DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2013–0031]

[4500030114]

RIN 1018–AZ59

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Florida Leafwing and Bartram's Scrub-hairstreak Butterflies

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for the Florida leafwing *(Anaea troglodyta floridalis)* and Bartram's scrub-hairstreak *(Strymon acis bartrami)* butterflies under the Endangered Species Act. In total, approximately 3,351 hectares (8,283 acres) in Miami-Dade and Monroe

Counties, Florida, fall within the boundaries of the proposed critical habitat designation for the Florida leafwing butterfly, and approximately 3,748 hectares (9,261 acres) in Miami-Dade and Monroe Counties, Florida, fall within the boundaries of the proposed critical habitat designation for the Bartram's scrub-hairstreak butterfly.

DATES: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES** section, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit comments by one of the following methods:

(1) *Electronically*: Go to the Federal eRulemaking Portal: *http://www.regulations.gov*. In the Search box, enter FWS– R4–ES–2013–0031, which is the docket number for this rulemaking. You may submit a comment by clicking on "Comment Now!"

(2) *By hard copy*: Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R4–ES–2013–0031; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We request that you send comments **only** by the methods described above. We will post all comments on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see the **Public Comments** section below for more information).

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this critical habitat designation and are available at *http://www.fws.gov/verobeach/, http://www.regulations.gov* at Docket No. No. FWS–R4–ES–2013–0031, and at the South Florida Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**). Any additional tools or supporting information that we may develop for this critical habitat designation will also be available at the Fish and Wildlife Service website and Field Office set out above, and may also be included in the at *http://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Larry Williams, Field Supervisor, U.S. Fish and Wildlife Service, South Florida Ecological Services Office, 1339 20th Street, Vero Beach, FL 32960, by telephone 772–562–3909, or by facsimile 772–562–4288. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, once we determine that a species is endangered or threatened, then we must also designate critical habitat for the species. Designations and revisions of critical habitat can only be completed by issuing a rule. Elsewhere in today's **Federal Register**, we propose to list the Florida leafwing and Bartram's scrub-hairstreak butterflies as endangered species under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act).

This rule consists of: A proposed rule for designation of critical habitat for the Florida leafwing and Bartram's scrub-hairstreak butterflies. The Florida leafwing and Bartram's scrub-hairstreak butterflies have been proposed for listing under the Act. This rule proposes designation of critical habitat necessary for the conservation of the species.

The basis for our action. Under the Act, when a species is proposed for listing, to the maximum extent prudent and determinable, we must designate critical habitat for the species. Both species have been proposed for listing as endangered, and therefore, we also propose to designate:

- Approximately 3,351 hectares (ha) (8,283 acres (ac)) are proposed as critical habitat for the Florida leafwing butterfly and approximately 3,748 ha (9,261 ac) are proposed for the Bartram's scrub-hairstreak butterfly. The critical habitat proposed for the Florida leafwing occurs entirely within that proposed for the

Bartram's scrub-hairstreak. The proposed critical habitat for both butterflies is located in Miami-Dade and Monroe Counties, Florida.

- The proposed designation for both butterflies includes both occupied and unoccupied critical habitat. The Service determined that the proposed unoccupied units are essential for the conservation of the butterflies, in order to provide for the necessary expansion of current Florida leafwing and Bartram's scrub-hairstreaks population(s) and for reestablishment of populations into areas where these subspecies previously occurred.

Section 4(b)(2) of the Endangered Species Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species.

We are preparing an economic analysis of the proposed designations of critical habitat. We are preparing an analysis of the economic impacts of the proposed critical habitat designation and related factors. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek additional public review and comment.

We will seek peer review. We are seeking comments from knowledgeable individuals with scientific expertise to review our analysis of the best available science and application of that science and to provide any additional scientific information to improve this proposed rule. Because we will consider all comments and information received during the comment period, our final determinations may differ from this proposal.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from the public, from other concerned governmental agencies, Native American tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) The reasons why we should or should not designate habitat as "critical habitat" under section 4 of the Act (16 U.S.C. 1531 *et seq*.), including whether there are threats to the butterflies from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designation of critical habitat is not be prudent.

(2) Specific information on:

(a) The amount and distribution of the Florida leafwing and Bartram's scrub-hairstreak habitat including the hostplant, pineland croton *(Croton linearis)*;

(b) What may constitute "physical or biological features essential to the conservation of the species," within the geographical range currently occupied by the species;

(c) Where these features are currently found;

(d) Whether any of these features may require special management considerations or protection;

(e) What areas, that were occupied at the time of listing (or are currently occupied) and that contain features essential to the conservation of the species, should be included in the designation and why;

(f) What areas not occupied at the time of listing are essential for the conservation of the species and why; and

(g) Whether we have determined the most appropriate size and configuration of our proposed critical habitat units.

(3) Land use designations and current or planned activities in the areas occupied by the species or proposed to be designated as critical habitat, and possible impacts of these activities on these species and proposed critical habitat.

(4) Information on the projected and reasonably likely impacts of climate change on both butterflies and proposed critical habitat.

(5) Any probable economic, national security, or other relevant impacts that may result from designating any area that may be included in the final designation. We are particularly interested in any impacts on small entities, and the benefits of including or excluding areas from the proposed designation that are subject to these impacts.

(6) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act, and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act.

(7) Whether our approach to designating critical habitat could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concerns and comments.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments **only** by the methods described in **ADDRESSES**.

We will post your entire comment—including your personal identifying information—on *http://www.regulations.gov*. You may request at the top of your document that we withhold personal information such as your street address, phone number, or e-mail address from public review; however, we cannot guarantee that we will be able to do so.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov*, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, South Florida Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**).

Previous Federal Actions

All previous Federal actions are described in the proposal to list the Florida leafwing and Bartram's scrub-hairstreak butterflies as endangered species under the Act published elsewhere in today's **Federal Register**.

Critical Habitat

Background

It is our intent to discuss below only those topics directly relevant to the designation of critical habitat for the Florida leafwing and Bartram's scrub-hairstreak in this section of the proposed rule. For more information on Florida leafwing and

Bartram's scrub-hairstreak taxonomy, life history, habitat, and population descriptions, please refer to the proposed listing rule published elsewhere in today's **Federal Register**.

The Florida leafwing and Bartram's scrub-hairstreak butterflies are endemic to south Florida and the lower Florida Keys. Both butterflies occur within pine rockland habitat that retain their shared larval hostplant, pineland croton *(Croton linearis)*. Historically, these subspecies were locally common within pine rocklands of Miami-Dade and Monroe Counties, while occurring only sporadically in Collier, Martin, Palm Beach, and Broward Counties. The estimated range-wide population densities for these butterflies vary considerably from year to year, but generally occur in the low hundreds.

At present, the Florida leafwing is extant only within the Long Pine Key (LPK) region of Everglades National Park (ENP). Until 2006 when it was extirpated, an additional population occurred on Big Pine Key (BPK), part of National Key Deer Refuge (NKDR). The Bartram's scrub-hairstreak also occurs within the LPK region on ENP, as well as locally within conservation lands adjacent to the ENP and in the Florida Keys on BPK.

Although Florida leafwing and Bartram's scrub-hairstreak populations occur almost entirely within public conservation lands, threats remain from a wide array of natural and human-related sources. Habitat loss, fragmentation and degradation, specifically from natural fire suppression (combined with limited prescribed burns or mechanical clearing), are the most imminent threats to these butterflies and their

hostplant. The Florida leafwing has been extirpated (no longer in existence) from nearly 96 percent of its historical range; the only known extant population occurs within ENP in Miami-Dade County. The Bartram's scrub-hairstreak has been extirpated from nearly 93 percent of its historical range; only five isolated metapopulations remain on Big Pine Key in Monroe County, Long Pine Key in ENP, and relict pine rocklands adjacent to the ENP in Miami-Dade County.

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features:

(a) Essential to the conservation of the species and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and

transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) essential to the conservation of the species, and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the

extent known using the best scientific data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical and biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are the specific elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area currently occupied by the species but that was not occupied at the time of listing may be essential to the conservation of the species and may be included in the critical habitat designation. We designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its range would be inadequate to ensure the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)),

and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, would continue to be subject to: (1) conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or

threatened species, and (3) section 9 of the Act's prohibitions on taking any individual of the species, including taking caused by actions that affect habitat. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools would continue to contribute to recovery of these butterflies if we list the Florida leafwing and the Bartram's scrub hairstreak butterflies. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Prudency Determination for the Florida Leafwing and the Bartram's Scrub-hairstreak Butterflies

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, the Secretary shall designate critical habitat at the time the species is determined to be an endangered or threatened species. Our regulations (50 CFR 424.12(a)(1)) state that the designation of critical habitat is not prudent when one or both of the following situations exist:

(1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or

(2) such designation of critical habitat would not be beneficial to the species.

A threat of take attributed to collection under Factor B currently exists for both these butterflies. There is evidence that the designation of critical habitat could result in an increased threat from taking, specifically collection, for both butterflies, through publication of maps and a narrative description of specific critical habitat units in the **Federal Register**. However, such information on locations of extant Florida leafwing and Bartram's scrub-hairstreak populations is already widely available to the public through many outlets. Therefore, identification and mapping of critical habitat is not expected to initiate any such threat or significantly increase existing collection pressure.

In the absence of finding that the designation of critical habitat would increase threats to a species, if any benefits would result from a critical habitat designation, then a prudent finding is warranted. Here, the potential benefits of designation include: (1) Triggering consultation under section 7 of the Act, in new areas for actions in which there may be a Federal nexus where it would not otherwise occur because, for example, it is or has become unoccupied or the occupancy is in question; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the species.

Therefore, because we have determined that the designation of critical habitat will not likely increase the degree of threat to the species and may provide some measure of benefit, we find that designation of critical habitat is prudent for the Florida leafwing and Bartram's scrub-hairstreak butterflies.

Critical Habitat Determinability

Having determined that designation of critical habitat is prudent, under section 4(a)(3) of the Act we must find whether critical habitat for the Florida leafwing and Bartram's scrub-hairstreak butterflies is determinable. Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist:

(i) Information sufficient to perform required analyses of the impacts of the designation is lacking; or

(ii) The biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat.

We reviewed the available information pertaining to the biological needs of the butterflies and habitat characteristics where the butterflies are located. This and other information represent the best scientific data available and led us to conclude that the designation of critical habitat is determinable for the Florida leafwing and Bartram's scrub-hairstreak butterflies.

Physical or Biological Features

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied by the

species at the time of listing to designate as critical habitat, we consider the physical or biological features (PBFs) that are essential to the conservation of the species and which may require special management considerations or protection. These include, but are not limited to:

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, or rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

We derived the specific PBFs for the Florida leafwing and Bartram's scrub-hairstreak butterflies from studies of both of the butterflies' habitat, ecology, and life histories as described below—(see *Habitat and Life History* section of our proposed listing rule published elsewhere in today's **Federal Register)**.

Florida Leafwing Butterfly

Space for Individual and Population Growth and for Normal Behavior

The Florida leafwing occurs within pine rockland habitat, and occasionally associated rockland hammock interspersed in these pinelands, throughout their entire

lifecycle. Description of these communities and associated native plant species are provided in the **Status Assessment for the Florida Leafwing and Bartram's Scrub-hairstreak Butterflies** section in the proposed listing rule elsewhere in today's **Federal Register**. The lifecycle of the Florida leafwing occurs entirely within the pine rockland habitat, and in some instances associated rockland hammocks (Salvato and Salvato 2008, p. 246; 2010a, p. 96; Minno, pers. comm. 2009). At present, the Florida leafwing is extant within ENP and, until 2006, had occurred on Big Pine Key in the Florida Keys and historically in pineland fragments on mainland Miami-Dade County (Smith *et al*. 1994, p. 67; Salvato and Salvato 2010a, p. 91; 2010c, p. 139), the smallest viable population being Navy Wells Pineland Preserve (120 hectares (ha) (296 acres (ac)). The Florida leafwing was only sporadic in occurrence north of Miami-Dade County (Smith *et al*. 1994, p. 67; Salvato and Hennessey 2003, p. 243). Studies indicate butterflies are capable of dispersing throughout the landscape, sometimes as far as 5 kilometers (km) (3 miles (mi)), utilizing high-quality habitat patches (Davis *et al*. 2007, p. 1351; Bergman *et al*. 2004, p. 625). The Florida leafwing, with its strong flight abilities, can disperse to make use of appropriate habitat in ENP (Salvato and Salvato 2010a, p. 95). At present, ongoing surveys suggest the leafwing actively disperses throughout the Long Pine Key region of ENP (Salvato and Salvato 2010, p. 91; 2010c, p. 139). However, once locally common at Navy Wells Pineland Preserve and the Richmond Pine Rocklands (which occur approximately 8 and 27 km (5 and 17 mi)) to the northeast of ENP, respectively), leafwings are not known to have bred at either location in over 25 years (Salvato and Hennessey 2003, p. 243; Salvato pers. comm. 2012). Therefore, based on the information above, we identify pine rockland habitats and associated rockland hammock

that are at least 120 ha (296 ac) in size to be a PBF for this butterfly.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

The Florida leafwing is dependent on pine rocklands that retain the butterfly's sole hostplant, pineland croton (Hennessey and Habeck 1991, pp. 13–17; Smith *et al*. 1994, p. 67; Worth *et al*. 1996, pp. 64–65). The immature stages of this butterfly feed on the croton for development (Worth *et al*. 1996, pp. 64–65; Minno *et al*. 2005, p. 115). Adult Florida leafwings will feed on tree sap, take minerals from mud, and occasionally visit flowers within the pine rockland (Lenczewski 1980, p. 17; Salvato and Salvato 2008, p. 326; Salvato and Salvato 2010a, p. 96). Therefore, based on the information above, we identify pine rockland and associated rockland hammocks, specifically those containing pineland croton and other herbaceous vegetation typical of these plant communities, which fulfill the larval development and adult dietary requirements of the Florida leafwing, to be a PBF for the Florida leafwing.

Cover or Shelter

Immature stages of the Florida leafwing occur entirely on the hostplant, pineland croton. Adult Florida leafwing disperse and roost within the pine rockland canopy, and also in rockland hammock vegetation interspersed within these pinelands. Because of their use of the croton and their choice of roosting sites, the former Florida leafwing

population on Big Pine Key may have been deleteriously impacted by exposure to seasonal pesticide applications designed to control mosquitoes. The potential for mosquito control chemicals to drift into nontarget areas on the island and to persist for varying periods of time has been well documented (Hennessey and Habeck 1989, pp. 1–22; 1991, pp. 1–68; Hennessey *et al.* 1992, pp. 715–721; Pierce 2009, pp. 1–17). If exposed, studies have indicated that both immature and adult butterflies could be affected (Zhong *et al.* 2010, pp. 1961–1972; Bargar 2012, pp. 1–7). Truck-applied pesticides were found to drift considerable distances from target areas with residues that persisted for weeks on the hostplant (Pierce 2009, pp. 1–17), possibly threatening larvae. Salvato (2001, p. 13) suggested that adult Florida leafwing were particularly vulnerable to aerial applications based on their tendency to roost within the pineland canopy, an area with maximal exposure to such treatments. Therefore, based on the information above, we identify pine rocklands, and associated rockland hammock communities with pineland croton for larval development and ample roosting sites for adults and limited or restricted pesticide application, to be a PBF for this subspecies.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

The Florida leafwing, with its strong flight abilities, can disperse to make use of appropriate habitat in ENP (Salvato and Salvato 2010a, p. 95). Reproduction and larval development occur entirely within the pine rocklands. The Florida leafwing is multivoltine (*i.e.*, produces multiple generations per year), with an entire life cycle of about 2 to 3 months (Hennessey and Habeck 1991, p. 17) and maintains continuous

broods throughout the year (Baggett 1982, pp. 78–79; Salvato 1999, p. 121). Natural history studies by Salvato and Salvato (2012, p. 1) indicate that the extant Florida leafwing population within Long Pine Key experiences up to 80 percent mortality amongst immature larval stages from parasites. All parasitic mortality noted for the Florida leafwing by Salvato and Salvato (2012, pp. 1–3) has been from native species; however, mortality from both native and nonnative predators has been observed. Therefore, based on the information above, we identify pine rockland and associated rockland hammocks, specifically those containing pineland croton and other herbaceous vegetation typical of these plant communities, with limited nonnative predation, which fulfill the larval development and adult reproductive requirements of the Florida leafwing, to be a PBF for this subspecies.

Pine rockland native vegetation includes, but is not limited to, canopy vegetation dominated by slash pine *(Pinus elliottii var. densa)*; subcanopy vegetation that may include but is not limited to saw palmetto *(Serenoa repens)*, cabbage palm *(Sabal palmetto)*, silver palm *(Coccothrinax argentata)*, brittle thatch palm *(Thrinax morrisii)*, wax myrtle *(Myrica cerifera)*, myrsine *(Rapanea punctata)*, poisonwood *(Metopium toxiferum)*, locustberry *(Byrsonima lucida)*, varnishleaf *(Dodonaea viscosa)*, tetrazygia *(Tetrazygia bicolor)*, rough velvetseed *(Guettarda scabra)*, marlberry *(Ardisia escallonioides)*, mangrove berry *(Psidium longipes)*, willow bustic *(Sideroxylon salicifolium)*, and winged sumac *(Rhus copallinum)*. Short-statured shrubs that may include but are not limited to a subcanopy with running oak *(Quercus elliottii)*, white indigoberry *(Randia aculeata)*, Christmas berry *(Crossopetalum ilicifolium)*, redgal

(Morinda royoc), and snowberry *(Chiococca alba)*; and understory vegetation that may include but is not limited to bluestem *(Andropogon* spp.*, Schizachyrium gracile, S. rhizomatum*, and *S. sanguineum)*, arrowleaf threeawn *(Aristida purpurascens)*, lopsided indiangrass *(Sorghastrum secundum)*, hairawn muhly *(Muhlenbergia capillaris)*, Florida white-top sedge *(Rhynchospora floridensis)*, pineland noseburn *(Tragia saxicola)*, devil's potato *(Echites umbellata)*, pineland croton, several species of sandmats *(Chamaesyce spp.)*, partridge pea *(Chamaecrista fasciculata)*, coontie *(Zamia pumila)*, and maidenhair pineland fern *(Anemia adiantifolia)*. Rockland hammock native vegetation includes, but is not limited to, a canopy vegetated by gumbo limbo *(Bursera simaruba),* false tamarind (Lysiloma latisiliquum)*,* paradisetree *(*Simarouba glauca*),* black ironwood *(Krugiodendron ferreum),* lancewood *(Ocotea coriacea),* Jamaican dogwood *(Piscidia piscipula),* West Indies mahogany *(Swietenia mahagoni),* willow bustic *(Sideroxylon salicifolium),* inkwood *(Exothea paniculata),* strangler fig *(Ficus aurea),* pigeon plum *(Coccoloba diversifolia),* poisonwood *(Metopium toxiferum),* buttonwood *(Conocarpus erectus),* blolly *(Guapira discolor),* and devil's claw *(Pisonia* spp.*)*; subcanopy vegetation that may include but is not limited to Spanish stopper *(Eugenia foetida), Thrinax, (Amyris elemifera),* marlberry *(Ardisia escallonioides),* wild coffee *(Psychotria nervosa), Sabal,* gumbo limbo *(Guaiacum sanctum),* hog plum *(Ximenia americana),* and *Colubrina;* and understory vegetated that may include but is not limited to *Zamia pumila,* barbed-wire cactus *(Acanthocereus tetragonus),* and basket grass *(Oplismenus hirtellus).*

Habitats Protected from Disturbance or Representative of the Historical, Geographic, and Ecological Distributions of the Subspecies

The Florida leafwing continues to occur in habitats that are protected from human-generated disturbances and are only partially representative of the butterflies' historical, geographical, and ecological distribution because its range within these habitats has been reduced. The subspecies is still found in its representative plant communities of pine rocklands and associated rockland hammocks. Representative plant communities are located on Federal, State, local, and private conservation lands that implement conservation measures benefitting the butterflies.

Pine rockland is dependent on some degree of disturbance, most importantly from natural or prescribed fires (Loope and Dunevitz 1981, p. 5; Snyder *et al*. 2005, p. 1; Bradley and Saha 2009, p. 4; Saha *et al*. 2011, pp. 169–184; Florida Natural Areas Inventory (FNAI) 2010, p. 1). These fires are a vital component in maintaining native vegetation, such as croton, within this ecosystem. Without fire, successional climax from tropical pineland to rockland hammock is too rapid, and displacement of native species by invasive nonnative plants often occurs.

The Florida leafwing, as with other subtropical butterflies, have adapted over time to the influence of tropical storms and other forms of adverse weather conditions (Minno and Emmel 1994, p. 671; Salvato and Salvato 2007, p. 154). Hurricanes and other significant weather events create openings in the pine rockland habitat (FNAI 2010, p. 3) However, given the substantial reduction in the historical range of the butterfly in the past 50 years, the threat and impact of tropical storms and hurricanes on their remaining

populations is much greater than when their distribution was more widespread (Salvato and Salvato 2010a, p. 96; 2010c, p. 139). Therefore, based on the information above, we identify disturbance regimes natural or prescribed to mimic natural disturbances, such as fire, to be a PBF for this subspecies.

