	Fort Myers	FL	33901
Mr.	Roger Desjarlais	County Manager	Lee County		P.O. Box 398	Fort Myers	FL	33902
Sheriff	Mike Scott	Sheriff	Lee County Sheriff's Department		14750 Six Mile Cypress Pkwy	Fort Myers	FL	33912
Mr.	Kenneth M. Wilkinson, C.F.A	Lee County Property Appraiser	Lee County		P.O. Box 1546	Fort Myers	FL	33902
Mr.	Larry D. Hart	Tax Collector	Lee County		2480 Thompson St	Fort Myers	FL	33901
Mr.	Gregory Adkins, Ed.D.	Superintendent	Lee County District School Board	Lee County Public Education Center	2855 Colonial Blvd.	Fort Myers	FL	33966
The Honorable	Sharon Harrington	Supervisor of Elections	Lee County		2480 Thompson St	Fort Myers	FL	33901
HENDRY COUNTY OFFICIALS								
The Honorable	Janet B. Taylor	County Commissioner, District 1	Hendry County BOCC		PO Box 1760	LaBelle	FL	33975
The Honorable	Darrell Harris	County Commissioner, District 2	Hendry County BOCC		PO Box 1760	LaBelle	FL	33975
The Honorable	Don Davis	County Commissioner, District 3	Hendry County BOCC		PO Box 1760	LaBelle	FL	33975
The Honorable	Michael Swindle	County Commissioner, District 4	Hendry County BOCC		PO Box 1760	LaBelle	FL	33975
The Honorable	Karson Turner	County Commissioner, District 5	Hendry County BOCC		PO Box 1760	LaBelle	FL	33975
Mr.	Charles T. Chapman IV	County Administrator	Hendry County		PO Box 2340	LaBelle	FL	33975
Sheriff	Steve Whidden	Sheriff	Hendry County Sheriff's Department	West District - Main Headquarters Office	101 S.Bridge Street	LaBelle	FL	33975
Mr.	Phillip L. Pelletier	Hendry County Property Appraiser	Hendry County		PO Box 1840	LaBelle	FL	33975
Mr.	Patrick B. Langford	Tax Collector	Hendry County		25 E Hickpochee Ave	LaBelle	FL	33975
Mr.	Paul K. Puletti	Superintendent	Hendry County District School Board		25 E Hickpochee Ave	LaBelle	FL	33975
Ms.	Brenda Hoots	Supervisor of Elections	Hendry County		25 E Hickpochee Ave	LaBelle	FL	33975

As of 2016FEB19

FEDERAL AND STATE AGENCIES

Sal.	First	Last	Title	Organization	Address 1	Address 2	City	St	Zip
Ms.	Mary	Glowacki, Ph.D	Chief and State Archaeologist	Bureau of Archaeological Research	B. Calvin Jones Center for Archaeology at the Governor Martin House	1001 DeSoto Park Drive	Tallahassee	FL	32301
Ms.	Alissa	Slade Lotane	Bureau Chief	Bureau of Historic Preservation	R.A. Gray Building	500 S. Bronough Street	Tallahassee	FL	32399-0250
Mr.	Justin	Lobb	Airport Manager	Collier County Airport Authority	Florida Tradeport	165 Airpark Blvd.	Immokalee	FL	34142
	Renee	Rau	Park Manager	Fakahatchee Strand Preserve State Park		P.O. Box 548	Copeland	FL	34137
Mr.	Chris	Stahl	Clearinghouse Coordinator	Florida Department of Environmental Protection	Florida State Clearinghouse Division	3900 Commonwealth Blvd., MS 47	Tallahassee	FL	32399-3000
Mr.	Donald	Forgione	Director	Florida Department of Environmental Protection	Florida Park Service	3900 Commonwealth Boulevard	Tallahassee	FL	32399
Ms.	Gwen	Pipkin	Environmental Administrator	Florida Department of Transportation	District 1	801 N. Broadway Ave	Bartow	FL	33830
Mr.	Brent	Setchell	District Environmental Permitting Engineer	Florida Department of Transportation	District 1	801 N. Broadway Ave	Bartow	FL	33830
Mr.	Marlon	Bizerra	Planning and Environmental Manager	Florida Department of Transportation	District 1	801 N. Broadway Ave	Bartow	FL	33830
Mr.	Xavier	Pagan	Natural and Community Resources Administrator	Florida Department of Transportation	State Environmental Management Office	605 Suwannee Street	Tallahassee	FL	32399
Ms.	Katasha	Cornwell		Florida Department of Transportation	State Environmental Management Office	605 Suwannee Street	Tallahassee	FL	32399
Mr.	Timothy	Parsons, Ph.D	Interim Director and State Historic Preservation Off	Florida Division of Historical Resources	R.A. Gray Building	500 S. Bronough Street	Tallahassee	FL	32399-0250
Ms.	Angie	Tomlinson, Ph.D	Program Administrator	Florida Division of Historical Resources	R.A. Gray Building	500 S. Bronough Street	Tallahassee	FL	32399-0250
Mr.	Michael	Anderson	Regional Wildlife Administrator	Florida Fish and Wildlife Conservation Commission	Habitat and Species Conservation Division	8535 Northlake Boulevard	West Palm Beach	FL	33412
Mr.	Darrell	Land	Florida Panther Team Leader	Florida Fish and Wildlife Conservation Commission		298 Sabal Palm Road	Naples	FL	34114
Major	Alfredo	Escanio	Interim Regional Director	Florida Fish and Wildlife Conservation Commission	South Florida Regional Office	8535 Northlake Boulevard	West Palm Beach	FL	33412
Mr.	Thomas	Eason, Ph.D	Director, Habitat and Species Conservation Division	Florida Fish and Wildlife Conservation Commission	Habitat and Species Conservation Division	620 Meridian Street	Tallahassee	FL	32399
Ms.	Robin	Boughton	Leader, Wildlife Research	Florida Fish and Wildlife Conservation Commission		1105 Southwest Williston Road	Gainesville	FL	32601
Mr.	Brad	Gruver	Leader, Species Conservation Planning	Florida Fish and Wildlife Conservation Commission		1320 Executive Center Drive	Tallahassee	FL	32301
Mr.	Scott	Sanders	Director, Office of Conservation Planning Services	Florida Fish and Wildlife Conservation Commission		620 Meridian Street	Tallahassee	FL	32399
Mr.	Michael	Brooks	Leader, Wildlife and Habitat Management	Florida Fish and Wildlife Conservation Commission		620 Meridian Street	Tallahassee	FL	32399
Ms.	Carol	Knox	Leader, Imperiled Species Management	Florida Fish and Wildlife Conservation Commission		1320 Executive Center Drive	Tallahassee	FL	32301
Mr.	Brien	Culhane	Chief, Planning and Compliance	National Park Service	Everglades National Park	40001 State Road 9336	Homestead	FL	33034
Dr.	Roy	Crabtree	Regional Administrator	NOAA - National Marine Fisheries Service	Southeast Regional Office	263 13th Avenue South	St. Petersburg	FL	33701
Ms.	Lisa	Koehler	Administrator	South Florida Water Management District	Big Cypress Basin Service Center	2660 Horseshoe Drive N., Suite 101	Naples	FL	34104
Mr.	Peter	Antonacci	Executive Director	South Florida Water Management District		3301 Gun Club Road	West Palm Beach	FL	33406
Ms.	Jennifer	Pellechio	Deputy Director	Southwest Florida Regional Planning Council		1400 Colonial Blvd, Ste 1	Fort Myers	FL	33907
Mr.	Tunis	McElwain		US Army Corps of Engineers	Fort Myers Regulatory Office	1520 Royal Palm Square Blvd #310	Fort Myers	FL	33919
Colonel	Jason A.	Kirk	District Commander	US Army Corps of Engineers	Jacksonville District	701 San Marco Blvd.	Jacksonville	FL	33207
Lieutenant C	Jennifer	Reynolds	Deputy District Commander, South Florida	US Army Corps of Engineers	Jacksonville District	1400 Centrepark Boulevard	West Palm Beach	FL	33401-7402
Mr.	Jason	Spinning	Acting Chief	US Army Corps of Engineers	Environmental Protection Branch, Planning Division Jacksonville District	10117 Princess Palm Ave., Suite 120	Tampa	FL	33610-8302
Ms.	Heather	McTeer-Tooney	Regional Administrator	US Environmental Protection Agency - Region 4	South Florida Office	61 Forsyth Street SW	Atlanta	GA	30303
Mr.	Ernie	Marks	Regional Director	Florida Fish and Wildlife Conservation Commission	Dinner Island Ranch Wildlife Management Area	8235 Northlake Boulevard	West Palm Beach	FL	33412
Mr.	Clark	Ryals	Collier County Forester	Florida Forest Service	Picyune Strand State Forest	10941 Palm Beach Blvd.	Fort Myers	FL	33905-5904
Mr.	Michael	Weston	Collier County Forest Area Supervisor	Florida Forest Service	Picyune Strand State Forest	710 Randall Blvd.	Naples	FL	34120-3311
Ms.	Tamara	Whittington	Superintendent	Big Cypress National Preserve		33100 Tamiami Trail East	Ochopee	FL	34141
Mr.	Ron	Clark		Big Cypress National Preserve		33100 Tamiami Trail East	Ochopee	FL	34141
Ms.	David	Weeks, AICP	Growth Management Manager	Collier County Comprehensive Planning Department		2800 North Horseshoe Drive	Naples	FL	34104