Primary Constituent Elements for the Florida Leafwing Butterfly

According to 50 CFR 424.12 (b), we are required to identify the PBFs essential to the conservation of the Florida leafwing in areas occupied at the time of listing, focusing on the features' primary constituent elements (PCEs). We consider PCEs to be specific elements of the PBFs that provide for a species' life-history processes and are essential to the conservation of the species.

The Florida leafwing is dependent upon functioning pine rockland habitat to provide its fundamental life requirements, such as pineland croton for larval development, food sources and roosting areas required by adult butterflies. Based on our current knowledge of the PBFs and habitat characteristics required to sustain the butterfly's life-history processes, we determine that the PCEs for the Florida leafwing are:

(1) Areas of pine rockland habitat, and in some locations, associated rockland hammocks.

(a) Pine rockland habitat contains:

(i) Open canopy, semi-open subcanopy, and understory;

(ii) Substrate of oolitic limestone rock; and

(iii) A plant community of predominately native vegetation.

(b) Rockland hammock habitat associated with the pine rocklands contains:

(i) Canopy gaps and edges with an open to semi-open canopy, subcanopy, and understory; and

(ii) Substrate with a thin layer of highly organic soil covering limestone or organic matter that accumulates on top of the underlying limestone rock; and

(iii) A plant community of predominately native vegetation.

(2) Competitive nonnative plant species in quantities low enough to have minimal effect on survival of the Florida leafwing.

(3) The presence of the butterfly's hostplant, pineland croton, in sufficient abundance for larval recruitment, development, and, food resources, and for adult butterfly roosting habitat, and reproduction.

(4) A dynamic natural disturbance regime or one that artificially duplicates natural ecological processes (e.g. fire, hurricanes or other weather events, at 3- to 5-year intervals) that maintains the pine rockland habitat and associated plant community.

(5) Pine rockland habitat and associated plant community that are sufficient in size to sustain viable Florida leafwing populations.

(6) Pine rockland habitat with levels of pesticide low enough to have minimal effect on the survival of the butterfly or its ability to occupy the habitat.

Special Management Considerations or Protection for the Florida Leafwing Butterfly

When designating critical habitat, we assess whether the specific areas within the geographic areas occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protections. The features essential to the conservation of this species may require special management considerations or protection to reduce the following threats:

Habitat Destruction and Modification by Development—The Florida leafwing has experienced substantial destruction, modification, and curtailment of its habitat and range. The pine rockland community of south Florida, on which both the butterfly and its hostplant depend, is critically imperiled globally (FNAI 2012, p. 27). Destruction of the pinelands for economic development has reduced this habitat community by 90 percent on mainland south Florida (O'Brien 1998, p. 208). All known mainland populations of the Florida leafwing occur on publicly owned land that is managed for conservation, ameliorating some of the threat. However, any unknown extant populations of the butterfly or suitable habitat that may occur on private land or non-conservation public land are vulnerable to habitat loss. In Miami-Dade County, occupied Florida leafwing

habitat occurs in the Long Pine Key region of ENP and is actively managed by the National Park Service (NPS) for the Florida leafwing and the pine rockland ecosystem, in general.

Sea Level Rise—Various model scenarios developed at the Massachusetts Institute of Technology (MIT) have projected possible trajectories of future transformation of the south Florida landscape by 2060 based upon four main drivers: climate change, shifts in planning approaches and regulations, human population change, and variations in financial resources for conservation (Vargas-Moreno and Flaxman 2010, pp. 1–6). The Service used various MIT scenarios in combination with extant and historical Florida leafwing occurrences, and remaining hostplant-bearing pine rocklands to predict climate change impacts to the butterfly and its habitat.

In the best case scenario, which assumes low sea level rise, high financial resources, proactive planning, and only trending human population growth, analyses suggest that the extant Florida leafwing population within ENP is susceptible to future losses, with losses attributed to increases in sea level and human population. In the worst case scenario, which assumes high sea level rise, low financial resources, a "business as usual" approach to planning, and a doubling of human population, the habitat at Long Pine Key may be lost resulting in the complete extirpation of the Florida leafwing. Actual impacts may be greater or less than anticipated based upon high variability of factors involved (e.g., sea level rise, human population growth) and assumptions made. Being proactive to address sea level rise may be beyond the feasibility of land owners or

managers. However, while land owners or land managers may not be able to be proactive in preventing these events, they may be able to respond with management or protection. Management actions or activities that could ameliorate sea level rise include providing protection of suitable habitats unaffected or less affected by sea level rise.

Lack of Natural or Prescribed Fires—The threat of habitat destruction or modification is further exacerbated by lack of prescribed fire and suppression of natural fires (Salvato and Salvato 2010a, p. 91; 2010c, p. 139). Historically, lightning-induced fires were a vital component in maintaining native vegetation within the pine rockland ecosystem, including pineland croton (Loope and Dunevitz 1981, p. 5; Slocum *et al*. 2003, p. 93; Snyder *et al.* 2005, p. 1; Salvato and Salvato 2010b, p. 154). Resprouting after burns is the primary mechanism allowing for the persistence of perennial shrubs, including pineland croton, in pine habitat (Olson and Platt 1995, p. 101). Without fire, perennial native vegetation can be displaced by invasive nonnative plants.

In recent years, ENP has used partial and systematic prescribed burns to treat the Long Pine Key pine rocklands in their entirety over a 3-year window (National Park Service 2005, p. 27). These methods attempt to burn adjacent pine rockland habitats alternately. In addition, refugia (*i.e*., unburned areas of croton hostplant) have been included as part of burns conducted within occupied butterfly habitat, wherever possible (R. Anderson, pers. comm. 2011). Providing refugia directly within (as well as adjacent to) the treatment area during prescribed burn activities may substantially increase the potential for the Florida leafwing to recolonize recently burned areas and to remain

within or near the fire-treated pineland. Outside of ENP, Miami-Dade County has implemented various conservation measures, such as burning in a mosaic pattern and on a small scale, during prescribed burns to protect the butterfly (Maguire, pers. comm. 2010).

Fire management of pine rocklands in NKDR is hampered by the pattern of land ownership and development; residential and commercial properties are embedded within or in close proximity to pineland habitat (Snyder *et al.* 2005, p. 2; C. Anderson, pers. comm. 2012a). Ongoing management activities designed to ameliorate this threat include the use of small-scale prescribed burns or mechanical clearing to maintain the native vegetative structure in the pine rockland required by the subspecies.

Hurricanes and Storm Surge—The Florida leafwing, as with other subtropical butterflies, have adapted over time to the influence of tropical storms and other forms of adverse weather conditions (Minno and Emmel 1994, p. 671; Salvato and Salvato 2007, p. 154). Hurricanes and other significant weather events create openings in the pine rockland habitat (FNAI 2010, p. 3). However, given the substantial reduction in the historical range of the butterfly in the past 50 years, the threat and impact of tropical storms and hurricanes on their remaining populations is much greater than when their distribution was more widespread (Salvato and Salvato 2010a, p. 96; 2010c, p. 139). While land owners or land managers may not be able to be proactive in preventing these events, they may be able to respond with management or protection resulting from these threats. Management actions or activities that could enhance pine rockland recovery following tropical storms include hand removal of damaged vegetation, as well as by

other mechanical means or prescribed fire.

Mosquito Control Pesticide Applications—Efforts to control salt marsh mosquitoes, *Aedes taeniorhynchus*, among others, have increased as human activity and population have increased in south Florida. To control mosquito populations, second-generation organophosphate (naled) and pyrethroid (permethrin) adulticides are applied by mosquito control districts throughout south Florida. The use of such pesticides (applied using both aerial and ground-based methods) for mosquito control presents a potential risk to nontarget species, such as the Florida leafwing. Mosquito control pesticides use within Miami-Dade County pine rockland areas is limited (approximately 2 to 4 times per year, and only within a portion of proposed critical habitat) (Vasquez, pers. comm. 2013) and no spraying is conducted in Long Pine Key within ENP.

Pesticide spraying practices by the Mosquito Control District at NKDR have changed to reduce pesticide use over the years. Since 2003 expanded larvicide treatments to surrounding islands have significantly reduced adulticide use on BPK, No Name Key, and the Torch Keys. In addition, the number of aerially applied naled treatments allowed on NKDR has been limited since 2008 (Florida Key Mosquito Control District 2012, pp. 10–11). No spray zones that include the core habitat used by pine rockland butterflies and several linear miles of pine rockland habitat within the Refuge-neighborhood interface were excluded from truck spray applications (C. Anderson, pers. comm. 2012a; Service 2012, p. 32). These exclusions and buffer zones encompass over 95 percent of extant croton distribution on Big Pine Key, and include the majority of known extant and

historical Florida leafwing population centers on the island (Salvato, pers. comm. 2012). However, some areas of pine rocklands within NKDR are still sprayed with naled (aerially applied adulticide), and buffer zones remain at risk from drift; additionally, private residential areas and roadsides across Big Pine Key are treated with permethrin (ground-based applied adulticide) (Salvato 2001, p. 10). Therefore, the hairstreak and, if extant, the leafwing and their habitat on Big Pine Key may be directly or indirectly (via drift) exposed to adulticides used for mosquito control at some unknown level.

Criteria Used To Identify Critical Habitat for the Florida Leafwing Butterfly

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b) we review available information pertaining to the habitat requirements of the species and identify occupied areas at the time of listing that contain the features essential to the conservation of the species. If, after identifying currently occupied areas, a determination is made that those areas are inadequate to ensure conservation of the species, in accordance with the Act and our implementing regulations at 50 CFR 424.12(e), we then consider whether designating additional areas—outside those currently occupied—are essential for the conservation of the species. As discussed above we are proposing to designate critical habitat in areas within the geographical area presently occupied by the species, i.e., occupied at the time of listing. We also are proposing to designate specific areas outside the geographical area occupied by the species at the time of listing but that were historically occupied, because such areas are

essential for the conservation of the species.

Small butterfly populations with limited, fragmented distributions, such as the Florida leafwing, are highly vulnerable to localized extirpations (Schulz and Hammond 2003, pp. 1377, 1379; Frankham 2005, pp. 135–136). Historical populations of endangered south Florida butterflies such as the Miami blue (Saarinen 2009, p. 79) and Schaus swallowtail (Daniels and Minno 2012, p. 2), once linked, now are subject to the loss of genetic diversity from genetic drift, the random loss of genes, and inbreeding. In general, isolation, whether caused by geographic distance, ecological factors, or reproductive strategy, will likely prevent the influx of new genetic material and can result in a highly inbred population with low viability and, or fecundity (Chesser 1983, p. 68). Fleishman *et al.* (2002, pp. 706–716) indicated that factors such as habitat quality may influence metapopulation dynamics of butterflies, driving extinction and colonization processes, especially in systems that experience substantial natural and anthropogenic environmental variability. In addition, natural fluctuations in rainfall, hostplant vigor, or butterfly predators may weaken a population to such an extent that recovery to a viable level would be impossible. Isolation of habitat can prevent recolonization from other sites and result in extinction. Because of the dangers associated with small populations or limited distributions, the recovery of many rare butterfly species includes the creation of new sites or reintroductions within the historical range to ameliorate these effects.

When designating critical habitat, we consider future recovery efforts and conservation of the species. We have determined that all currently known occupied

habitat should be proposed for critical habitat designation. However, realizing that the current occupied habitat is not adequate for the conservation of the Florida leafwing, we used habitat and historical occurrence data to identify unoccupied habitat essential for the conservation of the subspecies.

Only one extant Florida leafwing population remains (Salvato and Salvato 2010c, p. 139). Population estimates for the Florida leafwing are estimated to be only several hundred or fewer at any given time. Although this population occurs on conservation lands, management and law enforcement are limited. We believe it is necessary for conservation that additional populations of the Florida leafwing be established within its historical range. Therefore, we have proposed three unoccupied areas for designation as critical habitat, one on Big Pine Key within the Florida Keys, and two others on the mainland within Miami-Dade County, where the Florida leafwing was historically recorded, but has since been extirpated.

The Miami-Dade County proposed critical habitat areas are large pine rockland fragments (Navy Wells Pineland Preserve) or contiguous fragments (Richmond Pine Rocklands), which we believe provide the minimal habitat size (at least 120 ha (296 ac)) required for the subspecies to persist. The Florida leafwing was known to occur at Navy Wells Pineland Preserve within the past 25 years (Smith *et al*. 1994, p. 67). Although causes for the Florida leafwing's subsequent disappearance from Navy Wells are unknown, we believe that, with proper management and restoration efforts (consistent prescribed fire and habitat enhancement), the butterfly, given its strong flight abilities

will be able to recolonize both this and the Richmond Pine Rockland area. The one critical habitat unit on Big Pine Key in the Florida Keys we are proposing is a former stronghold for the subspecies (Smith *et al*. 1994, p. 67; Salvato and Salvato 2010c, p. 39), where appropriate hostplant-bearing habitat was historically recorded, but has since become degraded and unsuitable for butterfly use. Here also, we believe that, following habitat restoration activities (vegetation and fire management), the Florida leafwing may be able to be reestablished on this site, thereby returning a vital metapopulation of the subspecies to the Florida Keys.

The current distribution of the Florida leafwing is much reduced (90 percent) from its historical distribution. We anticipate that recovery will require continued protection of the remaining extant population and habitat, as well as establishing populations in additional areas that more closely approximate its historical distribution in order to ensure there are adequate numbers of butterflies in stable populations and that these populations occur over a wide geographic area. This will help to ensure that catastrophic events, such as storms, cannot simultaneously affect all known populations.

To determine the location and boundaries of critical habitat, the Service used the following sources of information and considerations:

(1) Historical and current records of Florida leafwing occurrence and distribution found in publications, reports, and associated voucher specimens housed at museums and private collections;

(2) Institute for Regional Conservation (IRC) and Fairchild Tropical Gardens (FTG)

geographic information system (GIS) data showing the location and extent of documented occurrences of the pine rockland habitat with pineland croton;

(3) Reports prepared by ecologists, biologists, and botanists with the IRC, ENP, FTG, and Service assessing the current and historic distribution of pine rockland habitat and pineland croton. Some of these were funded by the Service; others were requested or volunteered by biologists with the Service, NPS, or IRC; and

(4) Historical records of pineland croton found in publications, reports and associated voucher specimens housed at herbaria, all of which are also referenced in the above mentioned reports from the IRC and cited publications.

Area Occupied at the Time of Listing

The one occupied critical habitat unit was delineated around the only remaining extant Florida leafwing population. This unit includes the mapped extent of the population that contains one or more of the elements of the PBFs.

The delineation included space to allow for the successional nature of the occupied pine rockland habitat, the habitat being one of the elements of the PBFs. While suitable, at any one time, only a portion of this habitat is optimal for the Florida leafwing and the size and location of optimal areas is successional over time, being largely driven by the frequency and scale of natural or prescribed fires or other disturbances such as storms. Correspondingly the abundance and distribution of pineland croton within the pine rockland habitat varies greatly from time to time depending on

habitat changes because of these events. Although prescribed burns are administered on the conservation land that retains the Florida leafwing population, fire return intervals and scope are inconsistent. As a result, areas within the pine rockland habitat supporting the subspecies may not always provide optimal habitat for the butterfly in the future as natural or prescribed burns, fire suppression or other disturbances removes or fragments hostplant distribution. Conversely, changes in hostplant distribution over time following fires or other disturbances, may allow the butterfly to return, expand, and colonize areas with shifting hostplant populations. .

The delineation also included space to plan for the persistence of the current Florida leafwing population in the face of imminent effects on habitats as a result of sea level rise. Although currently occupied and containing the elements of PBFs, this area may be altered as a result of vegetation shifts or salt water intrusion, to an extent to which cannot be predicted at this time.

Areas Outside of the Geographic Range at the Time of Listing

The Florida leafwing has been extirpated from several locations where it was previously recorded. We are proposing three critical habitat units for those that are well-documented as historically occupied and are essential to the conservation of the subspecies. As it is not always possible to identify the exact location where a specimen was collected, we used the best available descriptions to determine likely locales, but

ultimately were guided by the location of remaining pine rockland habitats.

In identifying these areas we considered additional refining criteria:

(1) Areas of sufficient size to support ecosystem processes for populations of the Florida leafwing. The historical distribution of the Florida leafwing appeared limited to large pine rocklands parcels 120 ha (296 ac) or greater. For many years the leafwing persisted at Navy Wells, which has an area of 120 ha (296 ac), long after being extirpated from everywhere else in Miami-Dade County that was smaller in area. The only other leafwing populations that occurred outside of the Everglades in the past 25 years were those in the Richmond Pine Rocklands and Big Pine Key, which have approximately 900 and 1,400 acres of pine rocklands, respectively. So we believe appropriately-sized units should be at a minimum the size of the Navy Wells (i.e., 120 ha (296 ac). Large contiguous parcels of habitat are more likely to be resilient to ecological processes of disturbance and succession, and support viable populations of the Florida leafwing. The unoccupied areas selected were at least 120 ha (296 ac) or greater in size.

(2) Areas to maintain connectivity of habitat to allow for population expansion. Isolation of habitat can prevent recolonization of the Florida leafwing and result in extinction. Because of the dangers associated with small populations or limited distributions, the recovery of many rare butterfly species includes the creation of new sites or reintroductions to ameliorate these effects.

(3) Areas once restored will allow the Florida leafwing to disperse and recolonize and in some instances, may be able to support expansion and a larger number of the subspecies either through reintroduction or expansion from areas already occupied by the

butterfly. These areas generally are habitats within or adjacent to pine rocklands that have been affected by natural or anthropogenic impacts but retain areas that are still suitable for the butterfly or that could be restored. These areas would help to offset the anticipated loss and degradation of habitat occurring or expected from the effects of climate change (such as sea level rise) or due to development.

In summary, for areas within the geographic area occupied by the subspecies at the time of listing, we delineated the critical habitat unit boundaries by evaluating habitat suitability of pine rockland habitat within the geographic area occupied at the time of listing (current), and retained those areas that contain some or all of the PCEs to support life-history functions essential for conservation of the subspecies.

In summary, for areas outside the geographic area occupied by the species at the time of listing, but that are within the historical range of the species, we determined that they are essential to the survival and recovery of the species. These areas are essential for the conservation of the species because they:

(1) Provide sufficient size to support ecosystem processes for populations of the Florida leafwing;

(2) Maintain connectivity of habitat to allow for population expansion; and

(3) Once restored will allow the Florida leafwing to expand throughout its historical range.

We conclude that the areas proposed for critical habitat provide for the conservation of the Florida leafwing because they include habitat for all of the one remaining extant population. Further, the current amount of habitat that is occupied is not sufficient for the recovery of the subspecies; therefore, we included unoccupied habitat in this proposed critical habitat designation which is essential for the long-term conservation of the species.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the PBFs in the adjacent critical habitat.

The critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document in the rule portion. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We will make the coordinates or plot

points or both on which each map is based available to the public on *http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0031, on our Internet sites *www.fws.gov/verobeach/*, and at the field office responsible for the designation (see FOR FURTHER INFORMATION CONTACT above).

Proposed Critical Habitat Designation for the Florida Leafwing Butterfly

One of the four critical habitat units (FLB1) proposed for the Florida leafwing is currently designated as critical habitat under the Act for the Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*) (50 CFR 17.95(b)). No other critical habitat units proposed for this subspecies have been designated as critical habitat for other species under the Act.

The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the Florida leafwing. The four areas we propose as critical habitat are: (1) FLB1 Everglades National Park, Miami-Dade County, Florida, (2) (FLB2) Navy Wells Pineland Preserve, Miami-Dade County, Florida, (3) (FLB3) Richmond Pine Rocklands, Miami-Dade County, Florida, and (4) (FLB4) Big Pine Key, Monroe County, Florida. Land ownership within the proposed critical habitat consists of Federal (81 percent), State (4 percent), and private and other (15 percent). Table 1 shows these units by land ownership, area, and occupancy.

TABLE 1. Florida leafwing butterfly proposed critical habitat units.

Unit Number	Unit Name	Ownership	Percent	Hectares	Acres	Occupied
FLB1	Everglades National Park	Federal	100	2,313	5,716	yes
		Total	*100*	*2,313*	*5,716*	
FLB2	Navy Wells Pineland Preserve	State	29	35	85	no
		Private-Other	71	85	211	
		Total	*100*	*120*	*296*	
FLB3	Richmond Pine Rocklands	Federal	14	50	122	no
		Private-Other	86	309	767	
		Total	*100*	*359*	*889*	
FLB4	Big Pine Key	Federal	65	365	901	no
		State	16	90	223	
		Private-Other	19	104	258	
		Total	*100*	*559*	*1,382*	
Total All Units		**Federal**	**81 percent**	**2,728**	**6,739**	
		State	**4 percent**	**125**	**308**	
		Private-Other	**15 percent**	**498**	**1,236**	
		All	**100**	**3,351**	**8,283**	

Note: Area sizes may not sum due to rounding

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for the Florida leafwing, below.