NATIVE AMERICAN TRIBES

Sal.	First	Last	Title	Organization	Address 1	Address 2	City	St	Zip
Mr.	Colley	Billie	Chairman	Miccosukee Tribe of Indians of Florida		Tamiami Station P.O. Bosx 440021	Miami	FL	33144
Mr.	Fred	Dayhoff	Section 106 and NAGPRA Coordinator	Miccosukee Tribe of Indians of Florida		HC 61 SR Box 68 Old Loop Road	Ochopee	FL	34141
Mr.	George	Tiger	Principle Chief	Muscogee (Creek) Nation	Office of Administration	P.O. Box 580	Okmulgee	OK	74447
Mr.	Emman	Spain	Tribal Historic Preservation Officer	Muscogee (Creek) Nation	Cultural Preservation	P.O. Box 580	Okmulgee	OK	74447
Ms.	Stephanie A.	Bryan	Tribal Chair	Poarch Band of Creek Indians		5811 Jack Spring Road	Almore	AL	36502
Mr.	Robert	Thrower	Acting Tribal Historic Preservation Officer	Poarch Band of Creek Indians		5811 Jack Spring Road	Almore	AL	36502
Mr.	James E.	Billie	Chairman	Seminole Tribes of Florida		6300 Stirling Road	Hollywood	FL	33024
Dr.	Paul	Backhouse, Ph.D.	Acting Tribal Historic Preservation Officer	Seminole Tribes of Florida	Tribal Historic Presrvation Office	30290 Josie Billie Highway, PMB 1004	Clewiston	FL	33440
Ms.	Anne H.	Mullins, MCRP	Compliance Review Supervisor	Seminole Tribes of Florida	Tribal Historic Presrvation Office	30290 Josie Billie Highway, PMB 1004	Clewiston	FL	33440
Mr.	Leonard M.	Harjo	Principle Chief	Seminole Nation of Oklahoma		P.O. Box 1498	Wewoka	OK	74884
Ms.	Natalie	Harjo	Tribal Historic Preservation Officer	Seminole Nation of Oklahoma		P.O. Box 1498	Wewoka	OK	74884

ORGANIZATIONS

Sal.	First	Last	Title	Organization	Address 1	Address 2	City	St	Zip
Mr.	Ryan	Smart	President	1000 Friends of Florida		P.O. Box 5948	Tallahassee	FL	32314-5948
Dr.	Hilary	Swain	Sr. Research Program Director	Archbold Biological Station		123 Marin Drive	Venus	FL	33960
Mr.	Jason	Lauritsen	Sanctuary Director	Audubon of Florida	Corkscrew Swamp Sanctuary & Blair Audobon Center	375 Sanctuary Road West	Naples	FL	34120
Mr.	Eric	Draper	Executive Director	Audubon of Florida	Florida State office	4500 Biscayne Blvd., Suite 205	Miami	FL	33137
Mr.	Brad	Cornell	Southwest Florida Policy Associate	Audubon of the Western Everglades	Audubon of Florida	1020 8th Ave. South, Suite 2	Naples	FL	34102
Mr.	P. J.	Marinelli	President	Audubon of the Western Everglades	Audubon of Florida	1020 8th Ave. South , Suite 2	Naples	FL	34102
Mr.	Wayne	Daltry	President	Audubon Society of Southwest Florida	Audubon of Florida	PO Box 61041	Fort Myers	FL	33906-1041
Mr.	Brent	Klein	Assistant Principal	Bethune Education Center		620 South 5th Street	Immokalee	FL	34142
Mr.	Gene	Lollis	Ranch Manager	Buck Island Ranch		300 Buck Island Ranch Road	Lake Placid	FL	33852
Ms.	Julia	Perkins		Coalition of Immokalee Workers		P.O. Box 603	Immokalee	FL	34143
Dr.	Daniel	Smith	Research Associate	College of Sciences, Department of Biology	University of Central Florida	4110 Libra Drive	Orlando	FL	32816-2368
Ms.	Lorraine	Lantz	Executive Director	Collier County MPO	Collier County Metropolitan Planning Organization	2885 S. Horseshoe Drive	Naples	FL	34104
Ms.	Brenda	Brooks	Executive Director	CREW Land & Water Trust		23998 Corkscrew Road	Estero	FL	33928
Ms.	Elizabeth	Fleming	Senior Florida Representative	Defenders of Wildlife		3637 Fourth Street, North, Suite 230	St. Petersburg	FL	33704
Dr.	Elizabeth	Pienaar	Assistant Professor	Department of Wildlife Ecology & Conservation	University of Florida	316 Newins-Ziegler Hall, PO Box 110430	Gainesville	FL	32611
Ms.	Marci	Seamples	President	East Naples Civic Association		3823 TamiamiTrail East PMB #274	Naples	FL	34112
				Everglades Coordinating Council		14775 SW 18 Court	Davie	FL	33325
Mr.	Thomas	Hawkins	Executive Director	Florida Defenders of the Environment		P.O. Box 357086	Gainesville	FL	32635
Mr.	Les	Alderman		Florida Panther Conservation Bank		6118 DEER RUN	Ft Myers	FL	33908
Mr.	Stephen	Williams	President	Florida Panther Society		P.O. Box 358683	Gainesville	FL	32635
Mr.	Todd	Hallman		Florida Sportsmen Conservation Association		15287 99 St North	West Palm Beach	FL	33412
Ms.	Nancy	Payton	Southwest Florida Field Representative	Florida Wildlife Federation		2590 Golden Gate Parkway, Suite 105	Naples	FL	34105
Mr.	Alan	Farago	President	Friends of the Everglades		11767 South Dixie Hwy #232	Miami	FL	33156
Mr.	Tom	Trotta		Friends of the Florida Panther Refuge, Inc.	c/o U.S. Fish and Wildlife Service	12085 SR 29 South	Immokalee	FL	34142
Mr.	Danny	Gonzalez	President	Immokalee Chamber of Commerce		1390 North 15th Street, Suite 3	Immokalee	FL	33412
Mr.	Leo	Rodgers	President	Immokalee Civic Association		502 E. New Market Street	Immokalee	FL	34142
Ms.	Christie	Betancourt	Executive Assistant	Immokalee Community Redevelopment Agency		750 South 5th Street	Immokalee	FL	34142
Mr.	Don	Scott	Executive Director	Lee County MPO	Lee County Metropolitan Planning Organization	815 Nicholas Parkway E	Cape Coral	FL	33915-0045
Mr.	Jack	Mulvena	President & CEO	Naples Zoo		1590 Goodlette-Frank Rd	Naples	FL	34102
Ms.	Jessica	Koelsch	Florida Policy Specialist	National Wildlife Federation		600 W Peachtree St NW, suite 1860	Atlanta	GA	30308
Ms.	F.G.	Courtney	Director	National Wildlife Federation	Southeastern Natural Resource Center	730 Peachtree St. NE, Suite 1000	Atlanta	GA	30308
Mr.	Desmond	Duke		Ecoresolve		21346 Saint Andrews Blvd., Suite 434	Boca Raton	FL	33433
Ms.	Barbara	Mainster	Executive Director	Redlands Christian Migrant Association		402 W. Main St.	Immokalee	FL	34142
Ms.	Connie	Langmann	President	Responsible Growth Management Coalition		P.O. Box 1826	Fort Myers	FL	33902
Ms.	Amelia	Horadam	Environmental Manager	Rookery Bay National Estuarine Research Reserve		300 Tower Rd	Naples	FL	34113
	Cris	Costello		Sierra Club	Osprey Office (West Coast FA)	2127 Tamiami Trail	Osprey	FL	34229
Mr.	Frank	Jakalone		Sierra Club	Florida Regional Field Office	1990 Central Avenue	St. Petersburg	FL	33712
Mr.	Marty	Daltry		Sierra Club	Fort Myers Regional Office	1415 Dean Street Suite 100	Fort Myers	FL	33901
Mr.	Jonathan	Ullman		Sierra Club	South Florida Regional Office	300 Aragon Avenue, Suite 360	Coral Gabels	FL	33134
Mr.	Matthew	Schwartz	Executive Director	South Florida Wildlands Association		PO Box 30211	Ft. Lauderdale	FL	33303
Ms.	Veronica	Culbertson	President and CEO	Southwest Florida Hispanic Chamber of Commerce		1400 Colonial Blvd., Suite 250	Fort Myers	FL	33907
Ms.	Jennifer	Pellechio	Deputy Director	Southwest Florida Regional Planning Council		1400 Colonial Blvd, Ste 1	Ft Myers	FL	33907
Dr.	Calvin	Arnold	Center Director	Southwest Florida Research and Education Center		2685 SR 29 North	Immokalee	FL	34142
Mr.	Bob	Moher	President and CEO	The Conservancy of Southwest Florida		1450 Merrihue Drive	Naples	FL	34102
Ms.	Amber	Crooks		The Conservancy of Southwest Florida		1450 Merrihue Drive	Naples	FL	34102
Ms.	Tiffany A	Esposito	Chief of Staff	The Greater Naples Chamber of Commerce		2390 Tamiami Trl. N., Ste. 210	Naples	FL	34103
Ms.	Lisa	Duncan-Pullen	Office Manager	The Nature Conservancy	Florida Field Office	2500 Maitland Center Parkway, Suit 311	Maitland	FL	32715
Mr.	Ricky	Pires	Director	Wings of Hope	Florida Gulf Coast University	10501 FGCU Blvd.	South Ft. Myers	FL	33965

APPENDIX E

FEDERAL REGISTER ECMSHCP NOTICE OF INTENT

We may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. However, under OMB regulations, we may continue to conduct or sponsor this information collection while it is pending at OMB.

DATES: You must submit comments on or before April 25, 2016.

ADDRESSES: Send your comments and suggestions on this information collection to the Desk Officer for the Department of the Interior at OMB–OIRA at (202) 395–5806 (fax) or *OIRA_Submission@omb.eop.gov* (email). Please provide a copy of your comments to the Service Information Collection Clearance Officer, U.S. Fish and Wildlife Service, MS BPHC, 5275 Leesburg Pike, Falls Church, VA 22041–3803 (mail), or *hope_grey@fws.gov* (email). Please include "1018–0007" in the subject line of your comments.

FOR FURTHER INFORMATION CONTACT: To request additional information about this ICR, contact Hope Grey at *hope_grey@fws.gov* (email) or 703–358–2482 (telephone). You may review the ICR online at *http://www.reginfo.gov*. Follow the instructions to review Department of the Interior collections under review by OMB.

SUPPLEMENTARY INFORMATION:

Information Collection Request

OMB Control Number: 1018–0007.

Title: Annual Certification of Hunting and Sport Fishing Licenses Issued, 50 CFR 80, subpart D.

Service Form Numbers: 3–154a and 3–154b.

Type of Request: Extension of a currently approved collection.

Estimated Number of Respondents: 56.

Description of Respondents: States, territories (Commonwealth of Puerto Rico, Commonwealth of the Northern Mariana Islands, Guam, U.S. Virgin Islands, and American Samoa), and District of Columbia.

Respondent's Obligation: Required to obtain or retain a benefit.

Frequency of Collection: Annually.

Activity	Number of responses	Completion time per response (hours)	Total annual burden hours
FWS Form 3–154a	56	12	672
FWS Form 3–154b	56	20	1,120
Totals	112		1,792

Estimated Annual Nonhour Burden Cost: None.