Unit FLB1: Everglades National Park, Miami-Dade County, Florida

Unit FLB1 consists of 2,313 ha (5,716 ac) in Miami-Dade County. This unit is composed entirely of lands in Federal ownership, 100 percent of which are located within

the Long Pine Key region of ENP. This unit is currently occupied and contains all the PBFs, including suitable habitat (pine rockland habitat of sufficient size), hostplant presence, natural or artificial disturbance regimes, low levels of nonnative vegetation and larval parasitism, and restriction of pesticides required by the subspecies, and contains the PCE of pine rockland. The PBFs in this unit may require special management considerations or protection to address threats of fire suppression, habitat fragmentation, poaching, and sea level rise. However, in most cases these threats are being addressed or coordinated with the ENP to implement needed actions.

For instance, ENP is currently in the process of updating its fire management plan (FMP) and environmental assessment which will assess the impacts of fire on various environmental factors, including listed, proposed, and candidate species (Land, pers. comm. 2011; Sadle, pers. comm. 2013a). ENP is actively coordinating with the Service, as well as other members of the Imperiled Butterfly Working Group (IBWG) to review and adjust the prescribed burn practices outlined in the FMP to help maintain or increase Florida leafwing population sizes, protect pine rocklands, expand or restore remnant patches of hostplants, and ensure that short-term negative effects from fire (i.e., loss of hostplants, loss of eggs and larvae) can be avoided or minimized.

Unit FLB2: Navy Wells Pineland Preserve, Miami-Dade County, Florida

Unit FLB2 consists of 120 ha (296 ac) in Miami-Dade County. This unit is comprised entirely of conservation lands located within the Navy Wells Pineland

Preserve which is jointly owned by Miami-Dade County (85 ha (211 ac)) and the State (35 ha (85 ac)). State lands are interspersed within Miami-Dade County Parks and Recreation Department lands which are managed for conservation. This unit is bounded on the north by SW 348 Street and on the south by SW 360 Street; on the east by State Road 9336 and on the west by the vicinity of SW 2002 Avenue.

This unit was occupied historically by the Florida leafwing. This unit is not currently occupied but is essential to the conservation of the subspecies because it serves to protect habitat needed to recover the subspecies, reestablish wild populations within the historical range of the subspecies, and maintain populations throughout the historic distribution of the subspecies in Miami-Dade County, and provides habitat for recovery in the case of stochastic events if the butterfly is extirpated from the one location where it is presently found.

Unit FLB3: Richmond Pine Rocklands Miami-Dade County, Florida

Unit FLB3 consists of 359 ha (889 ac) in Miami-Dade County. This unit is comprises of lands in Federal (U. S. Coast Guard (Homeland Security) (29 ha (72 ac)), U.S. Army Corps of Engineers (Department of Defense (DoD) (8 ha (20 ac)), National Oceanic Atmospheric Administration (NOAA) (4 ha (9 ac)), Federal Bureau of Prisons (Department of Justice (DoJ) (9 ha (21 ac)), and private or other (309 ha (767 ac)) ownership. This unit is bordered on the north by Coral Reef Road and on the south by SW 168 Street; on the east by SW 117 Avenue and on the west by US1; then resumes

bordered on the north by Coral Reef Road and on the south by SW 184 Street; on the east by US1 and on the west by SW 137 Avenue.

The unit was occupied historically by the Florida leafwing and includes some of the largest remaining contiguous fragments of pine rockland habitats outside of ENP. This unit is not currently occupied but is essential to the conservation of the butterfly because it serves to protect habitat needed to recover the subspecies, reestablish wild populations within the historical range of the subspecies, and maintain populations throughout the historic distribution of the subspecies in Miami-Dade County, and it provides habitat for recovery in the case of stochastic events if the butterfly is extirpated from the one location where it is presently found.

Unit FLB4: Big Pine Key, Monroe County, Florida

Unit FLB4 consists of 559 ha (1,382 ac) in Monroe County. This unit includes Federal lands within National Key Deer Refuge (365 ha (901 ac)), State lands (90 ha (223 ac)), and property in private or other ownership (104 ha (258 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge. The unit begins on northern Big Pine Key on the southern side of Gulf Boulevard, continues south on both sides of Key Deer Boulevard (County Road 940 (CR 940)) to the vicinity of Osprey Lane on the western side of CR 940 and Tea Lane to the east of CR 940, then resumes on both sides of CR 940 from Osprey Lane south of the vicinity of Driftwood Lane, then resumes south of Osceola Street, between Fern Avenue to the west and Baba Lane to the east, then

resumes north of Watson Boulevard in the vicinity of Avenue C, then continues south on both sides of Avenue C to South Street, then resumes on both sides of CR 940 south to US 1 between Ships Way to the west and Sands Street to the east, then resumes south of US 1 from Newfound Boulevard to the west and Deer Run Trail to the east, then resumes south of US 1 from Palomino Horse Trail to the west and Industrial Road to the east.

This unit was historically occupied by the Florida leafwing. This unit is not currently occupied but is essential to the conservation of the Florida leafwing because it serves to protect habitat needed to recover the subspecies, reestablish wild populations within the historical range of the subspecies, and maintain populations throughout the historic distribution of the subspecies in the Lower Florida Keys, and it provides area for recovery in the case of stochastic events if the butterfly is extirpated from the one location where it is presently found. In the Lower Florida Keys National Wildlife Refuges Comprehensive Conservation Plan (CCP), management objective number 11 provides specifically for maintaining and restoring butterfly populations of special conservation concern, including the Florida leafwing butterfly.

Bartram's Scrub-hairstreak

Physical or Biological Features

Space for Individual and Population Growth and for Normal Behavior

Bartram's scrub-hairstreak's entire lifecycle occurs within pine rockland habitat and occasionally associated rockland hammock interspersed in these pinelands. A description of these communities and associated native plant species are provided in the **Status Assessment for the Florida Leafwing and Bartram's Scrub-hairstreak** section in the proposed listing rule elsewhere in today's **Federal Register**.

At present, the Bartram's scrub-hairstreak is extant on Big Pine Key, within ENP, and several pineland fragments on mainland Miami-Dade County (Smith *et al*. 1994, p. 118; Salvato and Salvato 2010b, p. 154), the smallest being Navy Wells Pineland Preserve outparcel number 39 (7 ha (18 ac)), which represents the minimum known extant sustained population size. The Bartram's scrub-hairstreak was historically less common and sporadic in occurrence north of Miami-Dade County (Smith *et al*. 1994, pp. 118; Salvato and Hennessey 2004, p. 223). Studies indicate butterflies are capable of dispersing throughout the landscape, sometimes as far as 5 km (3 mi); utilizing high-quality habitat patches (Davis *et al*. 2007, p. 1351; Bergman *et al*. 2004, p. 625). Stepping stones may be particularly useful to the Bartram's scrub-hairstreak, which exhibits low vagility (movement), rarely venturing from the pine rockland habitat or away from large areas of contiguous patches of hostplant. Therefore, based on the information above, we identify pine rockland habitats and associated rockland hammock that are at least 7 ha (18 ac) in size and are located no more than 5 km (3 miles) apart to allow for habitat connectivity to be a PBF for this butterfly.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

The Bartram's scrub-hairstreak is dependent on pine rocklands that retain the butterfly's sole hostplant, pineland croton. The immature stages of this butterfly feed on the croton for development (Minno and Emmel 1993, p. 129; Worth *et al*. 1996, p. 62). Adult Bartram's scrub-hairstreaks actively visit flowers for nectar (Minno and Emmel 1993, p. 129; Worth *et al*. 1996, p. 65; Calhoun *et al*. 2002, p. 14; Salvato and Hennessey 2004, p. 226; Salvato and Salvato 2008, p. 324) within open pine areas and edges and openings within associated rockland hammocks. Therefore, based on the information above, we identify pine rockland and associated rockland hammocks, specifically those containing pineland croton and other herbaceous vegetation typical of these plant communities, which fulfill the larval development and adult dietary requirements, to be PBFs for the Bartram's scrub-hairstreak.

Cover or Shelter

Immature stages of the Bartram's scrub-hairstreak occur entirely on the hostplant, pineland croton. Adult Bartram's scrub-hairstreaks prefer more open pine areas, at the edges and openings of associated rockland hammocks. The Bartram's scrub-hairstreak population on Big Pine Key may be deleteriously impacted by exposure to seasonal pesticide applications designed to control mosquitoes because of where the butterflies

congregate in the vegetation. Salvato (2001, p. 13) suggested that the Bartram's scrub-hairstreak was particularly vulnerable to truck-based applications based on the fact that the subspecies commonly aggregates on low-lying shrubs occurring along frequently treated roadsides. Therefore, based on the information above, we identify the absence of pesticide in the pine rocklands, and associated rockland hammock communities or in low enough quantities that is not detrimental to the butterfly to be a PBF for this subspecies.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Bartram's scrub-hairstreak reproduction and larval development occur entirely within the pine rocklands. The butterfly has been observed during every month throughout its range; however the exact number of broods appears to be sporadic from year to year, with varying peaks in seasonal abundance (Baggett 1982, p. 81; Hennessey and Habeck 1991, pp. 17–19; Emmel *et al*. 1995, pp. 14–15; Minno and Minno 2009, pp. 70–76; Salvato and Salvato 2010b, p. 156; C. Anderson, pers. comm. 2012a; J. Sadle, pers. comm. 2013b). The Bartram's scrub-hairstreak retains breeding populations within pine rocklands on Big Pine Key, Long Pine Key in ENP, and within a number of pine rockland fragments adjacent to ENP (Salvato and Salvato 2010b, p. 154). Therefore, based on the information above, we identify pine rockland and associated rockland hammocks, specifically those containing pineland croton and other herbaceous vegetation typical of these plant communities, which fulfill the larval development and adult reproductive requirements of the Bartram's scrub-hairstreak, to be a PBF for this subspecies.

Pine rockland native vegetation includes, but is not limited to, canopy vegetation dominated by slash pine *(Pinus elliottii* var. *densa)* and subcanopy vegetation that may include, but is not limited to, saw palmetto *(Serenoa repens)*, cabbage palm *(Sabal palmetto)*, silver palm *(Coccothrinax argentata)*, brittle thatch palm *(Thrinax morrisii)*, wax myrtle *(Myrica cerifera)*, myrsine *(Rapanea punctata)*, poisonwood *(Metopium toxiferum)*, locustberry *(Byrsonima lucida)*, varnishleaf *(Dodonaea viscosa)*, tetrazygia *(Tetrazygia bicolor)*, rough velvetseed *(Guettarda scabra)*, marlberry *(Ardisia escallonioides)*, mangrove berry *(Psidium longipes)*, willow bustic *(Sideroxylon salicifolium)*, and winged sumac *(Rhus copallinum)*. Short-statured shrubs may include, but are not limited to, a subcanopy with running oak *(Quercus elliottii)*, white indigoberry *(Randia aculeata)*, Christmas berry *(Crossopetalum ilicifolium)*, redgal *(Morinda royoc)*, and snowberry *(Chiococca alba)*; and understory vegetation that may include, but is not limited to, bluestem *(Andropogon spp., Schizachyrium gracile, S. rhizomatum, and S. sanguineum)*, arrowleaf threeawn *(Aristida purpurascens)*, lopsided indiangrass *(Sorghastrum secundum)*, hairawn muhly *(Muhlenbergia capillaris)*, Florida white-top sedge *(Rhynchospora floridensis)*, pineland noseburn *(Tragia saxicola)*, devil's potato *(Echites umbellata)*, pineland croton, several species of sandmats *(Chamaesyce spp.)*, partridge pea *(Chamaecrista fasciculata)*, coontie *(Zamia pumila)*, and maidenhair pineland fern *(Anemia adiantifolia)*. Rockland hammock native vegetation includes, but is not limited to, a canopy vegetated by gumbo limbo *(Bursera simaruba),* false tamarind (Lysiloma latisiliquum)*,* paradisetree *(Simarouba glauca),* black ironwood *(Krugiodendron ferreum),* lancewood *(Ocotea coriacea),* Jamaican dogwood *(Piscidia*

piscipula), West Indies mahogany *(Swietenia mahagoni),* willow bustic *(Sideroxylon salicifolium),* inkwood *(Exothea paniculata),* strangler fig *(Ficus aurea),* pigeon plum*(Coccoloba diversifolia*), poisonwood *(Metopium toxiferum),* buttonwood *(Conocarpus erectus),* blolly *(Guapira discolor),* and devil's claw *(Pisonia* spp.*)*; subcanopy vegetation that may include, but is not limited to, Spanish stopper *(Eugenia foetida), Thrinax, torchwood (Amyris elemifera),* marlberry *(Ardisia escallonioides),* wild coffee *(Psychotria nervosa), Sabal,* gumbo limbo *(Guaiacum sanctum),* hog plum *(Ximenia americana),* and *Colubrina;* and understory vegetation that may include, but is not limited to, *Zamia pumila,* barbed-wire cactus *(Acanthocereus tetragonus),* and basket grass *(Oplismenus hirtellus).*

Habitats Protected from Disturbance or Representative of the Historical, Geographic, and Ecological Distributions of the Subspecies

The Bartram's scrub-hairstreak continues to occur in habitats that are protected from human-generated disturbances and are representative of the butterflies' historical, geographical, and ecological distribution, although its range has been reduced. The subspecies is still found in its representative plant communities of pine rocklands. Representative communities are located on Federal, State, local, and private conservation lands that implement conservation measures benefitting the butterfly.

Pine rockland is dependent on some degree of disturbance, most importantly from natural or prescribed fires (Loope and Dunevitz 1981, p. 5; Carlson *et al*. 1993, p. 914;

Slocum *et al*. 2003, p. 93; Snyder *et al*. 2005, p. 1; Bradley and Saha 2009, p. 4; Saha *et al*. 2011, pp. 169-184; FNAI 2010, p. 1). These fires are a vital component in maintaining native vegetation, such as croton, within this ecosystem. Without fire, successional climax from tropical pineland to rockland hammock is too rapid, and displacement of native species by invasive nonnative plants often occurs. Therefore, based on the information above, we identify disturbance regimes, natural or prescribed to mimic natural disturbances such as fire, to be a PBF for this subspecies.

The Bartram's scrub-hairstreak, as with other subtropical butterflies, have adapted over time to the influence of tropical storms and other forms of adverse weather conditions (Minno and Emmel 1994, p. 671; Salvato and Salvato 2007, p. 154). Hurricanes and other significant weather events create openings in the pine rockland habitat (FNAI 2010, p. 3). However, given the substantial reduction in the historical range of the butterfly in the past 50 years, the threat and impact of tropical storms and hurricanes on their remaining populations is much greater than when their distribution was more widespread (Salvato and Salvato 2010a, p. 96; 2010c, p. 139). Therefore, based on the information above, we identify disturbance regimes natural or prescribed to mimic natural disturbances such as fire, to be a PBF for this subspecies.

Primary Constituent Elements for the Bartram's Scrub-hairstreak Butterfly

The Bartram's scrub-hairstreak is dependent upon functioning pine rockland habitat to provide its fundamental life requirements, such as pineland croton for larval

development, and food sources required by adult butterflies. Based on our current knowledge of the PBFs and habitat characteristics required to sustain the butterfly's life-history processes, we determine that the PCEs for the Bartram's scrub-hairstreak are:

(1) Pine rockland habitat, and in some instances, associated rockland hammocks.

(a) Pine rockland habitat contains:

(i) Open canopy, semi-open subcanopy, and understory;

(ii) Substrate of oolitic limestone rock; and

(iii) A plant community of predominately native vegetation.

(b) Rockland hammock habitat associated with the pine rocklands contains:

(i) Canopy gaps and edges with an open to semi-open canopy, subcanopy, and understory;

(ii) Substrate with a thin layer of highly organic soil covering limestone or organic matter that accumulates on top of the underlying limestone rock; and;

(iii) A plant community of predominately native vegetation.

(2) Competitive nonnative plant species in quantities low enough to have minimal effect on survival of Bartram's scrub-hairstreak butterfly.

(3) The presence of the butterfly's hostplant, pineland croton, in sufficient abundance for larval recruitment, development, and food resources, and for adult butterfly nectar source and reproduction;

(4) A dynamic natural disturbance regime or one that artificially duplicates natural ecological processes (e.g., fire, hurricanes, or other weather events) that maintains the pine rockland habitat and associated plant community.

(5) Pine rockland habitat and associated plant community that allow for connectivity and are sufficient in size to sustain viable populations of Bartram's scrub hairstreak butterfly.

(6) Pine rockland habitat with levels of pesticide low enough to have minimal effect on the survival of the butterfly or its ability to occupy the habitat.

Special Management Considerations or Protection for Bartram's Scrub-hairstreak Butterfly

The special management considerations or protections for the Bartram's scrub-hairstreak, and the primary threats to the PBFs on which the Bartram's scrub-hairstreak depends, are the same as those described for the Florida leafwing above, except where noted below.

Habitat Destruction and Modification by Development—The majority of known mainland populations of the Bartram's scrub-hairstreak occur on publicly owned lands that are managed for conservation. In Miami-Dade County, occupied Bartram's scrub-

hairstreak habitat occurs in the Long Pine Key region of ENP and is actively managed by the NPS for the Bartram's scrub-hairstreak and the pine rockland ecosystem, in general. Outside of the ENP, extant occupied habitat for the Bartram's scrub-hairstreak occurs on lands owned by Miami-Dade County, University of Miami, and the U.S. Coast Guard, which are managed for the conservation of the pine rockland ecosystem ameliorating some of the threat.

Sea Level Rise—Based on modeling using best case scenario, which assumes low sea level rise, high financial resources, proactive planning, and only trending population growth, analyses suggest that the Big Pine Key population of the Bartram's scrub-hairstreak may be lost or greatly reduced. Based upon the above assumptions, extant Bartram's scrub-hairstreak populations on Big Pine Key and Long Pine Key appear to be most susceptible to future losses attributed to increases in sea level and human population. In the worst case scenario, which assumes high sea level rise, low financial resources, the habitat at Big Pine Key and Long Pine Key may be lost. Under the worst case scenario, pine rockland habitat would remain within Navy Wells Pineland Preserve and the Richmond Pine Rocklands, both of which currently retain Bartram's scrub-hairstreak populations. Proactively addressing sea level rise may be beyond the feasibility of land owners or managers. However, while land owners or land managers may not be able to be proactive in preventing these events, they may be able to respond with management or protection. Management actions or activities that could ameliorate sea level rise include providing protection of suitable habitats unaffected or less affected by sea level rise.

Lack of Natural or Prescribed Fires—The threat of habitat destruction or modification is further exacerbated by lack of prescribed fire and suppression of natural fires (Salvato and Salvato 2010a, p. 91; 2010c, p. 139). Historically, lightning-induced fires were a vital component in maintaining native vegetation within the pine rockland ecosystem, including pineland croton (Loope and Dunevitz 1981, p. 5; Slocum *et al*. 2003, p. 93; Snyder *et al.* 2005, p. 1; Salvato and Salvato 2010b, p. 154). Resprouting after burns is the primary mechanism allowing for the persistence of perennial shrubs, including pineland croton, in pine habitat (Olson and Platt 1995, p. 101). Without fire, perennial native vegetation can be displaced by invasive nonnative plants.

In recent years, ENP has used partial and systematic prescribed burns to treat the Long Pine Key pine rocklands in their entirety over a 3-year window (NPS 2005, p. 27). These methods attempt to burn adjacent pine rockland habitats alternately. In addition, refugia (*i.e*., unburned areas of croton hostplant) have been included as part of burns conducted within occupied butterfly habitat, wherever possible (R. Anderson, pers. comm. 2011). Providing butterfly refugia habitat directly within (as well as adjacent to) the treatment area during prescribed burn activities may substantially increase the potential for Bartram's scrub-hairstreak to recolonize recently burned areas and to remain within or near the fire-treated pineland. Outside of ENP, Miami-Dade County has implemented various conservation measures, such as burning in a mosaic pattern and on a small scale, during prescribed burns to protect the butterfly (Maguire, pers. comm. 2010).

Fire management of pine rocklands in NKDR is hampered by the pattern of land ownership and development; residential and commercial properties are embedded within or in close proximity to pineland habitat (Snyder *et al.* 2005, p. 2; C. Anderson, pers. comm. 2012). Ongoing management activities designed to ameliorate this threat include the use of small-scale prescribed burns or mechanical clearing to maintain the native vegetative structure in the pine rockland required by the subspecies.

Mosquito Control Pesticide Applications— Efforts to control salt marsh mosquitoes, *Aedes taeniorhynchus*, among others, have increased as human activity and population have increased in south Florida. To control mosquito populations, second-generation organophosphate (naled) and pyrethroid (permethrin) adulticides are applied by mosquito control districts throughout south Florida. The use of such pesticides (applied using both aerial and ground-based methods) for mosquito control presents a potential risk to nontarget species, such as the Bartram's scrub-hairstreak. Mosquito control pesticides use within Miami-Dade County pine rockland areas is limited (approximately 2 to 4 times per year, and only within a portion of proposed critical habitat) (Vasquez, pers. comm. 2013) and no spraying is conducted in Long Pine Key within ENP.