Abstract: The Pittman-Robertson Wildlife Restoration Act (16 U.S.C. 669 *et seq.*) and the Dingell-Johnson Sport Fish Restoration Act (16 U.S.C. 777 *et seq.*, except 777e–1) provide authority for Federal assistance to the States for management and restoration of fish and wildlife. These Acts and our regulations in the Code of Federal Regulations (CFR) at 50 CFR 80, subpart D, require that States, territories, and the District of Columbia annually certify their hunting and fishing license sales. States, territories, and the District of Columbia that receive grants under these Acts use FWS Forms 3–154a (Part I–Certification) and 3–154b (Part II–Summary of Hunting and Sport Fishing Licenses Issued) to certify the number of hunting and fishing licenses sold and the amount of sales. We use the information collected to apportion and distribute funds according to the formula specified in each Act.

Comments Received and Our Responses

Comments: On December 23, 2015, we published in the **Federal Register** (80 FR 79924) a notice of our intent to request that OMB renew approval for this information collection. In that notice, we solicited comments for 60 days, ending on February 22, 2016. We received one comment in response to this notice. The respondent objected to the Wildlife Restoration Act, but did not address the information collection requirements. We did not make any changes to our requirements.

Request for Public Comments

We again invite comments concerning this information collection on:

- Whether or not the collection of information is necessary, including whether or not the information will have practical utility;
- The accuracy of our estimate of the burden for this collection of information;
- Ways to enhance the quality, utility, and clarity of the information to be collected; and
- Ways to minimize the burden of the collection of information on respondents.

Comments that you submit in response to this notice are a matter of public record. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask OMB and us in your comment to withhold your personal identifying information from public review, we cannot guarantee that it will be done.

Dated: March 21, 2016.

Tina A. Campbell,

Chief, Division of Policy, Performance, and Management Programs, U.S. Fish and Wildlife Service.

[FR Doc. 2016–06781 Filed 3–24–16; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R4–ES–2016–N037]; [40120–1112–0000–F2]

Draft Environmental Impact Statement; Eastern Collier Multi-Species Habitat Conservation Plan; Collier County, Florida

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of intent; announcement of public meeting.

SUMMARY: Under the National Environmental Policy Act (NEPA), we, the Fish and Wildlife Service (Service), advise the public that we intend to gather information necessary to prepare a draft environmental impact statement (dEIS) related to an anticipated permit application from nine Collier County, Florida, landowners (prospective applicants) for the incidental take of federally listed species. The permit application would include an Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP) prepared

in accordance with the Endangered Species Act of 1973, as amended (Act), We provide this notice to (1) describe the anticipated action; (2) advise other Federal and State agencies, affected Tribes, and the public of our intent to prepare a dEIS; (3) announce the initiation of a public scoping period; and (4) obtain suggestions and information on the scope of issues and alternatives to be included in the dEIS as well as any other written data, views, or arguments with respect to the anticipated permit application.

DATES: *Comments:* We must receive any written comments at our Field Office (see **ADDRESSES**) on or before April 25, 2016.

Public Meetings: One public scoping meeting will be held on April 12, 2016: From 5 to 7 p.m.

ADDRESSES: *Public Meeting:* University of Florida/Institute of Food and Agricultural Sciences Collier County Extension, 14700 Immokalee Road, Naples, Florida. *Document Availability:* Documents will be available for public inspection by appointment during normal business hours at the South Florida Ecological Services Office, 1339 20th Street, Vero Beach, FL 32960. Documents are also available at: *www.easterncollierHCPEIS.com.*

Comments: For how and where to submit comments, see Public Comments under **SUPPLEMENTARY INFORMATION.**

FOR FURTHER INFORMATION CONTACT: Kenneth McDonald, (*Kenneth_mcdonald@fws.gov*) Project Manager, at the South Florida Ecological Services Office (see **ADDRESSES**), telephone: 772/469–4284.

SUPPLEMENTARY INFORMATION: Under NEPA (42 U.S.C. 4321 *et seq.*), we announce our intention to gather information necessary to prepare a dEIS on the anticipated permit application under the Act (16 U.S.C. 1531 *et seq.*). The Department of the Army, through its bureau the U.S. Army Corps of Engineers, will be a cooperating agency in the development of the dEIS.

Background

Section 9 of the Act and the Service's implementing regulations in the Code of Federal Regulations (CFR) at 50 CFR Part 17 prohibit the "take" of federally listed "endangered" and "threatened" species (16 U.S.C. 1538). The Act defines the term "take" as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect listed species or to attempt to engage in such conduct (16 U.S.C. 1532). "Harm" includes an act that actually kills or injures a listed species and may include significant habitat modification or degradation that actually kills or injures a species by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering (50 CFR 17.3). Under section 10(a)(1)(B) (16 U.S.C. 1539) of the Act, the Service may issue permits authorizing "incidental take" of listed species. "Incidental take" is defined as take otherwise prohibited but incidental to, and not the purpose of, carrying out an otherwise lawful activity (50 CFR 17.3). Regulations governing incidental take permits for endangered species and threatened species, respectively, are found in 50 CFR 17.22 and 50 CFR 17.32.

Eastern Collier Multiple Species Habitat Conservation Plan (ECMSHCP)

The prospective applicants intend to seek an incidental take permit (ITP) that would authorize take resulting from the residential and commercial development and earth mining activities described in the ECMSHCP on certain lands ("covered lands"). The ECMSHCP would include measures to avoid, minimize, and mitigate for incidental take with an emphasis on preserving some of the lands to maintain the viability and continued existence of populations of federally- listed threatened and endangered species.

The ECMSHCP also would include a funding mechanism for the avoidance, minimization, and mitigation measures, such as land acquisition, habitat mitigation, establishment of wildlife crossings, ecological restoration, land management, and actions to assist in the conservation of species through research. The proposed term of the ITP would be 50 years.

The prospective applicants are expected to seek incidental take authorization for the following federally listed species: The Florida scrub-jay (*Aphelocoma coerulescens*), Audubon's crested caracara (*Polyborus plancus*) (alternatively identified as the northern crested caracara (*Caracara cheriway*)), wood stork (*Mycteria americana*), red-cockaded woodpecker (*Picoides borealis*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), eastern indigo snake (*Drymarchon corais couperi*), Florida bonneted bat (*Eumops floridanus*), and Florida panther (*Puma concolor coryi*) ("covered species"). The gopher tortoise (*Gopherus polyphemus*), which is a candidate species, would also be included as a covered species for which the prospective applicants would seek incidental take authorization. The prospective applicants' ECMSHCP would also cover the following State listed and unlisted species: The burrowing owl (*Athene cunicularia*), eastern diamondback rattlesnake (*Crotalus adamanteus*), Florida sandhill crane (*Grus canadensis pratensis*), little blue heron (*Egretta caerulea*), Southeastern American kestrel (*Falco sparverius paulus*), tricolored heron (*Egretta tricolor*), and the Big Cypress fox squirrel (*Sciurus niger avicennia*).

The covered lands of the ECMSHCP encompass approximately 152,124 acres in northeastern Collier County, Florida, that surround the town of Immokalee. The covered lands are bordered to the south by the Florida Panther National Wildlife Refuge and Big Cypress National Preserve, to the north and east by the Okaloacoochee Slough State Forest, and to the northwest by the Audubon Corkscrew Swamp Sanctuary. The prospective applicants are expected to propose a conservation strategy in the ECMSHCP that would preserve a large portion of the covered lands as habitat for the covered species while conducting activities on smaller, clustered portions of the covered lands.

Biologically, the ECMSHCP would focus on maintaining areas of high-value habitat for the covered species while engaging in residential and commercial development and earth mining on 45,000 acres of the lands. The prospective applicants also would maintain suitable habitat within the impacted areas to ensure the availability of corridors for dispersal of the covered species.

Draft Environmental Impact Statement

The dEIS will consider a range of alternatives, including the proposed action (*i.e.*, the issuance of an ITP to the prospective applicants, no action (non-issuance of an ITP), variations in the scope and location of the covered activities or a combination of both. It will also provide a detailed description of the proposed action and alternatives, as well as identify and analyze the potential significance of direct and indirect impacts from the proposed action and alternatives to biological resources, land use, air quality, water quality, water resources, economics, and other environmental resources. We also will consider different strategies for avoiding, minimizing, and mitigating the impacts of incidental take from the proposed action. The primary purpose of the scoping process is to allow the public to identify important issues associated with the proposed action.

Public Comments

Outside of the public scoping meeting, we will accept comments in written form only. To assist us in identifying the full range of issues related to the prospective permit

application, we invite written comments from interested parties. Any comments submitted to us after the public meeting must be in writing. Please reference the ECMSHCP in such comments.

Comments may be submitted by any one of the following methods:

U.S. mail: South Florida Ecological Services Office (see **ADDRESSES**).

Email: comments-eastcollierhcp@fws.gov. Please include your name and return mailing address in your email message. If you do not receive a confirmation from us that we received your email, contact us directly at either of the telephone numbers listed (see **FOR FURTHER INFORMATION CONTACT**).

Hand delivery: To the South Florida Ecological Services Office (**ADDRESSES**).

Availability of Public Comments

Before including your address, phone number, email address, or other personal identifying information in your comment, be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, there is no guarantee that we will be able to do so.

Reasonable Accommodation

Persons needing reasonable accommodations in order to attend and participate in the public meeting should contact Vickie Scott at 813/675–6546 by no later than one week before the public meeting. Information regarding this proposed action is available in alternative formats upon request.

Authority

We provide this notice under section 10 of the Act (16 U.S.C. 1531 *et seq.*) and NEPA regulations (40 CFR 1506.6).

Dated: March 2, 2016.

Mike Oetker,

Acting Regional Director, Southeast Region.

[FR Doc. 2016–06792 Filed 3–24–16; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[Docket No. FWS–HQ–IA–2016–0054; FXIA16710900000–156–FF09A30000]

Endangered Species; Marine Mammals; Issuance of Permits

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of issuance of permits.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), have issued the following permits to conduct certain activities with endangered species, marine mammals, or both. We issue these permits under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA).

ADDRESSES: Brenda Tapia, U.S. Fish and Wildlife Service, Division of Management Authority, Branch of Permits, MS: IA, 5275 Leesburg Pike, Falls Church, VA 22041; fax (703) 358–2281.

FOR FURTHER INFORMATION CONTACT: Brenda Tapia, (703) 358–2104 (telephone); (703) 358–2281 (fax); *DMAFR@fws.gov* (email).

SUPPLEMENTARY INFORMATION: On the dates below, as authorized by the provisions of the ESA (16 U.S.C. 1531 *et seq.*), as amended, and/or the MMPA, as amended (16 U.S.C. 1361 *et seq.*), we issued requested permits subject to certain conditions set forth therein. For each permit for an endangered species, we found that (1) The application was filed in good faith, (2) The granted permit would not operate to the disadvantage of the endangered species, and (3) The granted permit would be consistent with the purposes and policy set forth in section 2 of the ESA.

ENDANGERED SPECIES

Permit No.	Applicant	Receipt of application **Federal Register** notice	Permit issuance date
59838B	The Wild Animal Sanctuary	80 FR 47947; August 10, 2015	10/13/2015
63281B	University of Tennessee	80 FR 53323; September 3, 2015	11/5/2015
63550B	Houston Zoo, Inc	80 FR 55868; September 17, 2015	12/11/2015
756101	Rare Species Conservatory Foundation	80 FR 55868; September 17, 2015	01/04/2016
676508	Six Flags Discovery Kingdom	80 FR 55868; September 17, 2015	1/21/2016
64786B	Peter Langegger	80 FR 58768; September 30, 2015	01/13/2015
76168B	Luke Snyder	80 FR 58768; September 30, 2015	11/10/2015
75313B	Wildlife & Environmental Conservation, Inc	80 FR 58768; September 30, 2015	12/01/2015
63829B	City of Bridgeton/Cohanzick Zoo	80 FR 58768; September 30, 2015	12/26/2015
64101B	University of Colorado	80 FR 58768; September 30, 2015	12/11/2015
78222B	Michael Long	80 FR 62089; October 15, 2015	11/24/2015
76169B	Joshua Braun	80 FR 62089; October 15, 2015	11/25/2015
74563B	Cheadle Center for Biodiversity and Ecological Restoration.	80 FR 62089; October 15, 2015	12/08/2015
66556B	Abilene Zoological Gardens	80 FR 62089; October 15, 2015	12/09/2015
77387B	St. Catherines Island Foundation	80 FR 62089; October 15, 2015	12/15/2015
59839B	The Wild Animal Sanctuary	80 FR 62089; October 15, 2015	12/11/2015
61197B	Megan Cattau	80 FR 64441; October 23, 2015	12/02/15
68848B	Toledo Zoological Gardens	80 FR 68554; November 5, 2015	02/10/16
68850B	Toledo Zoological Gardens	80 FR 68554; November 5, 2015	02/09/16
73299B	Palm Beach Zoo and Conservation Society	80 FR 68554; November 5, 2015	02/18/2016
71725B	Fox Brown Outfitters	80 FR 68554; November 5, 2015	3/11/2016
78797B	David Hessler	80 FR 70249; November 13, 2015	02/11/2016
79073B	Margaret Williams	80 FR 70249; November 13, 2015	02/11/2016
71096B	Point Defiance Zoo & Aquarium	80 FR 70249; November 13, 2015	02/25/2016
677611	Sacramento Zoological Society, dba Sacramento Zoo.	80 FR 70249; November 13, 2015	2/24/2016
71724B	Fox Brown Outfitters	80 FR 70249; November 13, 2015	3/11/2016
66999B	Angelica Rodriquez/American Museum of Natural History.	80 FR 70249; November 13, 2015	2/23/2016
80785B	Kevin Poynter	80 FR 73207; November 24, 2015	1/27/2016
75301B	Big Cat Rescue Corporation	80 FR 73207; November 24, 2015	3/16/2016

APPENDIX F

EXISTING AND PLANNED ROADWAY NETWORK PRESENT WITHIN THE TAA

Table 1: Roadway Facility Inventory

Facility	Segment	Length (Miles)	Area Type	Functional Classification	Existing No. Lane	Posted Speed (mph)
Everglades Blvd	52nd Ave SE to Golden Gate Blvd	6.1	Rural	Rural Minor Collector	2LU	45
	Golden Gate Blvd to CR 846 (Immokalee Rd)	9.3	Rural	Rural Minor Collector	2LU	45
SR 29	I-75 to CR 858 (Oil Well Road)	10.2	Rural	Rural Principal Arterial Other	2LU	60
	CR 858 (Oil Well Road) to 13th St.	9	Rural	Rural Principal Arterial Other	2LU	60
	13th St. to 1ST St	1.1	Urban	Rural Principal Arterial Other	4LD	45
	1st St. to S 9th St.	0.5	Urban	Rural Principal Arterial Other	4LD	35
	9th St to Immokalee Dr	0.9	Urban	Rural Principal Arterial Other	4LD	40
	Immokalee Dr to Lk Trafford Rd	0.5	Urban	Rural Principal Arterial Other	2LU	40
	Lk Trafford Rd to CR 29A	0.6	Urban	Rural Principal Arterial Other	2LU	45
	CR 29A to SR 82	3	Rural	Rural Principal Arterial Other	2LU	60
	SR 82 to Hendry Co Line	2.1	Rural	Rural Principal Arterial Other	2LU	60
	Collier Co Line to CR 832 (Keri Rd)	5.5	Rural	Rural Principal Arterial Other	2LU	60
	CR 832 (Keri Rd) to Sears Rd	3.5	Rural	Rural Principal Arterial Other	2LU	60
	Sears Rd to Helms Rd	5.9	Rural	Rural Principal Arterial Other	2LU	55
	Helms Rd to Truck Route 29/80A	0.9	Rural	Rural Principal Arterial Other	2LU	55
CR 846	I-75 to Orange Tree Blvd.	9.6	Rural	Urban Minor Arterial	6LD	45/50
	Orange Tree Blvd. to 39th Ave NE	1.3	Rural	Urban Minor Arterial	4LD	45
	39th Ave NE to Seminole Crossing Trail	17.7	Rural	Urban Minor Arterial	2LU	45
	Seminole Crossing Trail to SR 29	1.3	Urban	Urban Minor Arterial	2LU	45
	SR 29 to Airpark Blvd.	0.4	Urban	Rural Major Collector	2LU	45
	SR 29 to Hendry County Line	8.1	Rural	Rural Major Collector	2LU	45
	Collier County Line to CR 833	11.2	Rural	Rural Major Collector	2LU	45
CR 858 (Oil Well Road)	CR 846 to Everglades Blvd. N	3.1	Urban	Rural Minor Arterial	4LD	45
	Everglades Blvd. N to Oil Well Grades Rd.	3.9	Rural	Rural Minor Arterial	2LU	45
	Oil Well Grades Rd. to Ave Maria Blvd.	3.1	Rural	Rural Minor Arterial	4LD	45
	Ave Maria Blvd. to SR 29	5.7	Rural	Rural Minor Arterial	2LU	45
	SR 29 to Hendry Co Line	4.7	Rural	Rural Minor Collector	2LU	45
Camp Keais Road	CR 858 (Oil Well Road) to Pope John Paul II Blvd	3	Rural	Rural Minor Collector	2LU	55
Pope John Paul II Boulevard/Ave Maria Boulevard	CR 858 (Oil Well Rd) to Useppa Dr.	2.2	Rural	Rural Minor Collector	4LD	45
	Useppa Dr. to Unsigned	4.4	Rural	Rural Minor Collector	2LU	45
	Unsigned to CR 846 (Immokalee Rd)	0.4	Rural	Rural Minor Collector	4LD	45
Corkscrew Road	Stoney Brook Golf Blvd to Alico Rd	5	Urban	Rural Major Collector	2LU	45
	Alico Rd to Corkscrew(County Line)	8	Rural	Rural Major Collector	2LU	55
	Corkscrew Rd to Wildcat Dr	1.6	Rural	Rural Major Collector	2LU	55
	Lee County Line To SR 82	3.7	Rural	Rural Major Collector	2LU	55
Alico Road	I-75 to Corkscrew Rd	7.6	Rural	Rural Minor Arterial	2LU	55
SR 82	I-75 to Buckingham Rd	1.7	Urban	Rural Principal Arterial Other	6LD	50
	Buckingham Rd to CR 884	0.7	Urban	Rural Principal Arterial Other	6LD	50
	CR 884 to Gateway Blvd.	1	Urban	Rural Principal Arterial Other	2LU	55
	Gateway Blvd. to Griffin Dr	1.4	Urban	Rural Principal Arterial Other	2LU	55
	Griffin Dr to Daniels Pkwy	1.8	Urban	Rural Principal Arterial Other	2LU	60
	Daniels Pkwy to Unsigned	3.6	Urban	Rural Principal Arterial Other	2LU	60
	Unsigned to Mine Ent	4.2	Urban	Rural Principal Arterial Other	2LU	60
	Mine Ent to Hendry Co Line	2.6	Urban	Rural Principal Arterial Other	2LU	60
	Lee Co Line to Collier Co Line	1.3	Rural	Rural Principal Arterial Other	2LU	60
	Hendry County Line to CR 850 (Corkscrew Blvd)	1.7	Rural	Rural Principal Arterial Other	2LU	60
	CR 850 (Corkscrew Blvd) to SR 29	5.4	Rural	Rural Principal Arterial Other	2LU	60
Church Rd	Collier Co Ln to SR 29	8.9	Rural	Rural Minor Collector	2LU	45
CR 832 (Keri Rd)	SR 29 to CR 833	20.1	Rural	Rural Major Collector	2LU	55