Pesticide spraying practices by the Mosquito Control District at NKDR have changed to reduce pesticide use over the years. Since 2003 expanded larvicide treatments to surrounding islands have significantly reduced adulticide use on BPK, No Name Key, and the Torch Keys. In addition, the number of aerially applied naled treatments allowed

on NKDR has been limited since 2008 (FKMCD 2012, pp. 10-11). No spray zones that include the core habitat used by pine rockland butterflies and several linear miles of pine rockland habitat within the Refuge-neighborhood interface were excluded from truck spray applications (C. Anderson, pers. comm. 2012a; Service 2012, p. 32). These exclusions and buffer zones encompass over 95 percent of extant croton distribution on Big Pine Key, and include the majority of known extant and historical Bartram's scrub-hairstreak population centers on the island (Salvato, pers. comm. 2012). However, some areas of pine rocklands within NKDR are still sprayed with naled (aerially applied adulticide), and buffer zones remain at risk from drift; additionally, private residential areas and roadsides across Big Pine Key are treated with permethrin (ground-based applied adulticide) (Salvato 2001, p. 10). Therefore, the Bartram's scrub-hairstreak habitat on Big Pine Key is directly or indirectly (via drift) exposed to adulticides used for mosquito control at some level. Expansion of no-spray zones may aid in butterfly dispersal within the pine rocklands of Big Pine Key.

Criteria Used To Identify Critical Habitat for the Bartram's Scrub-hairstreak Butterfly

The criteria used to identify critical habitat for the Bartram's scrub-hairstreak are the same as those discussed above for the Florida leafwing, except where noted below.

We are proposing to designate critical habitat in areas within the geographical area currently occupied i.e., occupied by the species at the time of listing. We also are

proposing to designate specific areas outside the geographical area occupied by the species at the time of listing that were historically occupied, but are presently unoccupied, because such areas are essential for the conservation of the species.

Isolation of habitat can prevent recolonization of Bartram's scrub-hairstreak from other sites and result in extinction. Because of the dangers associated with small populations or limited distributions, the recovery of many rare butterfly species includes the creation of new sites or reintroductions to ameliorate these effects. In addition, establishing corridors or employing small patches (stepping stones) of similar habitats have been shown to facilitate dispersal, reduce extinction rates and increase gene flow of imperiled butterflies (Schultz 1998, p. 291; Haddad 2000, pp. 739; 744; Haddad *et al*. 2003, p. 614; Wells *et al*. 2009, p. 709). Leidner and Haddad (2010, pp. 2318–2319) suggest that small natural areas within the urban landscape may serve an important role in promoting butterfly dispersal and gene flow in fragmented landscapes. Davis *et al*. (2007, p. 1351) and Bergman *et al*. (2004, p. 625) indicate butterflies are capable of dispersing throughout the landscape, sometimes as far as 5 km (3 miles), utilizing high-quality habitat patches. Stepping stones may be particularly useful to the Bartram's scrub-hairstreak, which like most lycaenids, exhibits low vagility, rarely venturing from the pine rockland habitat or away from large areas of contiguous patches of hostplant.

Accordingly, realizing that the current occupied habitat is not adequate for the conservation of Bartram's scrub-hairstreak, we used habitat and historical occurrence data to identify unoccupied habitat essential for the conservation of the subspecies.

Only five extant Bartram's scrub-hairstreak populations remain within the subspecies' historical range. Total population estimates for the Bartram's scrub-hairstreak are estimated to be only several hundred or fewer at any given time. Although these populations occur on conservation lands; management and law enforcement are limited. We believe it is necessary for conservation and recovery that additional populations of the Bartram's scrub-hairstreak be established within its historical range. Therefore, we are proposing two critical habitat units in the Florida Keys where appropriate hostplant-bearing habitat was historically recorded, which has since been degraded and became unsuitable for butterfly use. We believe that, given proper management and restoration efforts, the Bartram's scrub-hairstreak may be able to be established on these units, thereby providing an essential fortification of the subspecies' metapopulation in the Florida Keys.

To determine the location and boundaries of critical habitat for the Bartram's scrub-hairstreak, the Service used the following information sources and considerations.

(1) Historical and current records of Bartram's scrub-hairstreak occurrence and distribution found in publications, reports and associated voucher specimens housed at museums and private collections;

(2) IRC and FTG GIS data showing the location and extent of documented occurrences of the pine rockland habitat with pineland croton;

(3) Reports prepared by ecologists, biologists, and botanists with the IRC, ENP,

FTG, and Service assessing the current and historic distribution of pine rockland habitat and pineland croton; and

(4) Historical records of pineland croton found in publications, reports and associated voucher specimens housed at herbaria, all of which are also referenced in the above-mentioned reports from the IRC and cited publications.

Areas Occupied at the Time of Listing

We have identified areas to include in this proposed designation by applying the following considerations to the existing Bartram's scrub-hairstreak habitats that contain PBFs.

The occupied critical habitat units were delineated around extant populations. These units include the mapped extent of the population and supporting habitat that contained the elements of the PBFs that allow for population growth and expansion. In ENP, the distribution of the Bartram's scrub-hairstreak is across a larger area than at any other single location. Outside of ENP, units are limited to three units composed of pine rockland fragments within the current distribution of the subspecies that contain the elements of the PBFs. These units retain extant, localized Bartram's scrub-hairstreak populations. The units include only pine rocklands fragments that are at least 7 ha (18 ac) in size (which represents the minimum known extant population size) and are currently occupied. On Big Pine Key, the distribution of the Bartram's scrub-hairstreak is across all extant pine rocklands on the island that contain the elements of the PBFs.

The delineation included space to plan for the persistence of the current Bartram's scrub-hairstreak populations in the face of imminent effects on habitats as a result of sea level rise. Under the worst case scenario for sea level rise (as discussed above in *Special Management Considerations or Protection*), pine rockland habitat would remain at both Navy Wells, Camp Owaissa Bauer, and the Richmond Pine Rocklands, each of which retain Bartram's scrub-hairstreak populations. However, even in these areas, pine rocklands may be altered as a result of vegetation shifts or salt water intrusion, at an extent to which cannot be predicted at this time.

In summary, for areas within the geographic area occupied by the subspecies at the time of listing, we delineated critical habitat unit boundaries by evaluating habitat suitability of pine rockland habitat within the geographic area occupied at the time of listing (current), and retain those areas that contain some or all of the PCEs to support life-history functions essential for conservation of the subspecies.

Areas Outside of the Geographic Range at the Time of Listing

The Bartram's scrub-hairstreak has become extirpated from several locations where it was previously recorded. We are proposing critical habitat for those areas that are well-documented historic butterfly locations (i.e., Big Pine Key, Long Pine Key, areas in Miami-Dade County) (Smith *et al*. 1994, p. 118; Salvato and Hennessey 2004, p. 223) and that maintain one or more of the PCEs or can be restored. Two units are within

the historical range of the butterfly, where the butterfly is currently considered extirpated because there is a lack of specific butterfly location documentation. These units contain pine rockland habitat and are essential for the conservation of the subspecies, because:

(1) Large contiguous parcels of habitat are more likely to be resilient to ecological processes of disturbance and succession, and support viable populations of the Bartram's scrub-hairstreak. However, in Miami-Dade County, the Bartram's scrub-hairstreak is extant on parcels as small as 7 ha (18 ac), which lay adjacent to larger pine rocklands. Bartram's scrub-hairstreak populations may be able to utilize these smaller fragments while dispersing between units. Therefore, all pine rocklands fragments, at least 7 ha (18 ac) in size, that are currently unoccupied and within 5 km (3 miles) of an extant Bartram's scrub-hairstreak population within Miami-Dade County, were identified as critical habitat for the Bartram's scrub-hairstreak.

(2) Areas are needed to maintain connectivity of habitat and aid butterfly dispersal within and between occupied units (i.e. stepping stones for dispersal). These areas maintain connectivity within and between populations and allow for population expansion within the butterfly's historical range.

(3) Areas are needed to allow the dynamic ecological nature of the pine rockland habitat to continue. The abundance and distribution of pineland croton within the pine rockland habitat varies greatly throughout the range of the Bartram's scrub-hairstreak. At any one time, only a portion of this habitat is optimally suitable for the Bartram's scrub-hairstreak and the size and location of suitable areas is dynamic over time, being largely

driven by the frequency and scale of natural or prescribed fires. Historically lighting-induced fires maintained native vegetation within the pine rockland ecosystem, including pineland croton. Although prescribed burns are administered on the majority of conservation lands which retain Bartram's scrub-hairstreak populations, fire return intervals and scope are inconsistent. In addition, little or no fire management occurs on private lands. Thus, areas of pine rockland that now support the subspecies, may not provide as optimal habitat in the future as fire suppression and resultant succession removes or fragments hostplant distribution. Conversely, hostplants may return or increase in areas following prescribed fires, allowing the butterflies to expand or colonize within them in the future.

In summary, we determined that the areas proposed outside the geographic area occupied by the species at the time of listing, but that are within the historical range of the species, are essential to the survival and recovery of the species. Essential areas are those that maintain pine rockland habitat and are within the historical range of the butterfly, where the butterfly has been extirpated but where there are well-known specific or general historical locations of the butterfly.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed

lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the PBFs in the adjacent critical habitat.

In summary, we are proposing areas for designation of critical habitat that we have determined are occupied at the time of listing and contain sufficient elements of physical or biological features to support life-history processes essential for the conservation of the species, and lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of the Bartram's scrub-hairstreak butterfly.

The critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document in the rule portion. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We will make the coordinates or plot points or both on which each map is based available to the public on http://www.regulations.gov at Docket No. FWS–R4–ES–2013–0031, on our Internet sites www.fws.gov/verobeach/, and at the field office responsible for the designation (see **FOR FURTHER INFORMATION CONTACT** above).

Proposed Critical Habitat Designation for the Bartram's Scrub-hairstreak Butterfly

Two of the seven units proposed for Bartram's scrub-hairstreak are currently designated as critical habitat under the Act for other species. Unit BSHB1- Everglades National Park, is currently designated as critical habitat for the Cape Sable seaside sparrow *(Ammodramus maritimus mirabilis;* 50 CFR 17.95(b)), and Unit BSHB2– Little Pine Key is designated critical habitat for the silver rice rat *(Oryzomys palustris natator;* 50 CFR 17.95(a)). No other critical habitat units proposed for this butterfly have been designated as critical habitat for other species under the Act.

The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the Bartram's scrub-hairstreak. The seven areas we propose as critical habitat are: (1) BSHB1 Everglades National Park, Miami-Dade County, Florida, (2) BSHB2 Navy Wells Pineland Preserve, Miami-Dade County, Florida, (3) BSHB3 Camp Owaissa Bauer, Miami-Dade County, Florida, (4) BSHB4 Richmond Pine Rocklands, Miami-Dade County, Florida, (5) BSHB5 Big Pine Key, Monroe County, Florida, (6) BSHB6 No Name Key, Monroe County, Florida, and (7) BSHB7 Little Pine Key, Monroe County, Florida. Land ownership within the proposed critical habitat consists of Federal (75 percent), State (5 percent), and private and other (20 percent). Table 2 summarizes these units. Proposed critical habitat for the Florida leafwing occurs entirely within Bartram's scrub- hairstreak units BSHB1, BSHB2, BSHB4, and BSHB5.

TABLE 2. Bartram's scrub-hairstreak proposed critical habitat units.

Unit Number	Unit Name	Ownership	Percent	Hectares	Acres	Occupied
BSHB1	Everglades National Park	Federal	100	2,313	5,716	yes
		Total	*100*	2,313	5,716	
BSHB2	Navy Wells Pineland Preserve	State	30	62	153	yes
		Private-Other	70	141	349	
		Total	*100*	*203*	*502*	
BSHB3	Camp Owaissa Bauer	State	20	29	71	yes
		Private-Other	80	117	288	
		Total	*100*	*146*	*359*	
BSHB4	Richmond Pine Rocklands	Federal	11	50	122	yes
		State	7	32	79	
		Private-Other	82	356	881	
		Total	*100*	*438*	*1082*	
BSHB5	Big Pine Key	Federal	65	365	901	yes
		State	16	90	223	
		Private-Other	19	104	258	
		Total	*100*	*559*	*1,382*	
BSHB6	No Name Key	Federal	75	30	75	no
		State	18	9	22	
		Private-Other	7	11	26	
		Total	*100*	*50*	*123*	
BSHB7	Little Pine Key	Federal	100	39	97	no
		Total	*100*	*39*	*97*	
Total All Units		**Federal**	**75 percent**	**2,797**	**6,911**	
		State	**5 percent**	**222**	**548**	

	Private-Other	**20 percent**	**729**	**1,802**	
	All	**100**	**3,748**	**9,261**	

Note: Area sizes may not sum due to rounding

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for the Bartram's scrub-hairstreak, below.

Unit BSHB1: Everglades National Park Miami-Dade County, Florida

Unit BSHB1 consists of 2,313 ha (5,716 ac) in Miami-Dade County. This unit is composed entirely of lands in Federal ownership, 100 percent of which are located within the Lone Pine Key region of ENP. This unit is currently occupied by the Bartram's scrub-hairstreak and contains all the PBFs, including suitable habitat (pine rockland habitat of sufficient size), hostplant presence, natural or artificial disturbance regimes, low levels of nonnative vegetation and larval parasitism, hostplant, and restriction of pesticides and contains the PCE of pine rockland. The PBFs in this unit may require special management considerations or protection to address threats of fire suppression, habitat fragmentation, poaching, and sea level rise. However, in most cases these threats are being addressed or coordinated with the NPS to implement needed actions.

ENP is currently in the process of updating its FMP and Environmental Assessment, which will assess the impacts of fire on various environmental factors, including listed, proposed, and candidate species (Land, pers. comm. 2011; Sadle, pers. comm. 2013a). ENP is actively coordinating with the Service, as well as other members

of the IBWG to review and adjust the prescribed burn practices outlined in the FMP to help maintain or increase Bartram's scrub-hairstreak population sizes, protect pine rocklands, expand or restore remnant patches of hostplants and ensure that short-term negative effects from fire (i.e., loss of hostplants, loss of eggs and larvae) can be avoided or minimized.

Unit BSHB2: Navy Wells Pineland Preserve, Miami-Dade County, Florida

Unit BSHB2 consists of 203 ha (502 ac) in Miami-Dade County. This unit comprises lands in State (62 ha (153 ac)) and private or other (141 ha (349 ac)) ownership. The 120-ha (296-ac) Navy Wells Pineland Preserve is jointly owned by Miami-Dade County (85 ha (211 ac)) and the State (35 ha (85 ac)). State lands are interspersed within Miami-Dade County Parks and Recreation Department lands, which are managed for conservation.

This unit begins in Homestead, Florida, on SW 304 Street, between SW 198 Avenue to SW 204 Avenue, then resumes between SW 340 Street and SW 344 Street, between SW 213 Avenue and SW 214 Avenue, then resumes between SW 344 Street and SW 360 Street on SW 209 Avenue, then resumes along SW 268 Street, between SW 202 Avenue and SW 205 Avenue, then resumes along SW 360 Street, between SW 202 Avenue and SW 188 Avenue, then resumes between SW 7 Street and SW 158 Street, in the vicinity of SW 180 Avenue, then resumes along Palm Drive and SW 3 Terrace, between SW 6 Avenue and SW 8 Avenue.

This unit is occupied by the Bartram's scrub-hairstreak and contains all the PBFs, including suitable habitat, hostplant, adult food sources, breeding sites, disturbance regimes, and restriction of pesticides and contains pine rockland and rockland hammock PCEs. The PBFs in this unit may require special management considerations or protection to address threats of fire suppression, habitat fragmentation, poaching, and sea level rise. However, in most cases these threats are being addressed or coordinated with our partners and landowners to implement needed actions.

Unit BSHB3: Camp Owaissa Bauer, Miami-Dade County, Florida

Unit BSHB3 consists of 146 ha (359 ac) in Miami-Dade County. This unit is comprised of lands in State (29 ha (71 ac)), private or other (117 ha (288 ac)) ownership of which one large fragment (40 ha (99 ac) is owned by Miami-Dade County-Camp Owaissa Bauer). State lands are interspersed within Miami-Dade County Parks and Recreation Department lands, which are managed for conservation.

This unit begins in Homestead, Florida, on SW 147 Ave, between SW 216 Street and SW 200 Street, then resumes on both sides of SW 157 Avenue, between SW 216 Street and SW 228 Street, then resumes along SW 232 Street, between SW 142 Avenue and SW 144 Avenue, then continues south of SW 232 Street along both sides of SW 142 Ave to SW 248 Street, then resumes along SW 248 Street, south to SW 256 Street, between SW 244 Avenue and the vicinity of SW 157 Avenue, then resumes along SW

240 Street, north to the vicinity of SW 238 Street, between SW 152 Avenue and SW 147 Avenue, then resumes between of SW 264 Street and SW 272 Street, along both sides of SW 155 Avenue, then resumes along both sides of SW 264 Street in the vicinity of SW 262 Avenue.

This unit is occupied by the Bartram's scrub-hairstreak and contains all the PBFs, including suitable habitat, hostplant, adult food sources, breeding sites, disturbance regimes, and restriction of pesticides required by the subspecies and contains pine rockland and rockland hammock PCEs. The PBFs in this unit may require special management considerations or protection to address threats of fire suppression, habitat fragmentation, poaching, and sea level rise. However, in most cases these threats are being addressed or coordinated with our partners and landowners to implement needed actions.

Unit BSHB4: Richmond Pine Rocklands, Miami-Dade County, Florida

Unit BSHB4 consists of 438 ha (1,082 ac) in Miami-Dade County. This unit comprises lands in both Federal (U. S. Coast Guard (Homeland Security) (29 ha (72 ac)), U.S. Army Corps of Engineers (DoD) (8 ha (20 ac)), National Oceanic Atmospheric Administration (NOAA) (4 ha (9 ac)), Federal Bureau of Prisons (Department of Justice (DoJ) (9 ha (21 ac)), State (32 ha (79 ac)), and private or other (356 ha (881 ac)) ownership. The unit includes some of the largest remaining contiguous fragments of pine

rockland habitats outside of ENP known to be occupied by the Bartram's scrub-hairstreak.

This unit begins in Miami, Florida, at SW 120 Street, north to SW 112 Street, between SW 142 Avenue and the vicinity of SW 137 Avenue, then resumes along SW 124 Street south to SW 128 Street between SW127 Avenue and the vicinity of SW 137 Avenue, then resumes in the vicinity of SW 136 Street and SW 122 Avenue, then resumes on Coral Reef Road (State Road 992) south to SW 168 Street, between US 1 and SW 117 Avenue, then resumes from Coral Reef Road south to SW 184 Street, between US 1 and SW 137 Avenue.

This unit is currently occupied by the Bartram's scrub-hairstreak and contains all the PBFs, including suitable habitat, hostplant, adult food sources, breeding sites, disturbance regimes, and restriction of pesticides and contains pine rockland and rockland hammock PCEs. The PBFs in this unit may require special management considerations or protection to address threats of fire suppression, habitat fragmentation, poaching, and sea level rise. However, in most cases these threats are being addressed or coordinated with our partners and landowners to implement needed actions. The U.S. Army Corps of Engineers lands do not have an integrated natural resources management plan (INRMP) or other natural resource management plan.

Unit BSHB5: Big Pine Key, Monroe County, Florida

Unit BSHB5 consists of 559 ha (1,382 ac) in Monroe County. This unit includes Federal lands within National Key Deer Refuge (NKDR) (365 ha (901 ac)), State (90 ha (223 ac)), and property in private or other (104 ha (258 ac)) ownership. State lands are interspersed within NKDR lands and managed as part of the Refuge.

The unit begins on northern Big Pine Key on the southern side of Gulf Boulevard, continues south on both sides of Key Deer Boulevard (County Road 940 (CR 940)) to the vicinity of Osprey Lane on the western side of CR 940 and Tea Lane to the east of CR 940, then resumes on both sides of CR 940 from Osprey Lane to rest south of the vicinity of Driftwood Lane, then resumes south of Osceola Street, between Fern Avenue to the west and Baba Lane to the east, then resumes north of Watson Boulevard in the vicinity of Avenue C, then continues south on both sides of Avenue C to South Street, then resumes on both sides of CR 940 south to US 1 between Ships Way to the west and Sands Street to the east, then resumes south of US 1 from Newfound Boulevard to the west and Deer Run Trail to the east, then resumes south of US 1 from Palomino Horse Trail to the west and Industrial Road to the east.

This unit is currently occupied by the Bartram's scrub-hairstreak. This unit contains three of the PBFs, including suitable habitat, hostplant, adult food sources, and breeding sites required by the subspecies, and contains pine rockland and rockland hammock PCEs. The PBFs in this unit may require special management considerations or protection to address threats of disturbance regimes (fire), and pesticide applications, as well as habitat fragmentation, poaching, and sea level rise. However, in most cases

these threats are being addressed or coordinated with our partners and landowners to implement needed actions.