Table 2: Existing Traffic Factors

Facility	Segment	FDOT Count Station	AADT	K Factor (%)	D Factor (%)	T_{24} factor
Everglades Blvd	52nd Ave SE to Golden Gate Blvd	030050	5,000	9	56.8	8.8
	Golden Gate Blvd to CR 846 (Immokalee Rd)	030052	5,200	9	56.8	8.8
SR 29	I-75 to CR 858 (Oil Well Road)	030182	3,000	9.5	58.2	26.1
	CR 858 (Oil Well Road) to 13th St.	030205	7,500	9	58.2	17.1
	13th St. to 1ST St	30002	8,100	9	58.2	18.3
	1st St. to S 9th St.	30029	17,800	9	58.2	6.3
	9th St to Immokalee Dr	30029	17,800	9	58.2	6.3
	Immokalee Dr to Lk Trafford Rd	30038	17,700	9	58.2	6
	Lk Trafford Rd to CR 29A	30001	13,800	9	58.2	6.6
	CR 29A to SR 82	30143	17,355	9.5	58.2	10.5
	SR 82 to Hendry Co Line	30184	6,200	9.5	58.2	22.8
	Collier Co Line to CR 832 (Keri Rd)	70008	5,600	9.5	58.2	20
	CR 832 (Keri Rd) to Sears Rd	70025	5,500	9.5	58.2	22
	Sears Rd to Helms Rd	70024	5,600	9.5	58.2	19.6
	Helms Rd to Truck Route 29/80A	70022	11,000	9	58.2	15.6
CR 846	I-75 to Orange Tree Blvd.	34655	29,500	9	56.8	4.5
	Orange Tree Blvd. to 39th Ave NE	34203	7,400	9.5	56.8	6.6
	39th Ave NE to Seminole Crossing Trail	34203	7,400	9.5	56.8	6.6
	Seminole Crossing Trail to SR 29	34203	7,400	9.5	56.8	6.6
	SR 29 to Airpark Blvd.	34129	1,900	9	56.8	7.4
	SR 29 to Hendry County Line	34129	1,900	9	56.8	7.4
	Collier County Line to CR 833	74130	1,100	9.5	56.8	27.4
CR 858 (Oil Well Road)	CR 846 to Everglades Blvd. N	34187	5,100	9.5	56.8	18.1
	Everglades Blvd. N to Oil Well Grades Rd.	34187	5,100	9.5	56.8	18.1
	Oil Well Grades Rd. to Ave Maria Blvd.	34187	5,100	9.5	56.8	18.1
	Ave Maria Blvd. to SR 29	34187	5,100	9.5	56.8	18.1
	SR 29 to Hendry Co Line	34172	500	9.5	56.8	7.4
Camp Keais Road	CR 858 (Oil Well Road) to Pope John Paul II Blvd	30061	1,350	9	56.8	10
Pope John Paul II Boulevard/Ave Maria Boulevard	CR 858 (Oil Well Rd) to Useppa Dr.	34157	1,300	9.5	56.8	7.4
	Useppa Dr. to Unsigned	34157	1,300	9.5	56.8	7.4
	Unsigned to CR 846 (Immokalee Rd)	34157	1,300	9.5	56.8	7.4
Corkscrew Road	Stoney Brook Golf Blvd to Alico Rd	124250	3,600	9.5	53.2	4.1
	Alico Rd to Corkscrew(County Line)	124250	3,600	9.5	53.2	4.1
	Corkscrew Rd to Wildcat Dr	34126	3,400	9.5	56.8	11.8
	Lee County Line To SR 82	34139	3,500	9.5	56.8	11.8
Alico Road	I-75 to Corkscrew Rd	120118	7,400	9	54.9	52.7
SR 82	I-75 to Buckingham Rd	126068	32,000	9	55.4	7.3
	Buckingham Rd to CR 884	120021	32,000	9	58.2	7.5
	CR 884 to Gateway Blvd.	120077	31,500	9	58.2	6
	Gateway Blvd. to Griffin Dr	120107	20,500	9	58.2	8
	Griffin Dr to Daniels Pkwy	120108	18,300	9	58.2	7.7
	Daniels Pkwy to Unsigned	126021	28,500	9	65.1	7.3
	Unsigned to Mine Ent	120068	12,200	9	58.2	11.2
	Mine Ent to Hendry Co Line	125074	12,900	9	58.2	11.5
	Lee Co Line to Collier Co Line	70040	13,600	9.5	55.4	9.4
	Hendry County Line to CR 850 (Corkscrew Blvd)	30183	13,200	9.5	58.2	11.2
	CR 850 (Corkscrew Blvd) to SR 29	30200	14,200	9.5	58.2	12.6
Church Rd	Collier Co Ln to SR 29	74105	450	9.5	56.8	10.8
CR 832 (Keri Rd)	SR 29 to CR 833	74131	600	9.5	56.8	18.7

Table 3: Existing Year (2016) Traffic Conditions in the Transportation Analysis Area

Facility	Segment	Existing No. Lane	FDOT LOS Standard	Peak Hr. Maximum Service	2017 Peak Hour Directional	Volume to Capacity	LOS[3]
Everglades Blvd	52nd Ave SE to Golden Gate Blvd	2LU	D	920	260	0.28	B
	Golden Gate Blvd to CR 846 (Immokalee Rd)	2LU	D	920	270	0.29	B
SR 29	I-75 to CR 858 (Oil Well Road)	2LU	D	920	170	0.18	B
	CR 858 (Oil Well Road) to 13th St.	2LU	D	920	390	0.42	B
	13th St. to 1ST St	4LD	D	1790	420	0.23	C
	1st St. to S 9th St.	4LD	D	1790	930	0.52	C
	9th St to Immokalee Dr	4LD	D	1790	930	0.52	C
	Immokalee Dr to Lk Trafford Rd	2LU	D	690	930	1.35	E
	Lk Trafford Rd to CR 29A	2LU	D	690	720	1.04	E
	CR 29A to SR 82	2LU	D	920	960	1.04	F
	SR 82 to Hendry Co Line	2LU	D	920	340	0.37	B
	Collier Co Line to CR 832 (Keri Rd)	2LU	D	920	310	0.34	B
	CR 832 (Keri Rd) to Sears Rd	2LU	D	920	300	0.33	B
	Sears Rd to Helms Rd	2LU	D	920	310	0.34	B
	Helms Rd to Truck Route 29/80A	2LU	D	920	580	0.63	B
CR 846	I-75 to Orange Tree Blvd.	6LD	D	2511	1510	0.60	C
	Orange Tree Blvd. to 39th Ave NE	4LD	D	1656	400	0.24	C
	39th Ave NE to Seminole Crossing Trail	2LU	D	828	400	0.48	B
	Seminole Crossing Trail to SR 29	2LU	D	621	400	0.64	D
	SR 29 to Airpark Blvd.	2LU	D	621	100	0.16	C
	SR 29 to Hendry County Line	2LU	D	828	100	0.12	B
	Collier County Line to CR 833	2LU	D	828	60	0.07	B
CR 858 (Oil Well Road)	CR 846 to Everglades Blvd. N	4LD	D	1611	280	0.17	D
	Everglades Blvd. N to Oil Well Grades Rd.	2LU	D	828	280	0.34	B
	Oil Well Grades Rd. to Ave Maria Blvd.	4LD	D	1656	280	0.17	C
	Ave Maria Blvd. to SR 29	2LU	D	828	280	0.34	B
	SR 29 to Hendry Co Line	2LU	D	828	30	0.04	B
Camp Keais Road	CR 858 (Oil Well Road) to Pope John Paul II Blvd	2LU	D	828	70	0.08	B
Pope John Paul II Boulevard/Ave Maria Boulevard	CR 858 (Oil Well Rd) to Useppa Dr.	4LD	D	1656	70	0.04	C
	Useppa Dr. to Unsigned	2LU	D	828	70	0.08	B
	Unsigned to CR 846 (Immokalee Rd)	4LD	D	1656	70	0.04	C
Corkscrew Road	Stoney Brook Golf Blvd to Alico Rd	2LU	D	621	180	0.29	C
	Alico Rd to Corkscrew(County Line)	2LU	D	828	180	0.22	B
	Corkscrew Rd to Wildcat Dr	2LU	D	828	180	0.22	B
	Lee County Line To SR 82	2LU	D	828	190	0.23	B
Alico Road	I-75 to Corkscrew Rd	2LU	D	828	370	0.45	B
SR 82	I-75 to Buckingham Rd	6LD	D	2690	1600	0.59	C
	Buckingham Rd to CR 884	6LD	D	2690	1680	0.62	C
	CR 884 to Gateway Blvd.	2LU	D	690	1650	2.39	F
	Gateway Blvd. to Griffin Dr	2LU	D	690	1070	1.55	F
	Griffin Dr to Daniels Pkwy	2LU	D	690	960	1.39	F
	Daniels Pkwy to Unsigned	2LU	D	690	1670	2.42	F
	Unsigned to Mine Ent	2LU	D	690	640	0.93	D
	Mine Ent to Hendry Co Line	2LU	D	690	680	0.99	D
	Lee Co Line to Collier Co Line	2LU	D	1656	720	0.43	C
	Hendry County Line to CR 850 (Corkscrew Blvd)	2LU	D	1656	730	0.44	C
	CR 850 (Corkscrew Blvd) to SR 29	2LU	D	1656	790	0.48	C
Church Rd	Collier Co Ln to SR 29	2LU	D	1656	20	0.01	C
CR 832 (Keri Rd)	SR 29 to CR 833	2LU	D	1656	30	0.02	C

Table 4: Proposed Roadway Improvement Projects

LRTP ID	Facility	Limit From	Limit To	Proposed Improvement	Length (miles)
6	SR 29	Immokalee Dr.	New Market Road North	Expand from 2-Lane Undivided with center turn lane to 4-Lane Divided Arterial	2 222
8	SR 29 By-Pass	SR 29 (north of New Market Rd)	SR-29/CR-846 Intersection	New 4-lane Divided Arterial	2.5
11	SR 29	New Market Road North	North of SR-82	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	3.1
19	Critical Needs Intersection	Immokalee Road and Randall Boulevard	-	Phase 1 - Maximum at-grade improvements to accommodate a future flyover Interchange	0
20	Immokalee Road	Camp Keais Road	Carver Street	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	2.5
22	Critical Needs Intersection	I-75 (SR-93) and Everglades Boulevard	-	New Interchange	0
25	Oil Well Road / CR 858	Everglades Boulevard	Oil Well Grade Road	2-Lane Roadway to 4 Lanes divided	3.9
26	Everglades Boulevard	Golden Gate Blvd	Vanderbilt Bch Rd Ext	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	2.2
28	SR 29	9th St	Immokalee Dr.	Expand from 2-Lane Undivided with center turn lane to 4-Lane Divided Arterial	0.9
32	Immokalee Road (CR 846)	SR 29	Airpark Boulevard	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	0.4
34	Camp Keais Road	Pope John Paul Blvd	Immokalee Road	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	2.6
35	SR 82	SR 29	Collier/Hendry County Line	Expand from 2-Lane Undivided to 6-Lane Divided Arterial	7
43	SR 29	North of SR-82	Collier/Hendry County Line	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	2.4
45	Everglades Boulevard	I-75 (SR-93)	Golden Gate Blvd	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	5.3
46	SR 29	Oil Well Road	Immokalee Road (CR 846)	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	9.4
49	Oil Well Road / CR 858	Ave Maria Entrance	Camp Keais Road	Expand from 2-Lane Undivided to 6-Lane Divided Arterial	1
50	Everglades Boulevard	Vanderbilt Bch Rd Ext	South of Oil Well Road	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	2.2
52	Everglades Boulevard	Oil Well Road	Immokalee Road	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	5
54	Westclox Street Extension	Little League Road	West of Carson Road	New 2-Lane Road	0.9
58	Camp Keais Road	Oil Well Road	Pope John Paul Blvd	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	2.6
60	SR 29	I-75 (SR-93)	Oil Well Road	Expand from 2-Lane Undivided to 4-Lane Divided Arterial	10.2
73	Little League Road Extension	SR-82	Westclox Street	New 2-Lane Road	3.7
				Total Miles	69.8

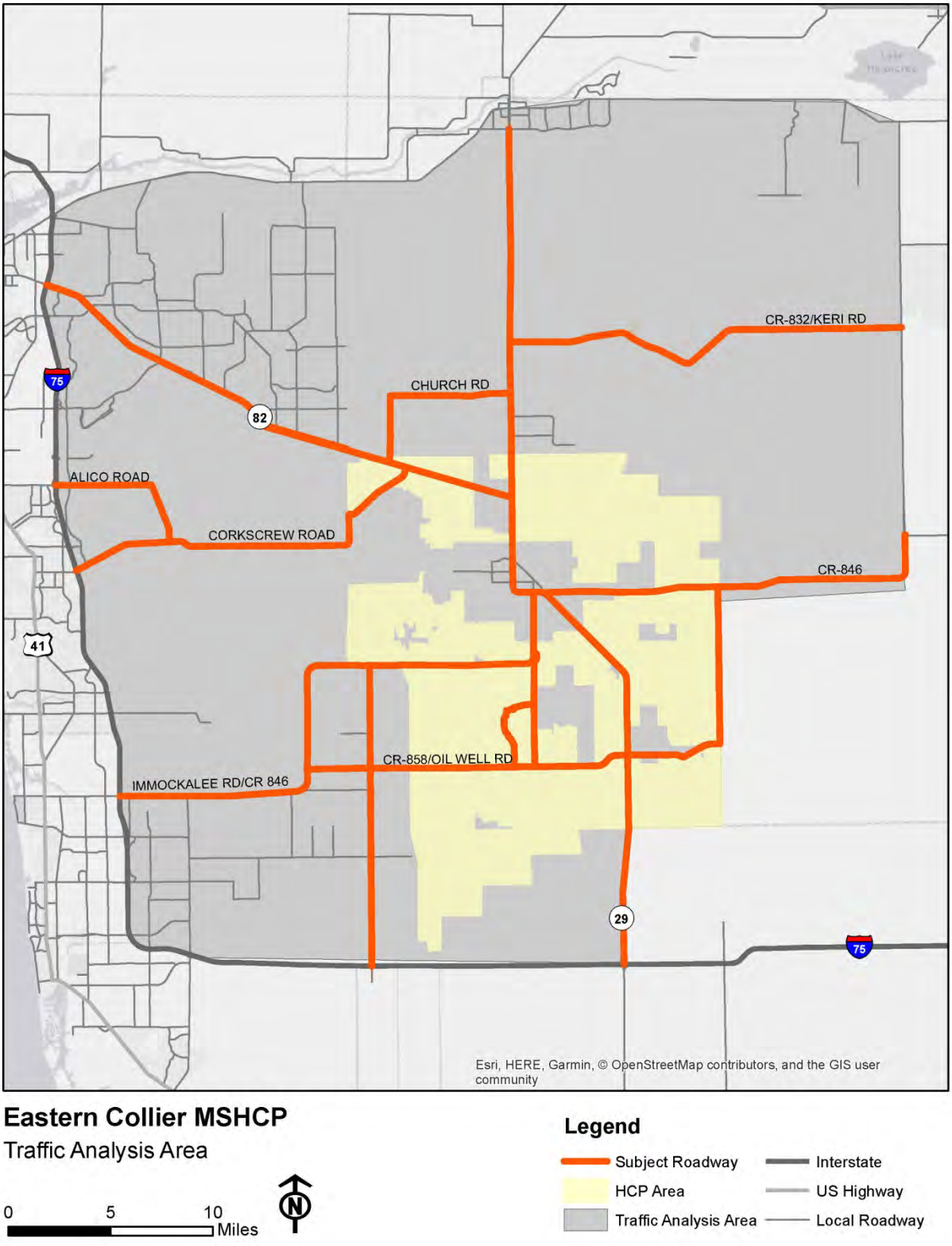


Figure 1. Traffic Analysis Area

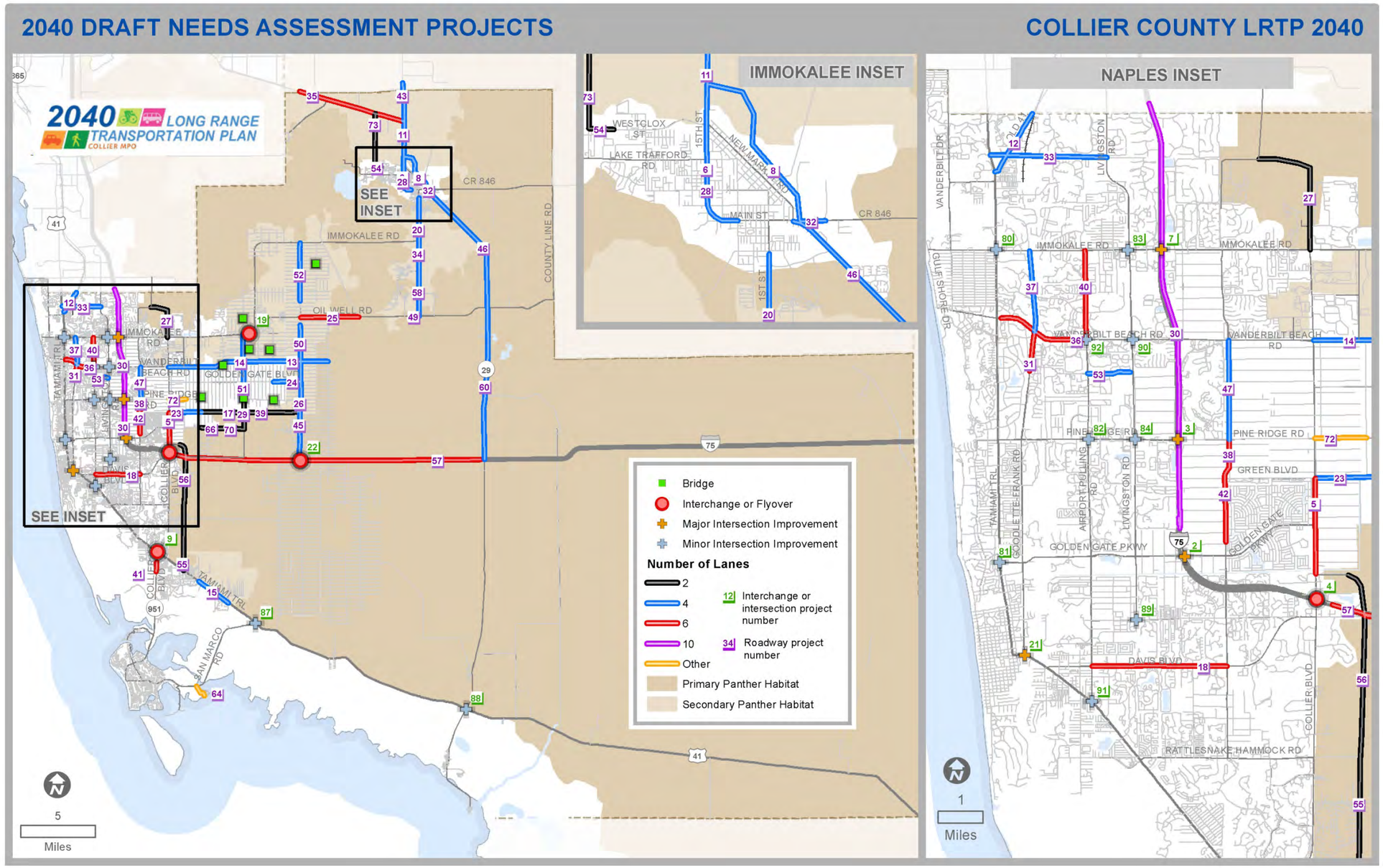


Figure 2: 2040 Needs Plan, Collier County LRTP

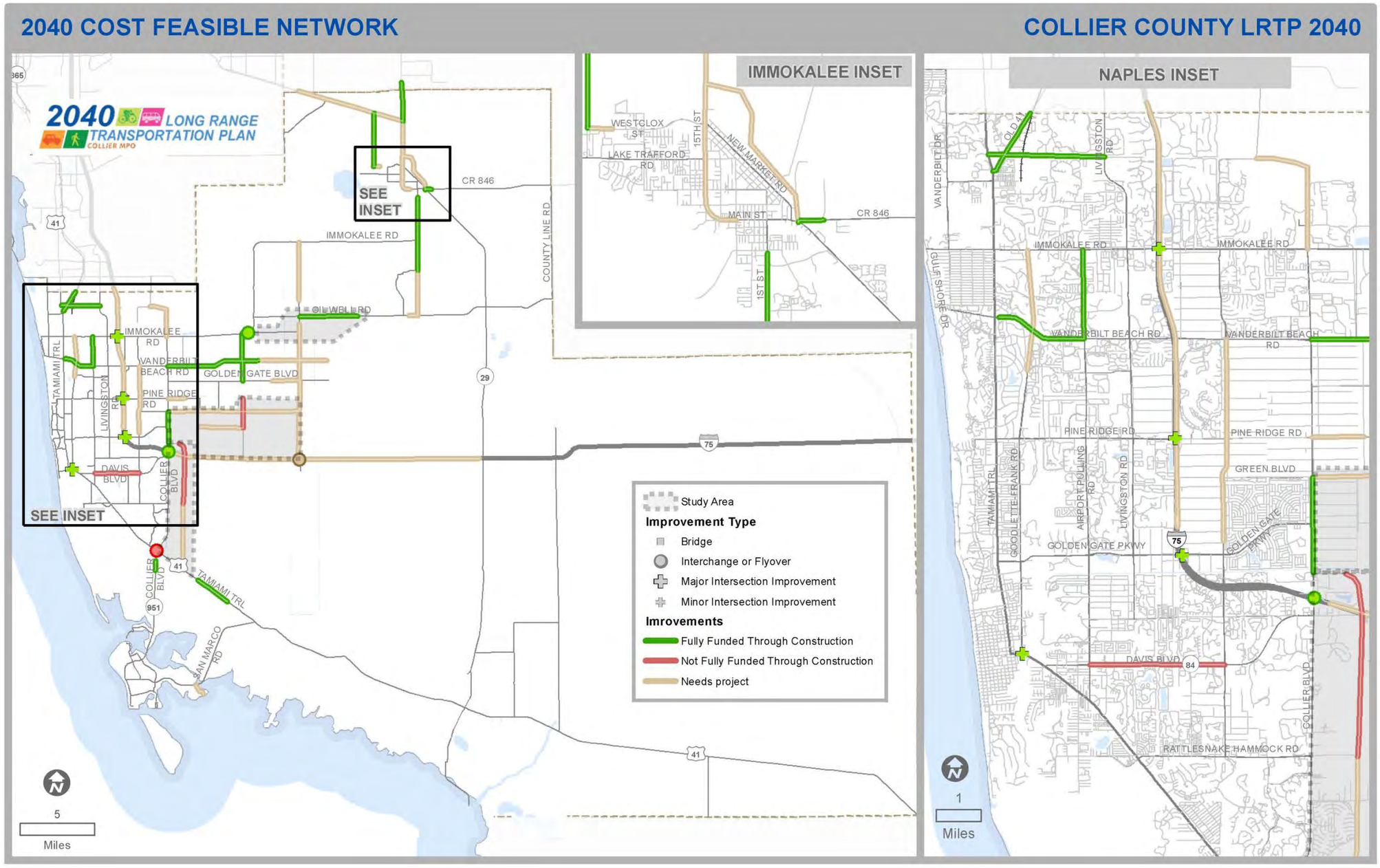


Figure 3: 2040 Cost Feasible Plan, Collier County LRTP

BASE ZONING SCENARIO

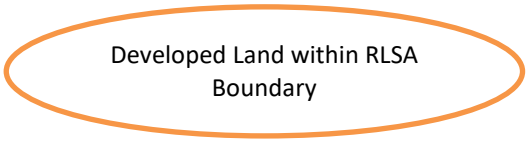
This scenario applies a low density development scenario that evaluates development at 1 unit per 5 acres within the MSHCP boundary. The socio-economic attributes for the area inside the MSHCP boundary outside of ECPO control were derived from assumptions in the 2040 Regional Planning Model.

Methodology:

1. Define the development area
   - Base Zoning Development: Density of 1 unit per 5 acres
   - Non-Interference area: Model density
2. Match the defined development area with TAZ boundaries
   - Calculate the percentage of each TAZ allocated to base zoning area (plan area) and the remaining as non-interference area percentage (model area)
3. Calculate the following attributes, differentiating for the base zoning and non-interference area based on the set of assumptions and the area percentage of each one. The following table lists the assumptions for each of the areas related to Base zoning plan and Model density.

   - Dwelling Unit (single-family and multi-family units)
   - Population (single-family and multi-family population)
   - Employment (Industry, commercial, and service employment)
   - Vacancy percentage
   - Residential household
   - Residential population
   - Worker

Attribute	Plan Assumption	Model Assumption
Dwelling Unit	Density of 1 unit per 5 acres (all falls into Single family category)	2040 Model DU for the Model area %
Population	Average POP/DU =2 (Slightly lower than Ave Maria POP/DU)	2040 Model POP/DU
Employment	Average EMP/POP for IND, COMM, SERV as 0.0005, 0.01,0.02 respectively (These are 70% lower than the equivalence ratios in Ave Maria)	2040 Model EMP for the Model area %
Vacancy Percentage	20% (10% lower than the vacancy rate in Ave Maria)	2040Model vacancy rate
Residential Household	- Weighted average vacancy rate of Plan and Model area - Model2040 Household/DU ratio (If=0, then=1)	
Residential Population	Model2040 Population/Household ratio (If=0, then=2)	
Worker	Model2040 Workers/Household ratio (If=0, then=1)	



Plan area:	Clip Developed land with HCP Boundary (To exclude the Non-ECPO lands)		
Plan area percentage:	Intersect TAZ with Plan area and calculate the % of each TAZ allocates to Plan area		
Dwelling Unit:	Plan DU Update: Plan area% × 1/5× TAZ area	+	Model DU Update: Mode area%× Model #DU
Population:	Plan POP Update: Plan DU Update × 2	+	Model POP Update: Model DU Update × Model Pop/DU
Employment:	Plan EMP Update: Plan POP Update × 30% of Ave Maria EMP/POP	+	Model EMP Update: Model area% × Model# EMP
Vacancy Percentage	Plan VNP Update: Plan area% × 20%	+	Model Vacancy Update: Model area% × Model vacancy%
Residential Household	(Plan DU Update+ Model DU Update)×(1-Vacancy PCT)× Model HH/DU		
Residential Population	Residential Household × Model POP/HH		
Workers	Residential Household × Model Workers/HH		

PROPOSED MSHCP SCENARIO

This scenario applies a development density similar to Ave Maria density for the majority of the developed area within the HCP boundary (50,200 Acres). Small areas are planned to develop with lower densities (2,400 acres as base zoning, and 2,100 acres as very low density development). 97,000 acres are designated as preserve. The socio-economic attributes for the area inside the MSHCP boundary not controlled by ECPO were derived by assumptions in the 2040Regional Planning Model.