Unit BSHB6: No Name Key, Monroe County, Florida

Unit BSHB6 consists of 50 ha (123 ac) in Monroe County. This unit includes Federal lands within National Key Deer Refuge (30 ha (75 ac)), State (9 ha (22 ac)), and property in private or other ownership (11 ha (26 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge. The unit extends from Watson Road entirely on National Key Deer Refuge lands just south of the vicinity of Spanish Channel Drive eastward to the vicinity of Paradise Drive, then resumes north of Watson Road from No Name Drive east to Paradise Lane.

This unit is not currently occupied by the Bartram's scrub-hairstreak but is essential to the conservation of the subspecies because it serves to protect habitat needed to recover the subspecies, reestablish wild populations within the historical range of the subspecies, and maintain populations throughout the historical distribution of the subspecies in the Florida Keys, and provides area for recovery in the case of stochastic events that otherwise hold the potential to eliminate the subspecies from the one or more locations where it is presently found. The Lower Key Refuges, CCP management objective number 11 provides specifically for maintaining and restoring butterfly populations of special conservation concern, including the Bartram's scrub-hairstreak.

Unit BSHB7: Little Pine Key, Monroe County, Florida

Unit BSHB7 consists of 39 ha (97 ac) in Monroe County. This unit comprises entirely lands in Federal ownership, 100 percent of which are located within National Key Deer Refuge. This unit is not currently occupied by the Bartram's scrub-hairstreak but is essential to the conservation of the subspecies because it serves to protect habitat needed to recover the subspecies, reestablish wild populations within the historical range of the subspecies, and maintain populations throughout the historical distribution of the subspecies in the Florida Keys, and it provides area for recovery in the case of stochastic events that otherwise hold the potential to eliminate the subspecies from one or more locations where it is presently found. The Lower Key Refuges, CCP management objective number 11 provides specifically for maintaining and restoring butterfly populations of special conservation concern, including the Bartram's scrub-hairstreak.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service

on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir. 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service*, 245 F.3d 434 (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq*.) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not

affecting listed species or critical habitat, and actions on State, tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define "reasonable and prudent alternatives" (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may

destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of critical habitat for the Florida leafwing and Bartram's scrub-hairstreak. As discussed above, the role of critical habitat is to support life-history needs of these butterflies and provide for the conservation of these subspecies.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for the Florida leafwing and Bartram's scrub-hairstreak. These activities include, but are not limited to:

(1) Actions that would significantly alter the pine rockland and associated rockland hammock ecosystem. Such activities may include, but are not limited to, residential, commercial, or recreational development including associated infrastructure.

(2) Actions that would significantly alter vegetation structure or composition, such as natural fire suppression or excessive prescribed burning, clearing vegetation for construction of residential, commercial, or recreational development, and associated infrastructure.

(3) Actions that would introduce nonnative plant species that would significantly

alter vegetation structure or composition. Such activities may include, but are not limited to, residential and commercial development, and associated infrastructure.

(4) Actions that would introduce nonnative arthropod species that would significantly influence the natural histories of the Florida leafwing and Bartram's scrub-hairstreak. Such activities may include release of parasitic or predator species (flies or wasps) for use in agriculture-based biological control programs.

(5) Actions that would introduce chemical pesticides into the pine rockland and associated rockland hammock ecosystem in a manner that impacts the butterflies. Such activities may include use of adulticides for control of mosquitos or agricultural-related pests.

Exemptions

Application of Section 4(a)(3) of the Act

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: "The Secretary shall not designate as critical habitat any lands or other geographic areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an INRMP prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation." There are Department of Defense lands within the critical habitat designation area; however, none of the lands are covered by an INRMP. Accordingly, no lands that otherwise meet the definition of critical habitat are exempt

under section 4(a)(3)(B)(i).

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, we may exclude an area from designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion

outweigh the benefits of inclusion, the Secretary may exercise his discretion to exclude the area only if such exclusion would not result in the extinction of the species.

Exclusions Based on Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. In order to consider economic impacts, we are preparing an analysis of economic impacts of the proposed critical habitat designation and related factors. The draft economic analysis will be made available for public comment.

During the development of a final designation, we will consider economic impacts based on information in our economic analysis, public comments, and other new information, and areas may be excluded from the final critical habitat designation under section 4(b)(2) of the Act and our implementing regulations at 50 CFR 424.19.

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands where a national security impact might exist. In preparing this proposal, we have determined that some lands within the proposed designation of critical habitat for the Florida leafwing and Bartram's scrub-hairstreak are owned or managed by the Department of Defense and the Department of Homeland Security. However, we anticipate no impact on national

security. Consequently, the Secretary is not intending to exercise her discretion to exclude any areas from the final designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors, including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any tribal issues, and consider the government-to-government relationship of the United States with tribal entities. We also consider any social impacts that might occur because of the designation.

In preparing this proposed rule, we have determined that there are currently no HCPs or other management plans for the Florida leafwing and Bartram's scrub-hairstreak. An HCP for Big Pine and No Name Keys in Monroe County, Florida, which was implemented in 2006, did not address the Florida leafwing and Bartram's scrub-hairstreak. However, in order to fulfill the HCP's mitigation requirements Monroe County has been actively acquiring parcels of high-quality pine rockland and placing them into conservation. These conservation actions have benefited the Florida leafwing and Bartram's scrub-hairstreak by protecting habitat. However, we anticipate no impact on the HCP from this proposed critical habitat designation. Furthermore, the proposed

designation does not include any tribal lands or additional trust resources so we anticipate no impact on tribal lands or partnerships from this proposed critical habitat designation. Accordingly, the Secretary does not intend to exercise his discretion to exclude any areas from the final designation based on other relevant impacts.

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our proposed listing and critical habitat designation are based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period.

We will consider all comments and information received during this comment period on this proposed rule during our preparation of a final determination. Accordingly, the final decision may differ from this proposal.

Required Determinations

Regulatory Planning and Review (Executive Orders 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs in the Office of Management and Budget will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. Executive Order 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq*.), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small

businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include such businesses as manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and forestry and logging operations with fewer than 500 employees and annual business less than $7 million. To determine whether small entities may be affected, we will consider the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term “significant economic impact” is meant to apply to a typical small business firm’s business operations.

Importantly, the incremental impacts of a rule must be *both* significant and substantial to prevent certification of the rule under the RFA and to require the preparation of an initial regulatory flexibility analysis. If a substantial number of small entities are affected by the proposed critical habitat designation, but the per-entity economic impact is not significant, the Service may certify. Likewise, if the per-entity economic impact is likely to be significant, but the number of affected entities is not substantial, the Service may also certify.

Under the RFA, as amended, and following recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking only on those entities directly regulated by the rulemaking itself, and not the potential impacts to indirectly affected entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried by the Agency is not likely to adversely modify critical habitat. Therefore, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Under these circumstances, it is our position that only Federal action agencies will be directly regulated by this designation. Therefore, because Federal agencies are not small entities, the Service may certify that the proposed critical habitat rule will not have a significant economic impact on a substantial number of small entities.

We acknowledge, however, that in some cases, third-party proponents of the action subject to permitting or funding may participate in a section 7 consultation, and thus may be indirectly affected. We believe it is good policy to assess these impacts if we have sufficient data before us to complete the necessary analysis, whether or not this analysis is strictly required by the RFA. While this regulation does not directly regulate these entities, in our draft economic analysis we will conduct a brief evaluation of the potential number of third parties participating in consultations on an annual basis in order to ensure a more complete examination of the incremental effects of this proposed rule in the context of the RFA.

In conclusion, we believe that, based on our interpretation of directly regulated entities under the RFA and relevant case law, this designation of critical habitat will only directly regulate Federal agencies which are not by definition small business entities. And as such, we certify that, if promulgated, this designation of critical habitat would not have a significant economic impact on a substantial number of small business entities. Therefore, an initial regulatory flexibility analysis is not required. However, though not necessarily required by the RFA, in our draft economic analysis for this proposal we will consider and evaluate the potential effects to third parties that may be involved with consultations with Federal action agencies related to this action.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. We do not expect the designation of this proposed critical habitat to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.)*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq*.), we make the following findings:

(1) This proposed rule would not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under

entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would

critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We lack the available economic information to determine if a Small Government Agency Plan is required. Therefore, we defer this finding until completion of the draft economic analysis is prepared under section 4(b)(2) of the Act.

Takings—Executive Order 12630

In accordance with Executive Order 12630 ("Government Actions and Interference with Constitutionally Protected Private Property Rights"), this rule is not anticipated to have significant takings implications. As discussed above, the designation of critical habitat affects only Federal actions. Critical habitat designation does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. Due to current public knowledge of the species protections and the prohibition against take of the species both within and outside of the proposed areas we do not anticipate that property values will be affected by the critical habitat designation. However, we have not yet completed the economic analysis for this proposed rule. Once the economic analysis is available, we will review and revise this preliminary assessment as warranted, and prepare a Takings Implication Assessment.

Federalism—Executive Order 13132

In accordance with Executive Order 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Florida. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical and biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist these local governments in long-range planning (because these governments no longer have to wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding,

assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, the rule identifies the elements of physical or biological features essential to the conservation of the species. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq*.). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency 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.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act (NEPA: 42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work

directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes.

We determined that there are no tribal lands that are currently occupied by the Florida leafwing and Bartram's scrub-hairstreak that contain the features essential for conservation of these subspecies, and no tribal lands unoccupied by the Florida leafwing and Bartram's scrub-hairstreak that are essential for the conservation of these subspecies. Therefore, we are not proposing to designate critical habitat for the Florida leafwing and Bartram's scrub-hairstreak on tribal lands.

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your

comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* and upon request from the South Florida Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this package are the staff members of the South Florida Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of

the Code of Federal Regulations, as set forth below:

PART 17— ENDANGERED AND THREATENED WILDLIFE AND PLANTS

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; 4201–4245; unless otherwise noted.

2. In § 17.95, amend paragraph (i) by adding an entry for "Bartram's Scrub-hairstreak Butterfly *(Strymon acis bartrami)"* after the entry for "Valley Elderberry Longhorn Beetle *(Desmocerus californicus dimorphus)"* and an entry for "Florida Leafwing Butterfly (*Anaea troglodyta floridalis*) *)"* after the entry for "Fender's Blue Butterfly *(Icaricia icarioides fenderi)"* to read as follows*:*

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(i) *Insects*.

* * * * *

Bartram's Scrub-hairstreak Butterfly (*Strymon acis bartrami*)

(1) Critical habitat units are depicted for Miami-Dade and Monroe Counties, Florida, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Bartram's scrub-hairstreak are:

(i) Areas of pine rockland habitat, and in some instances, associated rockland hammocks.

(A) Pine rockland habitat contains:

(1) Open canopy, semi-open subcanopy, and understory

(2) Substrate of oolitic limestone rock.

(3) A plant community of predominately native vegetation.

(B) Rockland hammock habitat associated with the pine rocklands contains:

(1) Canopy gaps and edges with an open to semi-open canopy, subcanopy, and understory.

(2) Substrate with a thin layer of highly organic soil covering limestone or organic matter that accumulates on top of the underlying limestone rock.

(3) A plant community of predominately native vegetation.

(ii) Competitive nonnative plant species in quantities low enough to have minimal effect on survival of Bartram's scrub-hairstreak butterfly.

(iii) The presence of the butterfly's hostplant, pineland croton, in sufficient abundance for larval recruitment, development, and food resources, and for adult butterfly nectar source and reproduction;

(iv) A dynamic natural disturbance regime or one that artificially duplicates natural ecological processes (e.g. fire, hurricanes or other weather events) that maintains the pine rockland habitat and associated plant community.

(v) Pine rockland habitat and associated plant community that allow for connectivity and are sufficient in size to sustain viable populations of Bartram's scrub hairstreak butterfly.

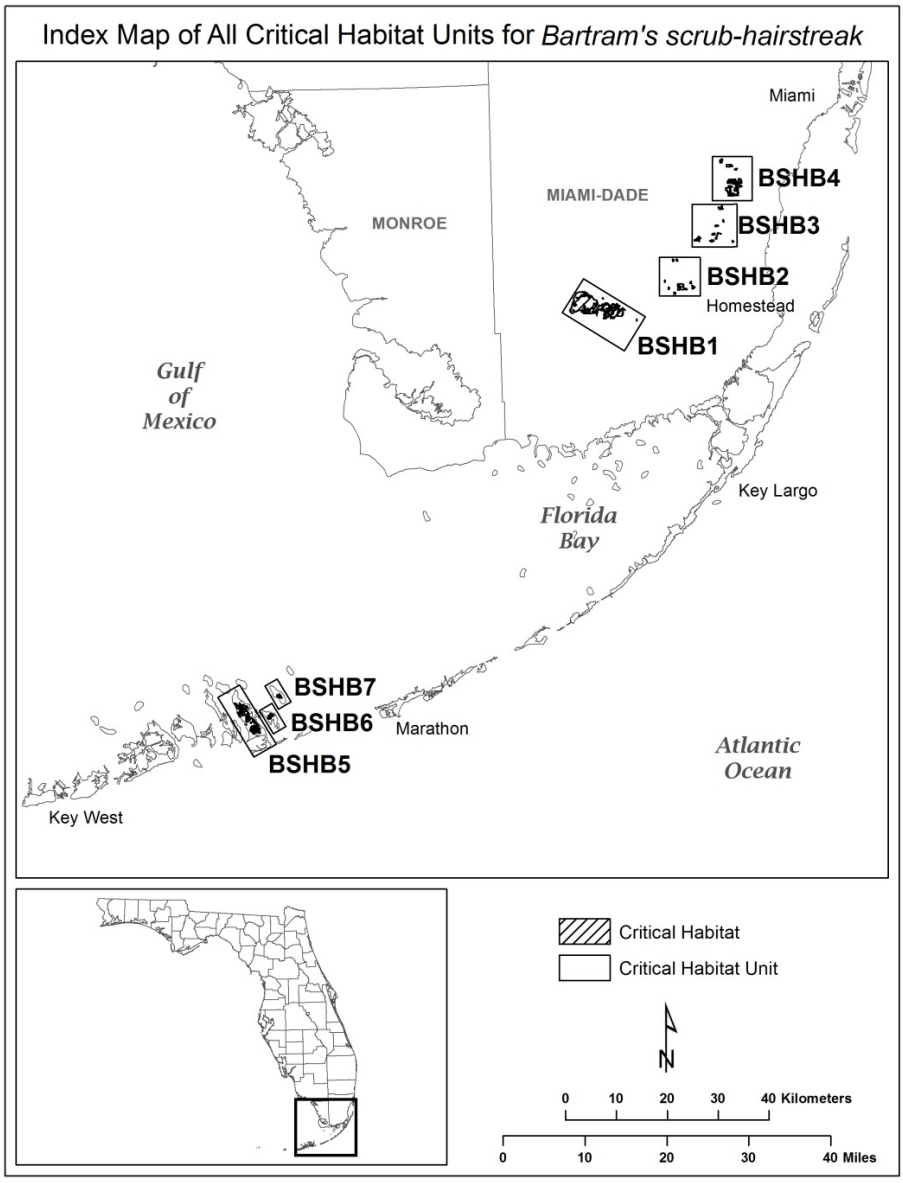
(vi) Pine rockland habitat with levels of pesticide low enough to have minimal effect on the survival of the butterfly or its ability to occupy the habitat.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Unit maps were developed using ESRI ArcGIS mapping software along with various spatial data layers. ArcGIS was also used to calculate the size of habitat areas. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic,

NAD 83. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site (http://www.fws.gov/verobeach/), the Federal eRulemaking Portal (http://www.regulations.gov at Docket No. FWS–R4–ES–2013–0031 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

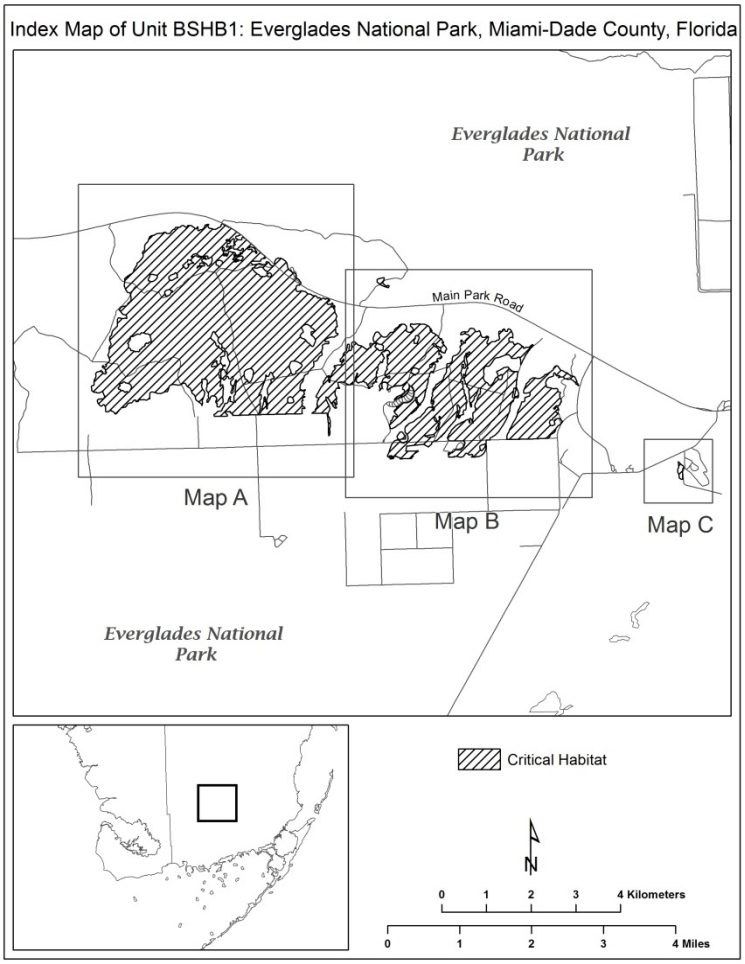
(5) Note: Index map of all critical habitat units for Bartram's scrub-hairstreak follows:



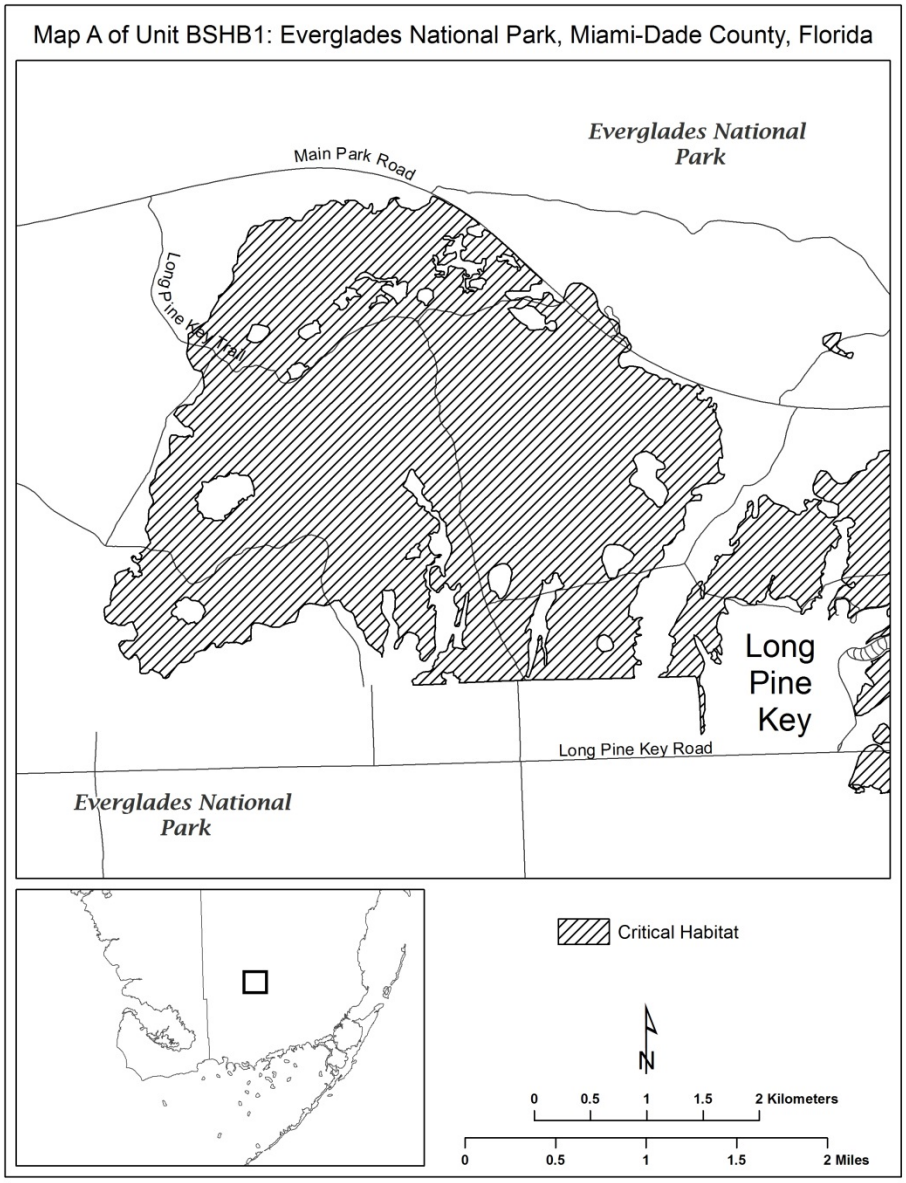
(6) Note: Unit BSHB1: Everglades National Park, Miami-Dade County, Florida.

(i) General description: Unit BSHB1 consists of 2,313 ha (5,716 ac) in Miami-Dade County and is composed entirely of lands in Federal ownership, 100 percent of which are located within the Long Pine Key region of Everglades National Park.

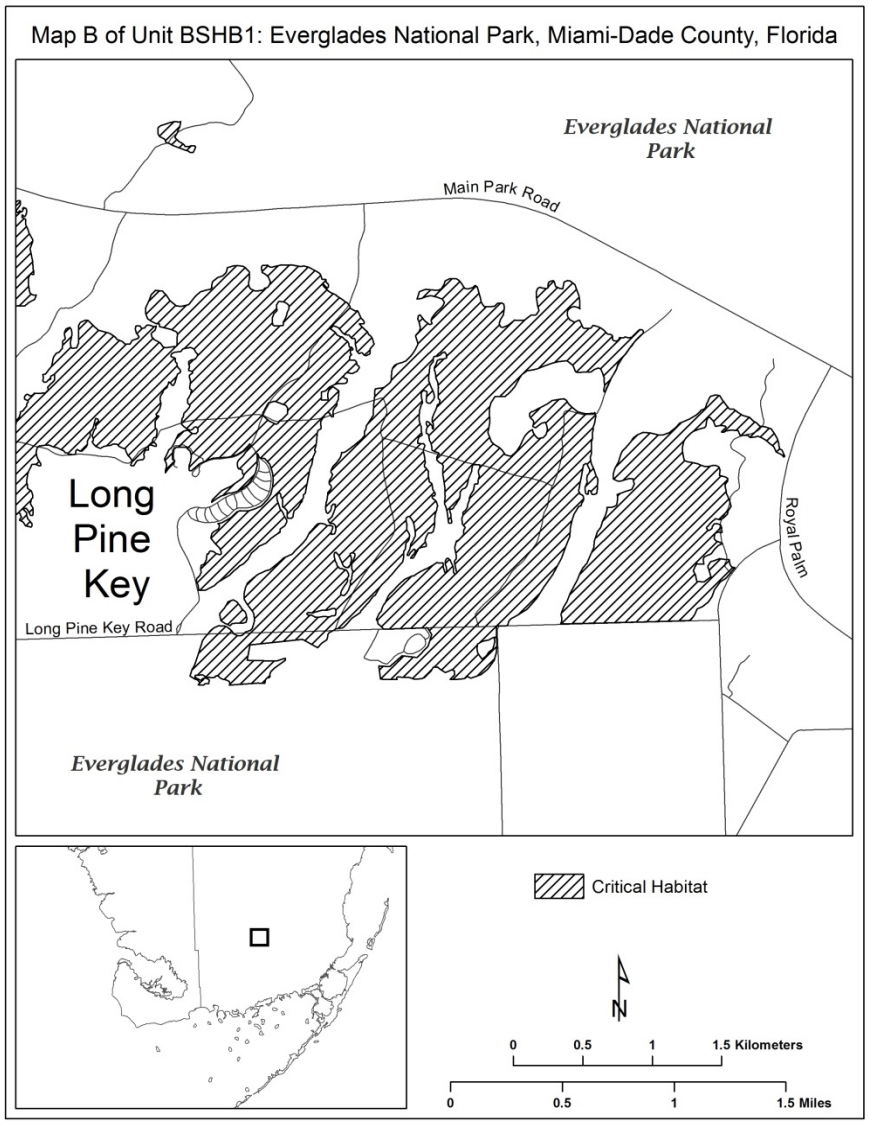
(ii) Index map of Unit BSHB1 follows:



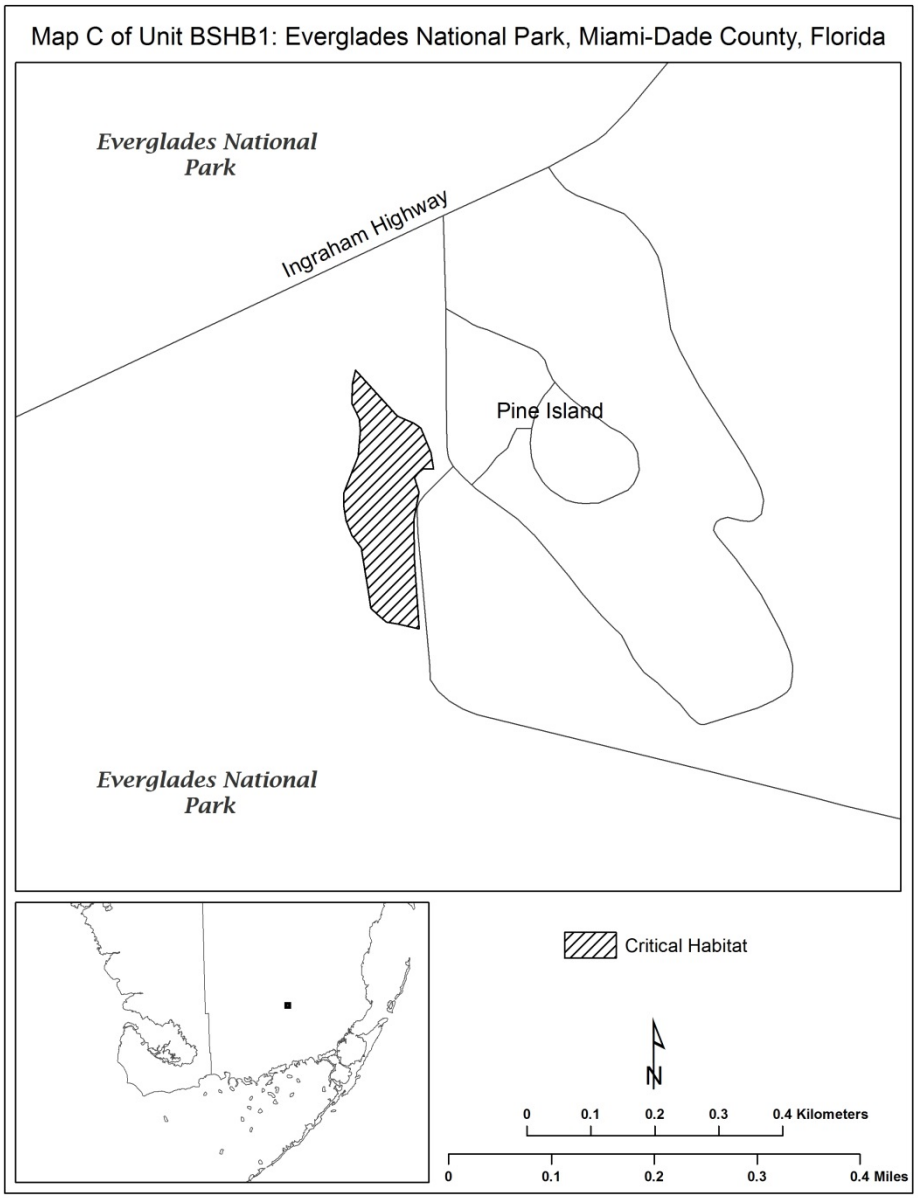
(A) Map A of Unit BSHB1: Everglades National Park, Miami-Dade County, Florida follows:



(B) Map B of Unit BSHB1: Everglades National Park, Miami-Dade County, Florida follows:



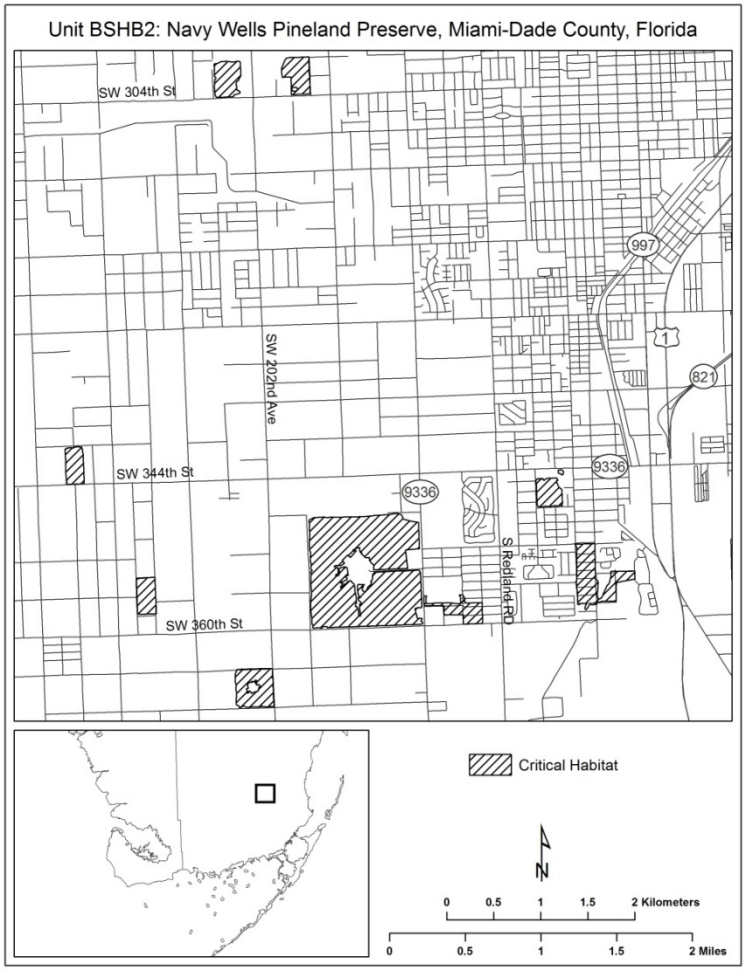
(C) Map C of Unit BSHB1: Everglades National Park, Miami-Dade County, Florida follows:



(7) Unit BSHB2: Navy Wells Pineland Preserve, Miami-Dade County, Florida.

(i) General description: Unit BSHB2 consists of 203 ha (502 ac) in Miami-Dade County and is composed of lands in State (62 ha (153 ac)), and private or other ownership (141 ha (349 ac)) including the County and State-owned Navy Wells Pineland Preserve.

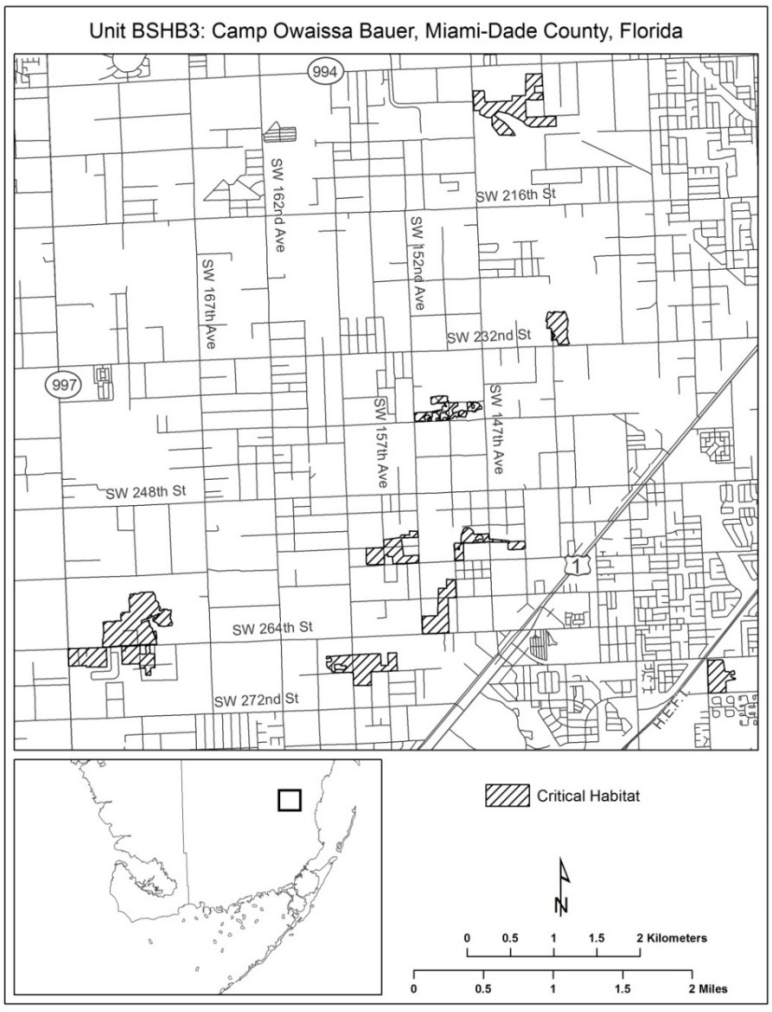
(ii) Map of Unit BSHB2 follows:



(8) Unit BSHB3: Camp Owaissa Bauer, Miami-Dade County, Florida.

(i) General Description: Unit BSHB3 consists of 146 ha (9359 ac)) in Miami-Dade County and is comprised of lands in State (29 ha (71 ac)), private or other ownership (117 ha (288 ac)) including 40 ha (99 ac) Miami-Dade County-owned Camp Owaissa Bauer.

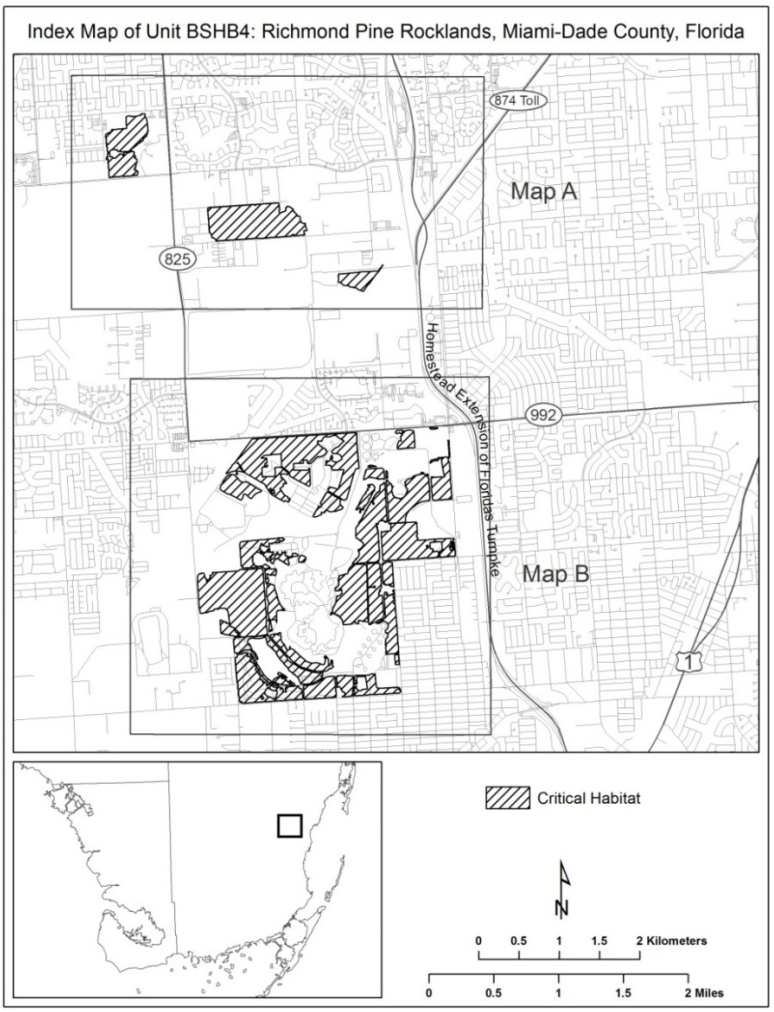
(ii) Map of Unit BSHB3 follows:



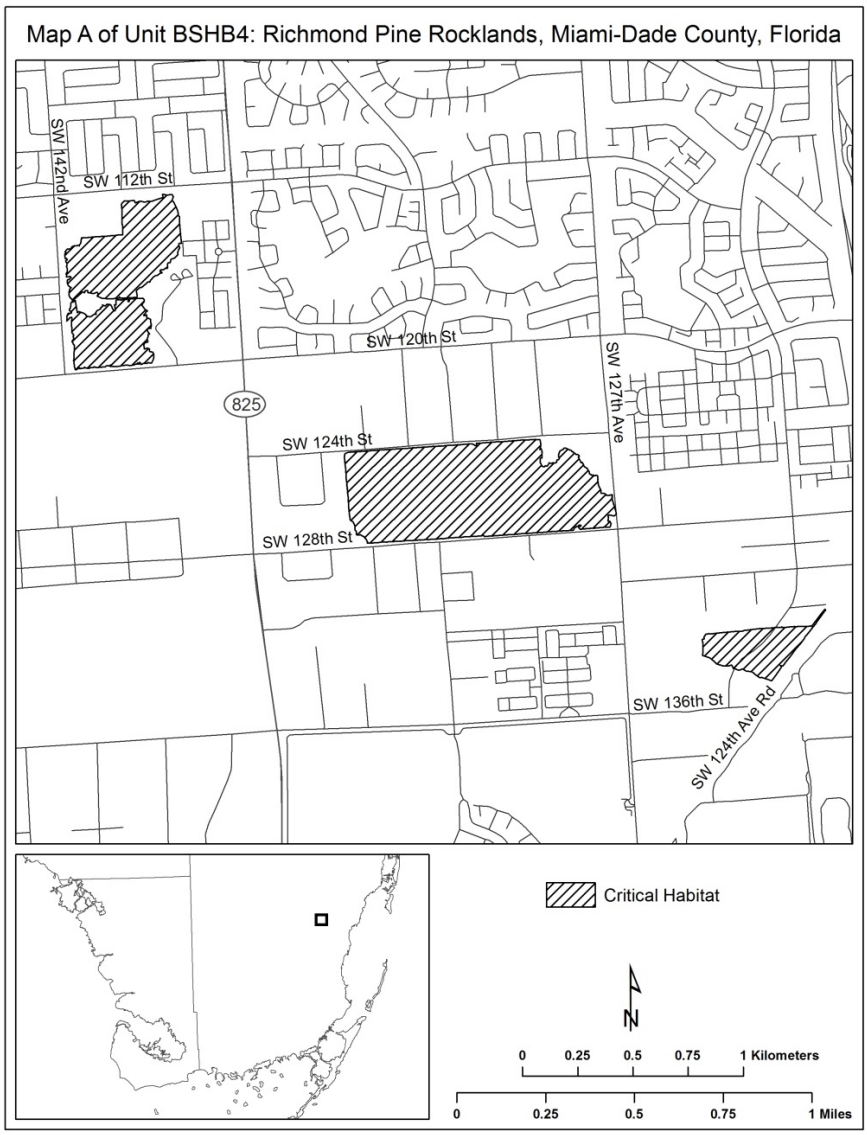
(9) Unit BSHB4: Richmond Pine Rocklands, Miami-Dade County, Florida.

(i) General Description: Unit BSHB4 consists of 438 ha (1,082 ac) in Miami-Dade County and is composed of lands in Federal (U. S. Coast Guard, U.S. Army Corps of Engineers, Federal Bureau of Prisons, and National Oceanic and Atmospheric Administration (50 ha (122 ac)), State (32 ha (79 ac)) and private or other (356 ha (881 ac)) ownership.