Methodology:

1. Define the development area
   - Ave Maria Density Development: Ave Maria Average Density (Average of 6 TAZs in the 2018Model)
   - Base Zoning Development: Density of 1 unit per 5 acres
   - Very Low Density Development: Density of 1 unit per 50 acres
   - Preserve Area: No development
   - Non-Interference area: Model density
2. Match the defined development area with TAZ boundaries
   - Calculate the percentage of each TAZ allocates to the 4 categories in the Plan area (Ave Maria density, very low density, base zoning density, and preserved) and the remaining as Non-interference area percentage (Model area)
3. Calculate the following attributes, differentiating for the interference and non-interference area based on the set of assumptions and the area percentage of each one. Table below lists the assumptions for interference and on-interference areas.

   - Dwelling Unit (single-family and multi-family units)
   - Population (single-family and multi-family population)
   - Employment (Industry, commercial, and service employment)
   - Vacancy percentage
   - Residential household
   - Residential population
   - Worker

Attribute	Plan Assumption	Model Assumption
Dwelling Unit	- Ave Maria density of 1.4 units per acre (0.9 for single-family and 0.5 for multi-family units) - Base density of 1 units per 5acres (considered only as single-family units) - Very Low density of 1 units per 50acres (considered only as single-family units) - Preserve area with no development	2040 Model DU for the Model area %
Population	- Ave Maria POP/DU=2.11	2040 Model POP/DU
Employment	Ave Maria average EMP/POP for IND, COMM, SERV as 0.002, 0.05,0.09 respectively	2040 Model EMP for the Model area %
Vacancy Percentage	20% (10% lower than the vacancy rate in Ave Maria)	2040Model vacancy rate
Residential Households	- Weighted average vacancy rate of Plan and Model area - Model2040 Household/DU ratio (If=0, then=1)	
Residential Population	Model2040 Population/Household ratio (If=0, then=2)	
Workers	Model2040 Workers/Household ratio (If=0, then=1)	

HCP Land Designation

Plan area percentage:	Intersect TAZ with Plan area and calculate the % of each 4 Plan categories from TAZ area		
Dwelling Unit:	Plan DU Update: Ave Maria density area% × 1.4 Base zoning area% × 1/5 Low density area% × 1/50 Preserve area% × 0	+	Model DU Update: Mode area%× Model #DU
Population:	Plan POP Update: Plan DU Update × 2.11	+	Model POP Update: Model DU Update × Model
Employment:	Plan EMP Update: Plan POP Update × 0.002 (INDEMP) Plan POP Update × 0.05 (COMMEMP) Plan POP Update × 0.09 (SERVEMP)	+	Model EMP Update: Model area% × Model# EMP
Vacancy Percentage	Plan VNP Update: Plan area% × 20%	+	Model Vacancy Update: Model area% × Model vacancy%
Residential Household	(Plan DU Update+ Model DU Update)×(1-Vacancy PCT)× Model HH/DU		
Residential Population	Residential Household × Model POP/HH		
Workers	Residential Household × Model Workers/HH		

APPENDIX G

CUMULATIVE IMPACTS

Table G-1. 2040 Cost Feasible Plan - Summary of Funded Projects Grouped by Funding Source with Costs Shown in Future Year of Expenditure (YOE) in Millions of Dollars. Source: Collier Metropolitan Planning Organization 2016.