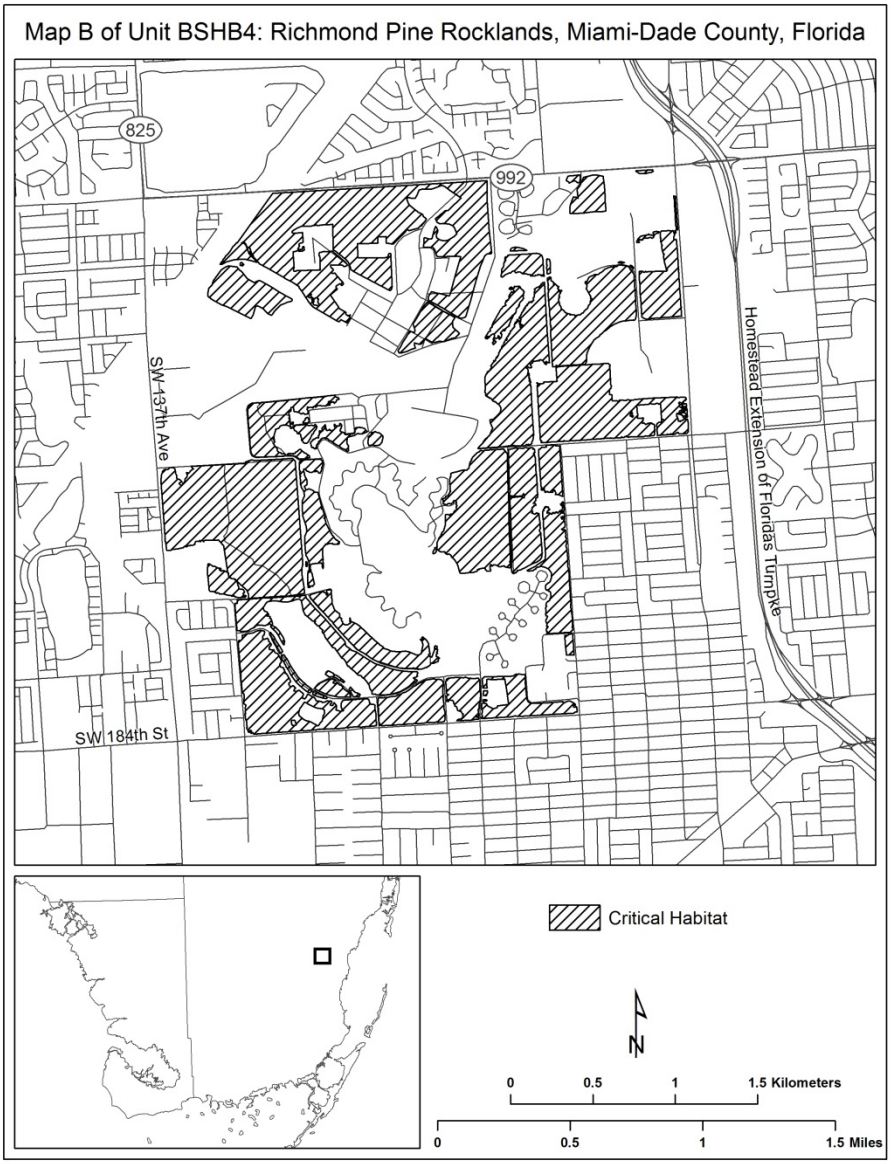
(ii) Index map of Unit BSHB4follows:



(A) Map A of Unit BSHB4: Richmond Pine Rocklands, Miami-Dade County, Florida follows:



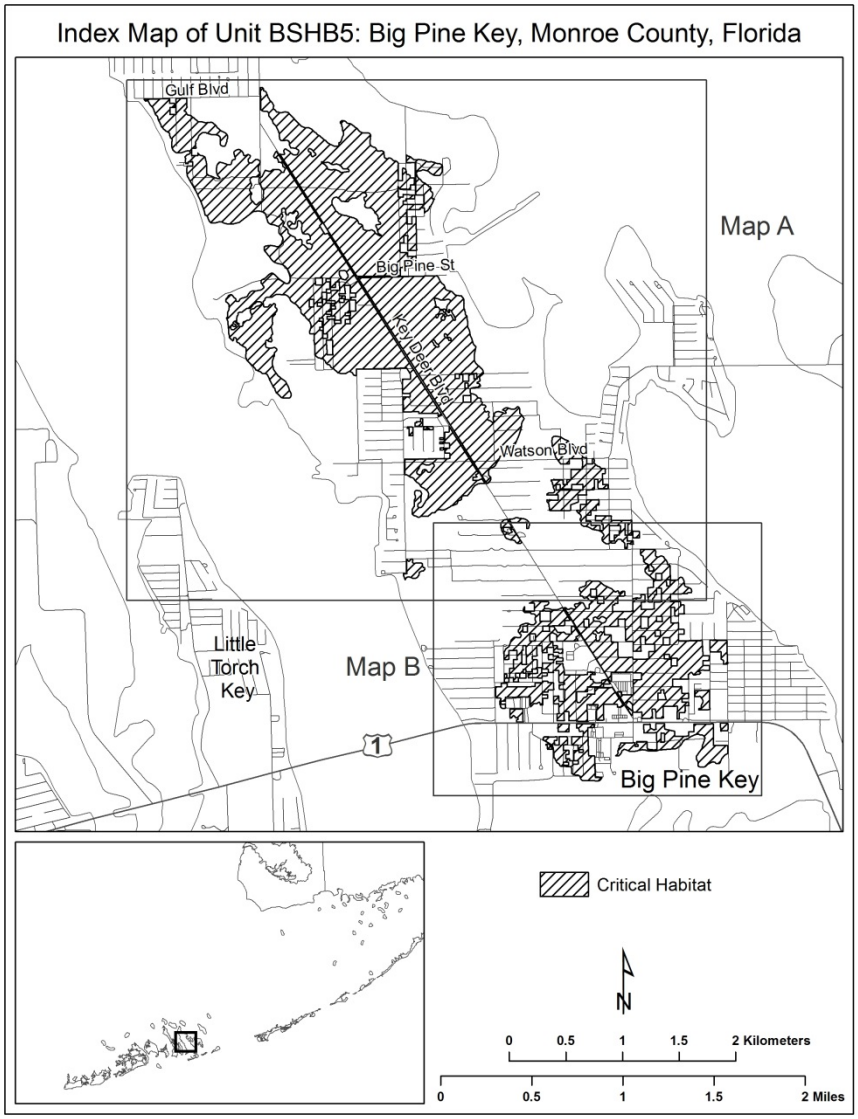
(B) Map B of Unit BSHB4: Richmond Pine Rocklands, Miami-Dade County, Florida follows:



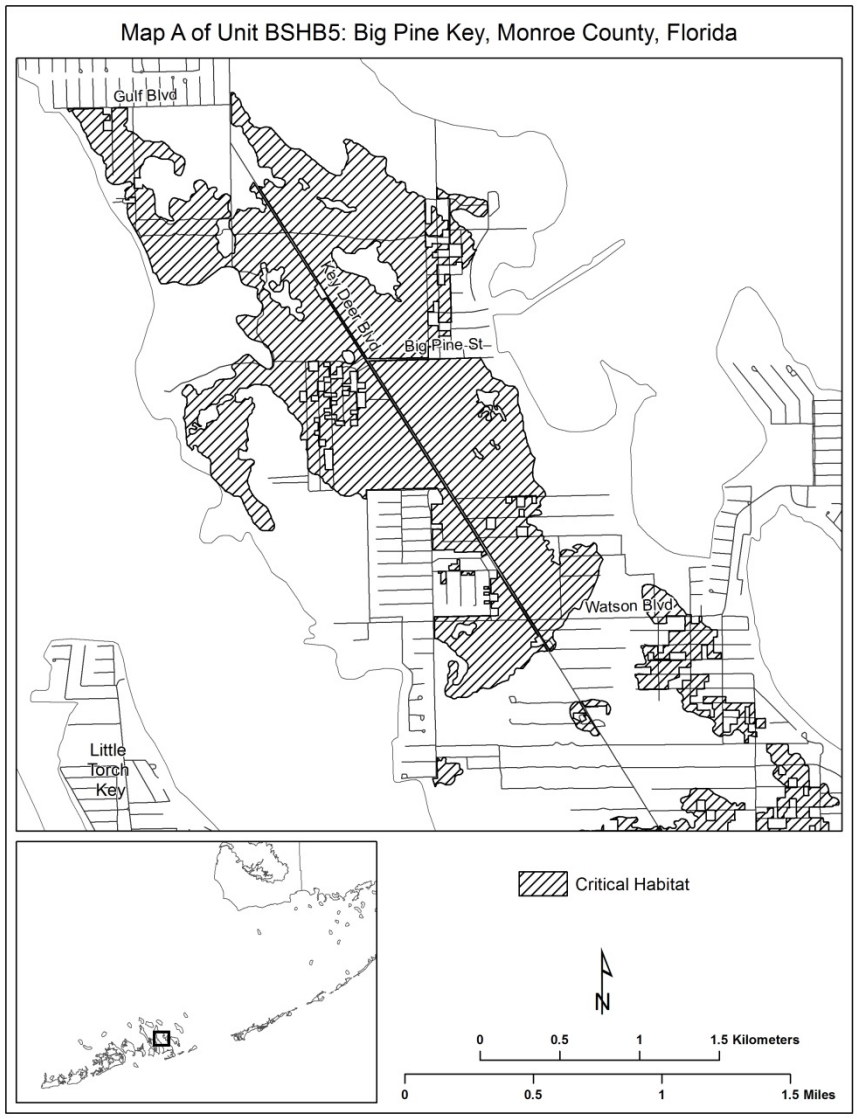
(10) Unit BSHB5: Big Pine Key, Monroe County, Florida.

(i) General description: Unit BSHB5 consists of 559 ha (1,382 ac) in Monroe County and is composed of lands in National Key Deer Refuge (365 ha (901 ac)), State ownership (90 ha (223 ac)), and private or other ownership (104 ha (258 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge.

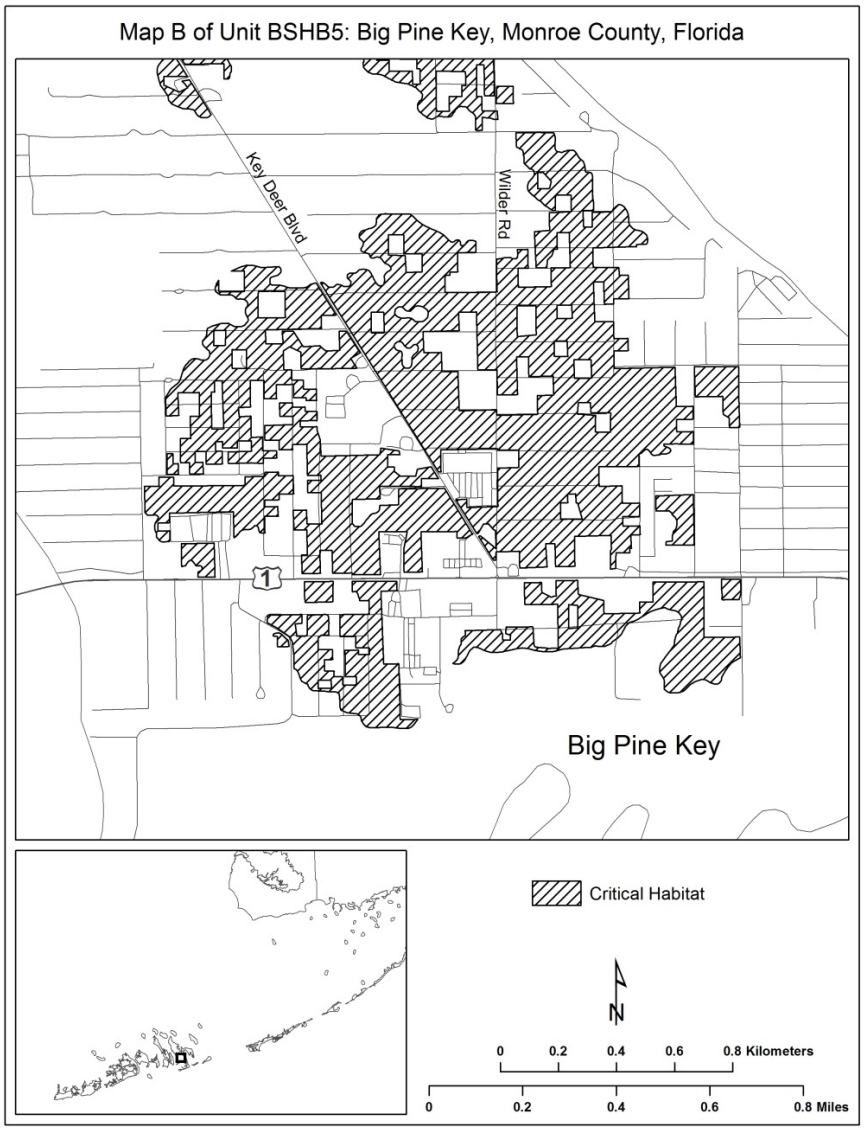
(ii) Index Map of Unit BSHB5: follows:



(A) Map A of Unit BSHB5: Big Pine Key, Monroe County, Florida follows:



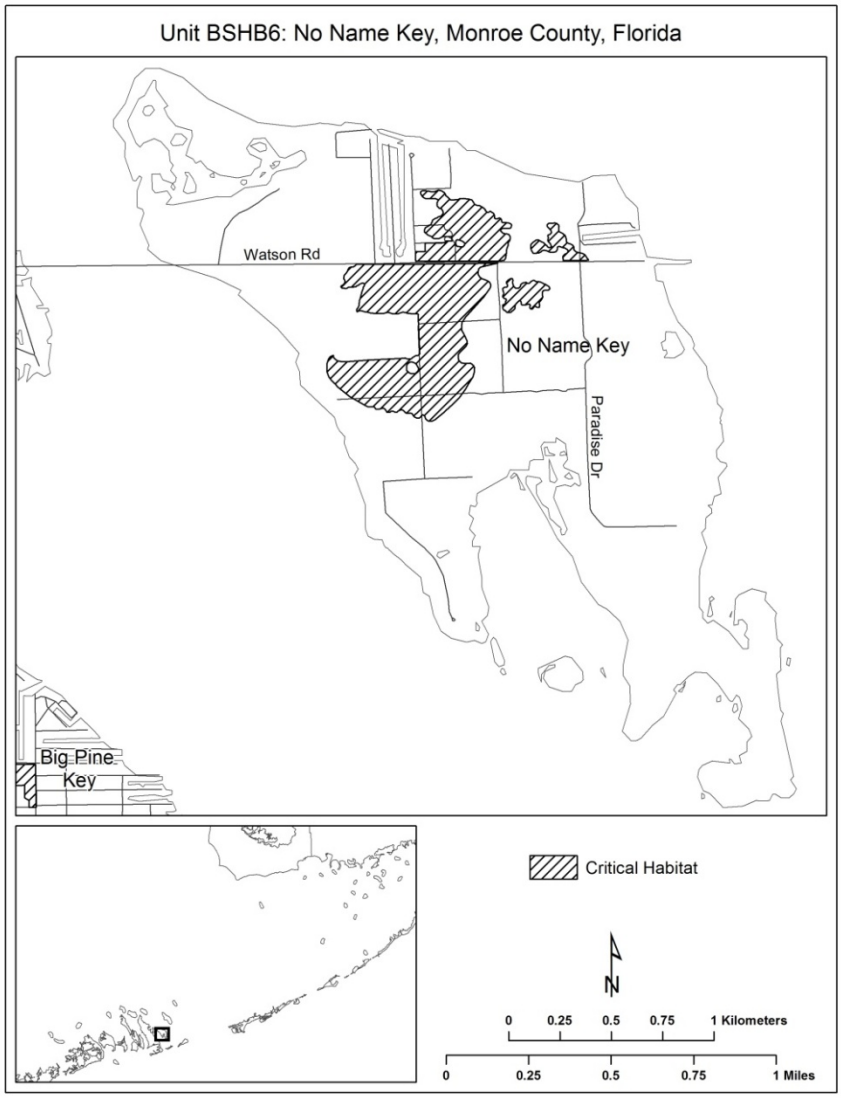
(B) Map B of Unit BSHB5: Big Pine Key, Monroe County, Florida follows:



(11) Unit BSHB6: No Name Key, Monroe County, Florida.

(i) General Description: Unit BSHB6 consists of 50 ha (123 ac) in Monroe County and is composed of lands in National Key Deer Refuge (30 ha (75 ac)), State ownership (9 ha (22 ac)), and private or other ownership (11 ha (26 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge.

(ii) Map of Unit BSHB6: No Name Key, Monroe County, Florida follows:


Unit BSHB6: No Name Key, Monroe County, Florida
Watson Rd
No Name Key
Paradise Dr
Big Pine Key
Critical Habitat
N
0 0.25 0.5 0.75 1 Kilometers
0 0.25 0.5 0.75 1 Miles

(12) Unit BSHB 7: Little Pine Key, Monroe County, Florida.

(i) General Description: Unit BSHB7 consists of 39 ha (97 ac) in Monroe County. This unit is composed entirely of lands in Federal ownership, 100 percent of which are located within National Key Deer Refuge.

(ii) Map of Unit BSHB7: Little Pine Key, Monroe County, Florida follows:

* * * * *

Florida Leafwing Butterfly *(Anaea troglodyta floridalis)*

(1) Critical habitat units are depicted for Miami-Dade and Monroe Counties, Florida, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Florida leafwing butterfly consist of six components:

(i) Areas of pine rockland habitat, and in some locations, associated rockland hammocks.

(A) Pine rockland habitat contains:

(1) Open canopy, semi-open subcanopy, and understory.

(2) Substrate of oolitic limestone rock.

(3) A plant community of predominately native vegetation.

(B) Rockland hammock habitat associated with the pine rocklands contains:

(1) Canopy gaps and edges with an open to semi-open canopy, subcanopy, and understory.

(2) Substrate with a thin layer of highly organic soil covering limestone or organic matter that accumulates on top of the underlying limestone rock.

(3) A plant community of predominately native vegetation.

(ii) Competitive nonnative plant species in quantities low enough to have minimal effect on survival of the Florida leafwing.

(iii) The presence of the butterfly's hostplant, pineland croton, in sufficient abundance for larval recruitment, development, and food resources and for adult butterfly roosting habitat and reproduction.

(iv) A dynamic natural disturbance regime or one that artificially duplicates natural ecological processes (e.g. fire, hurricanes or other weather events, at 3- to 5-year intervals) that maintains the pine rockland habitat and associated plant community.

(v) Pine rockland habitat and associated plant community sufficient in size to sustain viable Florida leafwing populations.

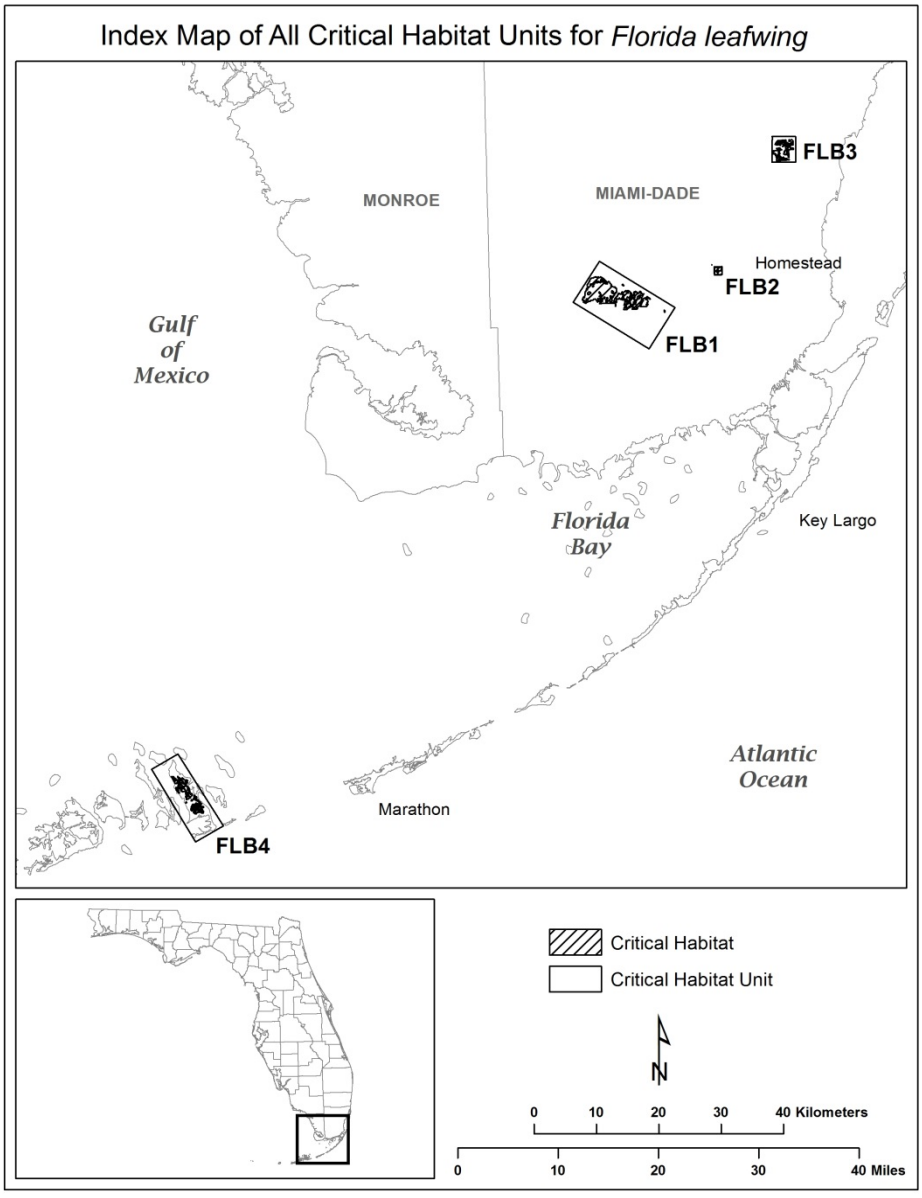
(vi) Pine rockland habitat with levels of pesticide low enough to have minimal effect on the survival of the butterfly or its ability to occupy the habitat.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units*. Unit maps were developed using ESRI ArcGIS

mapping software along with various spatial data layers. ArcGIS was also used to calculate the size of habitat areas. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic, NAD 83. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site (http://www.fws.gov/verobeach), the Federal eRulemaking Portal (http://www.regulations.gov at Docket No. FWS–R4–ES–2013–0031), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