CF#	Facility	From	To	# of Existing Lanes	Project Length (Miles)	Project Type	CST PDC	2021-2025			2026-2030			2031-2040			2021-2040	2041-2050
								PE	ROW	CST	PE	ROW	CST	PE	ROW	CST	Project Totals	YOE CST
43	SR 29	North of SR 82	Collier/Hendry Line	2	2.4	2-Lane Roadway to 4 Lanes with Paved Shoulders (Includes milling and resurfacing of existing pavement)	$7.89			$10.02							$10.02	
60	SR 29	I-75 (SR 93)	Oil Well Rd	2	10.2	2-Lane Roadway to 4 Lanes with Paved Shoulders (Includes milling and resurfacing of existing pavement)	n/a							$6.19	$3.63		$9.82	
4	I-75	Collier Blvd (CR 951)				Interchange, Single Point Urban	$41.40			$55.87							$55.87	
	SR 82	Gator Slough Lane	SR 29			2-Lane Roadway to 4 Lanes				$34.54								
	TMA BOX (20%) Bridges						n/a			$4.66			$4.66			$9.34	$18.66	
	TMA BOX (40%) Pathways (Bike/Ped)						n/a			$9.32			$9.32			$18.07	$37.31	
	TMA BOX (40%) CMP						n/a			$9.32			$9.32			$18.07	$37.31	
2	Golden Gate Parkway	I-75				(New) 2-Lane Ramp	$2.00	$0.59		$2.54							$3.13	
3	Pine Ridge Rd	I-75				Intersection Traffic Signalization	$5.00	$0.80		$6.35							$7.15	
7	Immokalee Rd	I-75 interchange				Intersection Traffic Signalization	$2.75	$0.51		$3.49							$4.00	
12	Old US 41	US 41 (SR 45)	Lee/Collier County Line	2	1.5	2-Lane Roadway to 4 Lanes with Sidewalks, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$15.03	$2.72					$22.55				$25.27	
18	SR 84 (Davis Blvd)	Airport Pulling Rd	Santa Barbara Blvd	4	3	4-Lane Roadway to 6 Lanes with Sidewalks, Bike Lanes , and Curb & Gutter with Inside Paved Shoulder (Includes milling and resurfacing of existing pavement)	$33.11				$6.85				$77.66		$84.51	$82.78
19a	Critical Needs Intersection (Randall Blvd at Immokalee Road)	Immokalee Road	8th Street			Interim At-Grade Intersection Improvements, including 4-laning to 8th Street;	$4.00			$5.08							$5.08	
21	US 41	Goodlette Rd		N/A		Intersection	$2.00	$0.87		$2.54							$2.91	
41	SR 951 (Collier Blvd)	South of Manatee Rd	North of Tower Rd	4	1	4-Lane Roadway to 6 Lanes with Sidewalks, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$13.35	$2.02					$20.03				$22.05	
15	US 41 (SR 90) (Tamiami Trail East)	Greenway Rd	6 L Farm Rd	2	2.6	2-Lane Roadway to 4 Lanes with Outside Paved Shoulders (Includes milling and resurfacing of existing pavement)	$21.83				$6.01				$25.59	$41.70	$73.30	
9	US 41 (SR 90) (Tamiami Trail East)	Collier Blvd (SR 951)				Single Point Urban Interchange (SPUI) - Mainline Over Crossroad	$44.14							$10.30			$10.30	$110.35
5	CR 951 (Collier Blvd)	Golden Gate Canal	Green Blvd	4	2	4-Lane Roadway to 6 Lanes with Sidewalk, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$30.00	$3.66		$38.10							$41.76	
19b	Critical Needs Intersection (Randall Blvd at Immokalee Road)	Immokalee Road	8th Street			Ultimate Intersection Improvement	$31.00							$4.68		$53.48	$58.16	
14p	Vanderbilt Beach Rd	CR 951 (Collier Blvd)	8th St	0 & 2	6	Expand from 0 & 2 lanes to building 3 lanes of a six lane footprint from Collier Blvd to Wilson Blvd and 2 lanes from Wilson to 8th St	$59.96		$12.86	$76.15							$89.01	
40	Airport Pulling Rd	Vanderbilt Beach Rd	Immokalee Rd	4	2	4-Lane Roadway to 6 Lanes with Sidewalks, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$5.00	$1.22		$6.35							$7.57	
25	Oil Well Rd/CR 858	Everglades Blvd	Oil Well Grade Rd	2	3.9	2-Lane Roadway to 4 Lanes with Outside Paved Shoulders (Includes milling and resurfacing of existing pavement)	$20.00						$30.00				$30.00	
16	Randall Boulevard	8th Street	Oil Well Road/Everglades	2	6	4 lane divided to 6 lane divided (includes corridor study to determine preferred alignment)	$25.50										$0.00	$134.47
33	Veterans Memorial Blvd	Livingston Road	US 41	2	2.9	2-Lane Undivided Roadway with Sidewalks, Bike Lanes and Curb & Gutter	$8.00	$1.95	$1.08				$12.00				$15.03	
20	Immokalee Rd	Camp Keais Rd	Carver St	2	2.5	2-Lane Roadway to 4 Lanes with Sidewalks, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$25.04				$5.24	$23.01	$37.56				$65.81	
56	Benfield Road	City Gate Boulevard North	Lords Way	0	3.9	2 lane roadway in a 4 lane footprint	$56.47	$1.83			$20.09				$21.21		$43.72	$141.16
29	Wilson Boulevard/Black Burn Road	Wilson Boulevard	End of Haul Road	0	2.6	2 lane roadway in a 4 lane footprint	$29.31	$0.61			$6.90				$30.70		$38.20	$73.28
13	Vanderbilt Beach Road Ext	8th Street	Desoto	0	4.7	2 lane roadway in a 4 lane footprint	$35.00										$0.00	$188.05
51	Wilson Blvd.	Golden Gate Blvd.	Immokalee Rd.	2	3.3	2-Lane Roadway to 4 Lanes	$23.30	$2.85				$21.47				$44.03	$68.94	
73	Little League Rd. Ext.	SR-82	Westclox St.	0	3.7	New 2-lane roadway	$28.02				$3.88				$17.05	$53.52	$74.42	
	Local Funds Improvement Box					Projects to be determined at a later date	$9.12	$3.37			$10.47	$20.35			$64.17	$17.42	$121.78	
14p	Vanderbilt Beach Road Ext	Collier Boulevard	8th Street	2 & 0	6	Add remaining 3 lanes	$39.97									$76.34	$76.34	
34	Camp Keais Road	Immokalee Road	Pope John Paul Blvd.	2	2.6	2-Lane Roadway to 4 Lanes with Outside Paved Shoulder (Includes milling and resurfacing of existing pavement)	$10.00				$2.76					$19.10	$21.86	
36	Vanderbilt Beach Road	Airport Road	US 41	4	2.1	4-Lane Roadway to 6 Lanes with Sidewalks, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$4.00				$3.10		$6.00				$9.10	
32	Immokalee Rd (CR 846)	SR 29	Airpark Blvd	2	0.4	2-Lane Roadway to 4 Lanes with Sidewalks, Bike Lanes, and Curb & Gutter (Includes milling and resurfacing of existing pavement)	$4.06				$3.10				$4.09	$7.75	$13.55	
							$630.31	$22.50	$13.93	$264.32	$68.97	$70.83	$151.43	$21.17	$244.70	$360.62	$1,183.93	$730.09

Project Phase	Inflation Factors		
	2021-2025	2026-2030	2031-2040
PE/PD&E	1.219	1.379	1.561
ROW	1.44	1.838	2.345
CST	1.27	1.5	1.91

	2021-2025			2026-2030			2031-2040			Remaining Balance	
	Revenue	Spent	Remaining	Revenue	Spent	Remaining	Revenue	Spent	Remaining		
TMA	$23.32	$23.29	$0.03	$23.32	$23.29	$0.03	$48.64	$48.69	-$0.05	$0.01	$93.28
OA	$55.60	$58.10	-$2.50	$52.00	$42.58	$10.02	$115.10	$144.95	-$29.85	-$22.33	$223.30
SIS	$100.42	$100.42	$0.00	$0.00	$0.00	$0.00	$9.82	$9.82	$0.00	$0.00	$110.24
County	$106.82	$108.26	-$1.44	$201.86	$212.50	-$10.64	$430.84	$414.74	$16.10	$3.83	$739.32
											$1,160.14

Notes: Design phases funded by OA not included in totals
#56 and #29 are only partial ROW & Mitigation costs

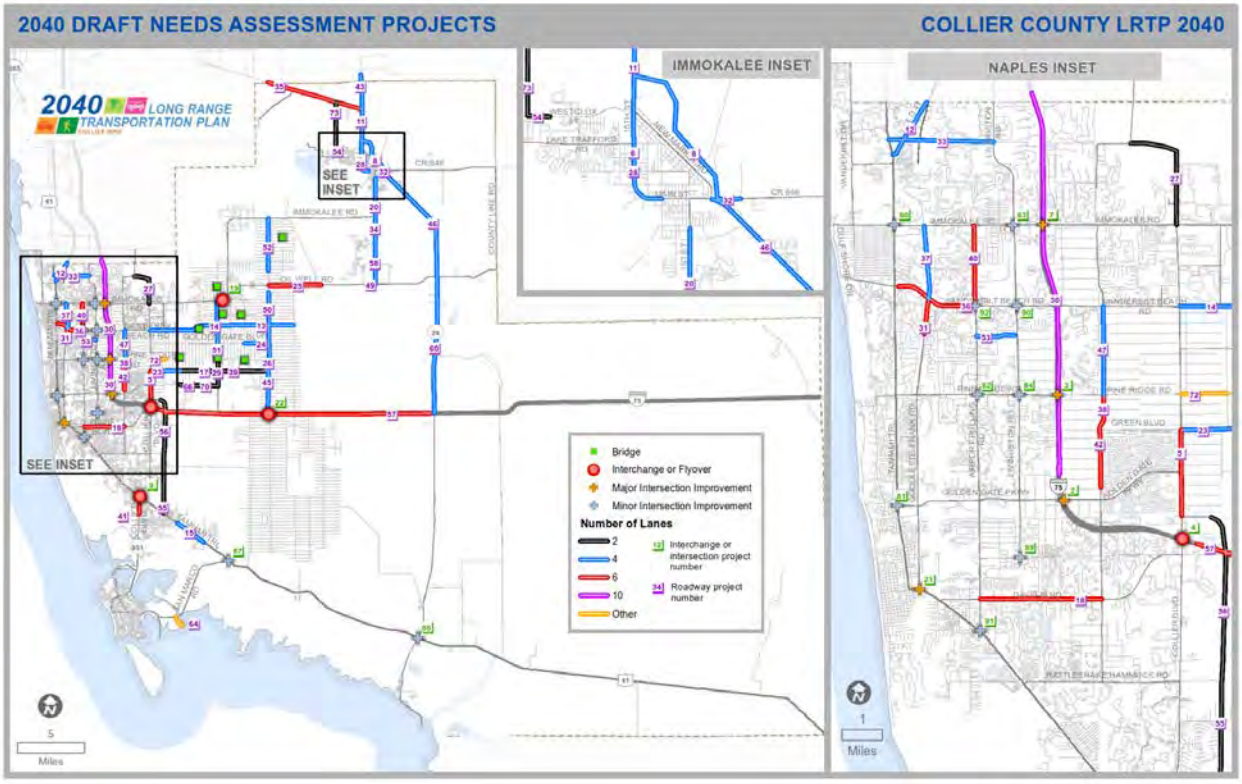


Figure G-1. Collier County Long Range Transportation Plan map. Source: Collier Metropolitan Planning Organization 2016