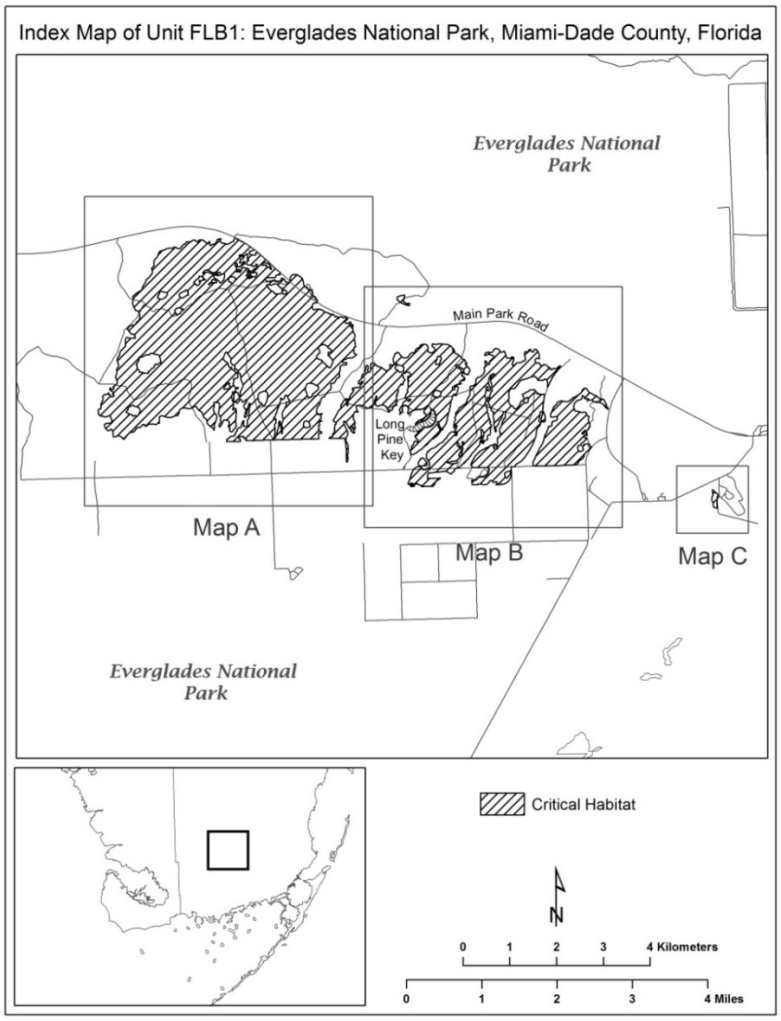
(5) Note: Index map of all critical habitat units for Florida leafwing follows:



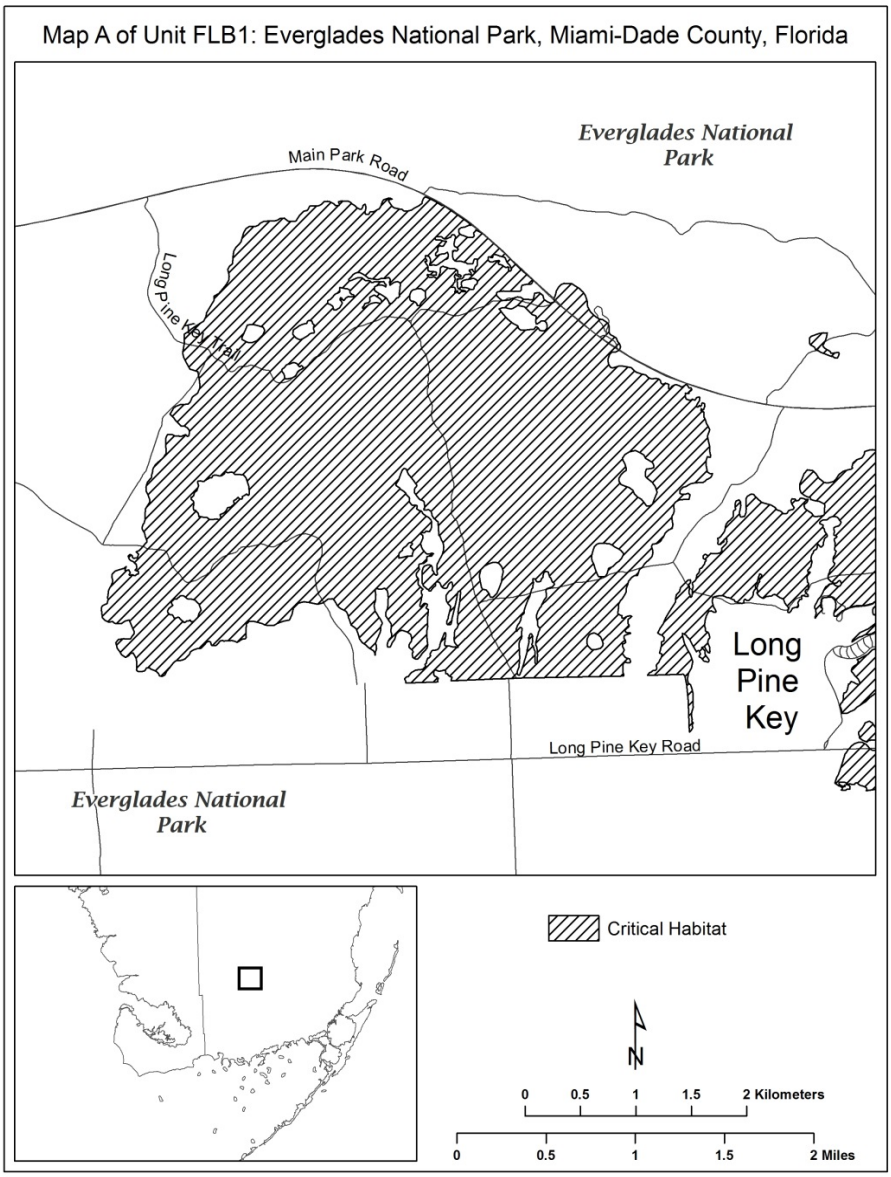
(6) Unit FLB1: Everglades National Park, Miami-Dade County, Florida.

(i) General Description: Unit FLB1 consists of 2,313 ha (5,716 ac) composed entirely of lands in Federal ownership, 100 percent of which are located within the Long Pine Key region of Everglades National Park.

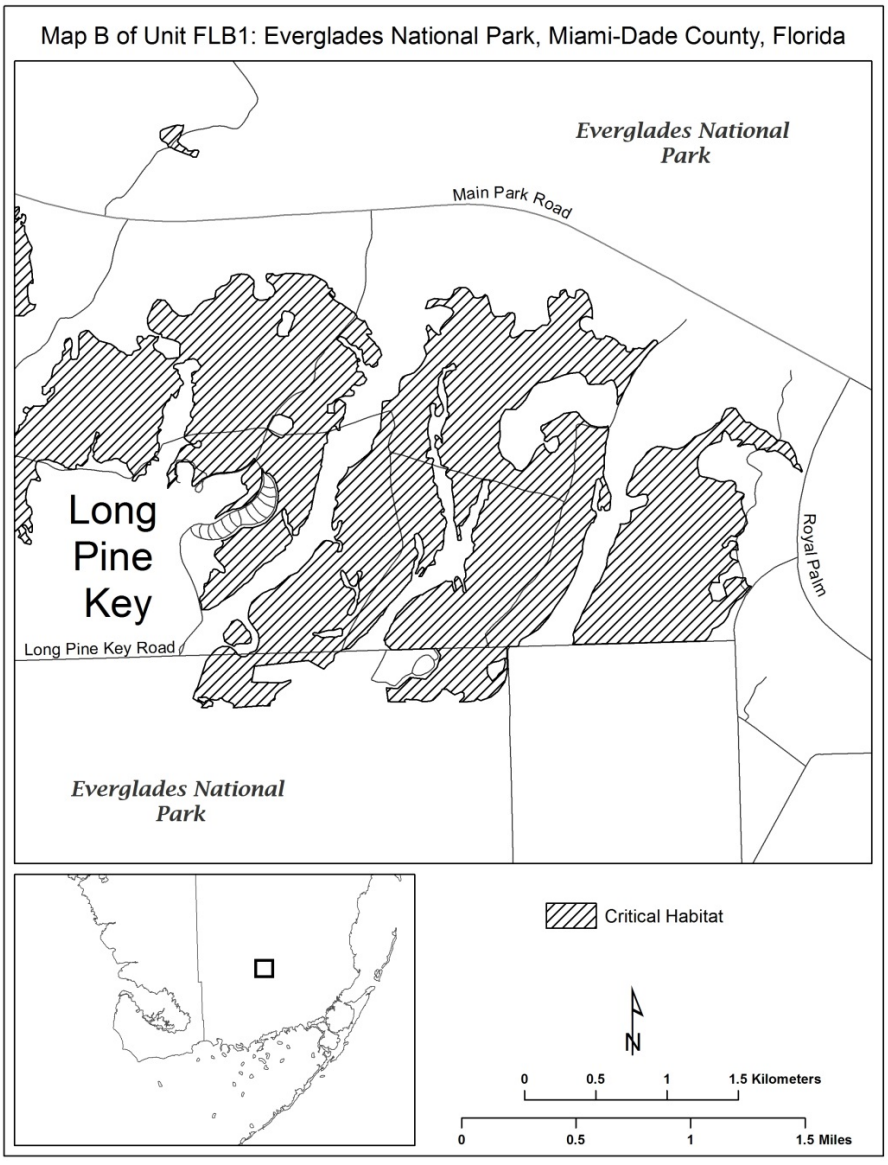
(ii) Index map of Unit FLB1 follows:



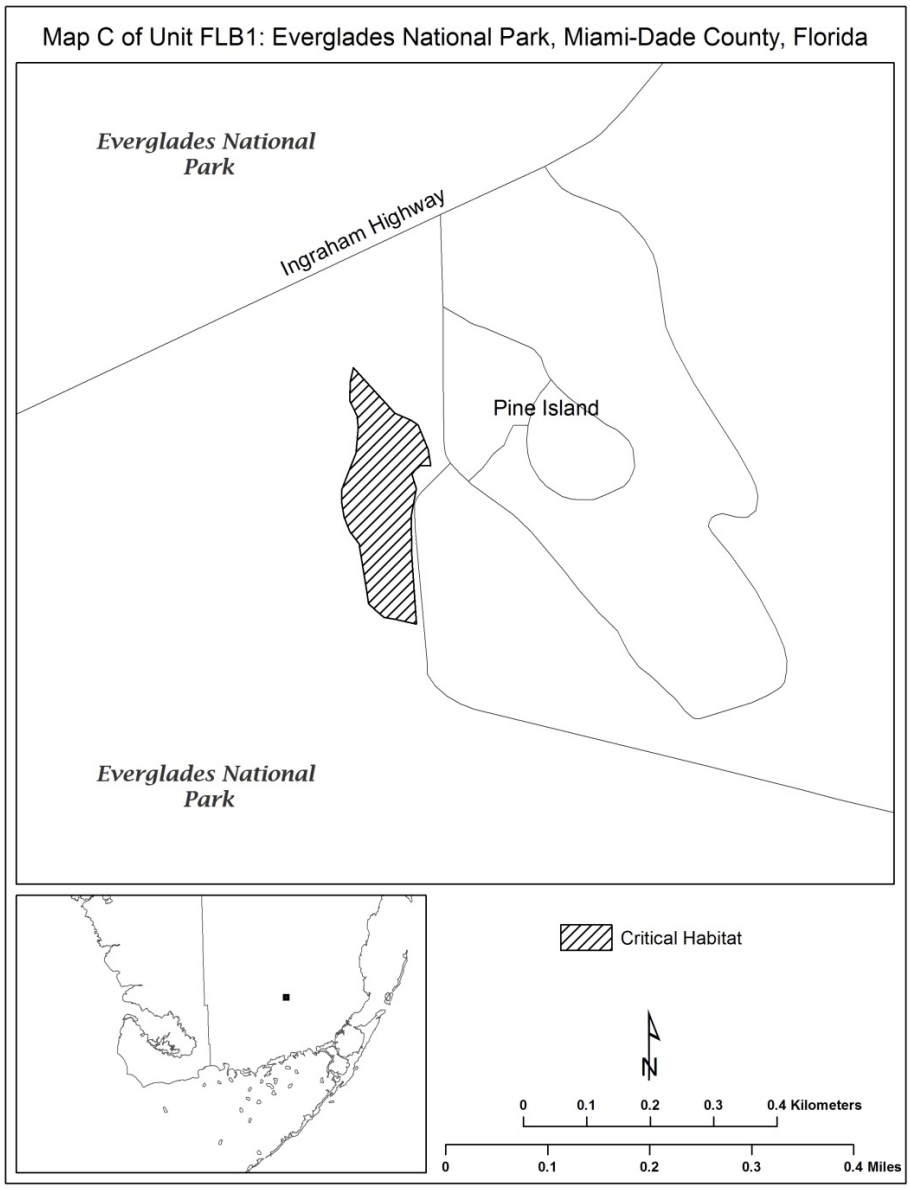
(A) Map A of Unit FLB1: Everglades National Park, Miami-Dade County, Florida, follows:



(B) Map B of Unit FLB1: Everglades National Park, Miami-Dade County, Florida, follows:



(C) Map C of Unit FLB1: Everglades National Park, Miami-Dade County, Florida, follows:



(7) Unit FLB2: Navy Wells Pineland Preserve, Miami-Dade County, Florida.

(i) General description: Unit FLB2 consists of 120 ha (296 ac) in Miami-Dade County composed entirely of lands in Miami-Dade County ownership, 100 percent of which are located within the Navy Wells Pineland Preserve.

(ii) Index map of Unit FLB2 follows:

(8) Unit FLB3: Richmond Pine Rocklands, Miami-Dade County, Florida.

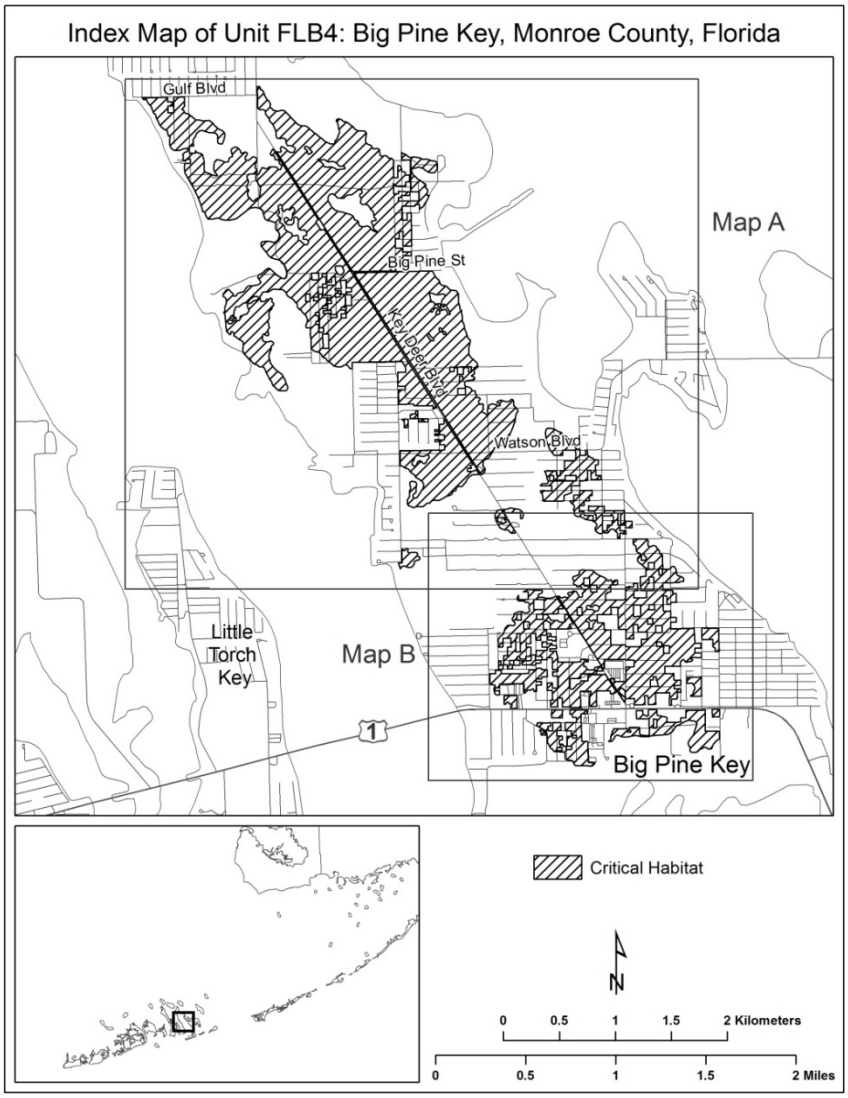
(i) General Description: Unit FLB3 consists of 359 ha (889 ac) in Miami-Dade County composed of lands in Federal (U.S. Coast Guard, U.S. Army Corps of Engineers, Federal Bureau of Prisons, and National Oceanic and Atmospheric Administration) (50 ha (122 ac)) and private or other (309 ha (767 ac)) ownership.

(ii) Index map of Unit FLB3 follows:

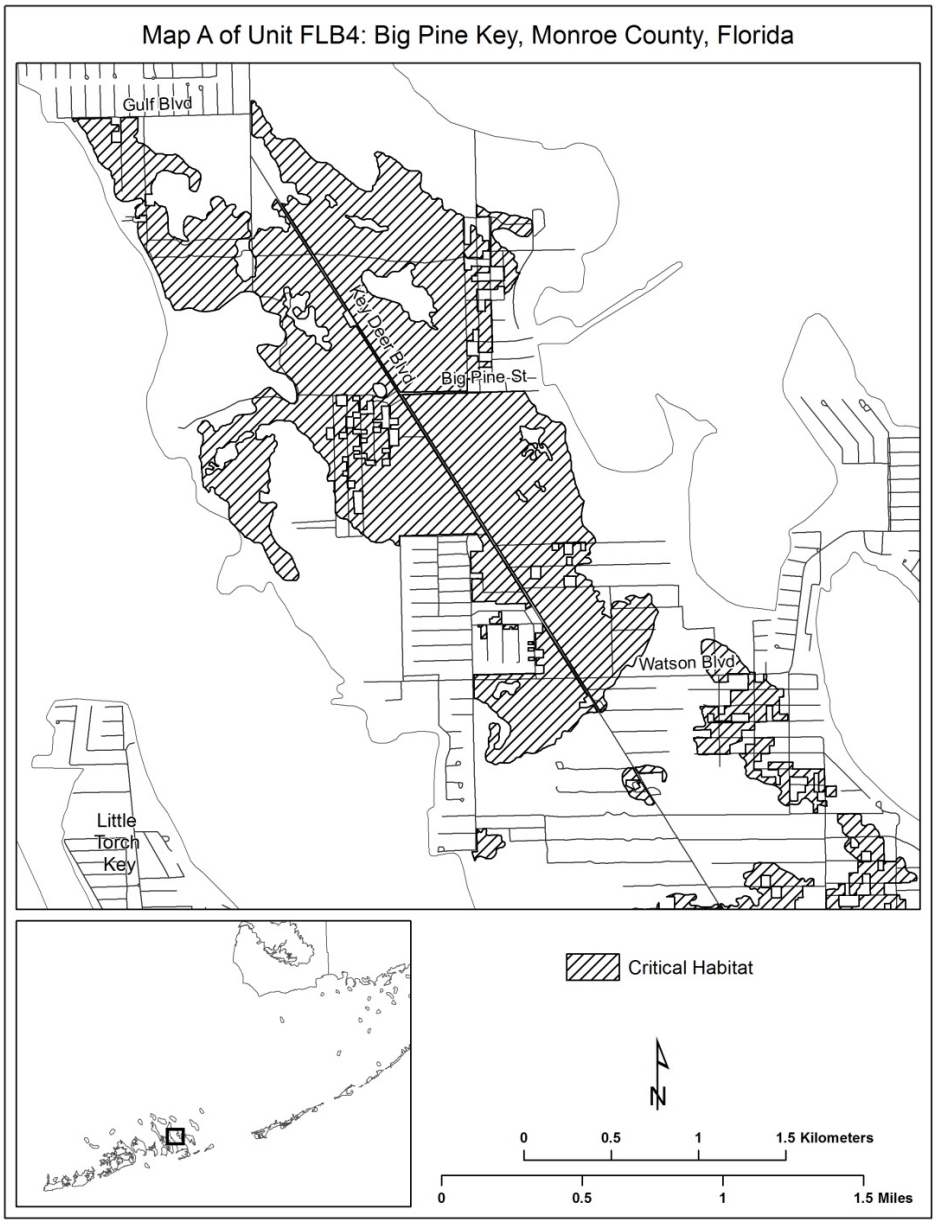
(9) Unit FLB4: Big Pine Key, Monroe County, Florida.

(i) General Description: Unit FLB4 consists of 559 ha (1,382 ac) in Monroe County composed of National Key Deer Refuge (365 ha (901 ac)), State lands (90 ha (223 ac)), and property in private or other ownership (104 ha (258 ac)). State lands are interspersed within NKDR lands and managed as part of the Refuge.

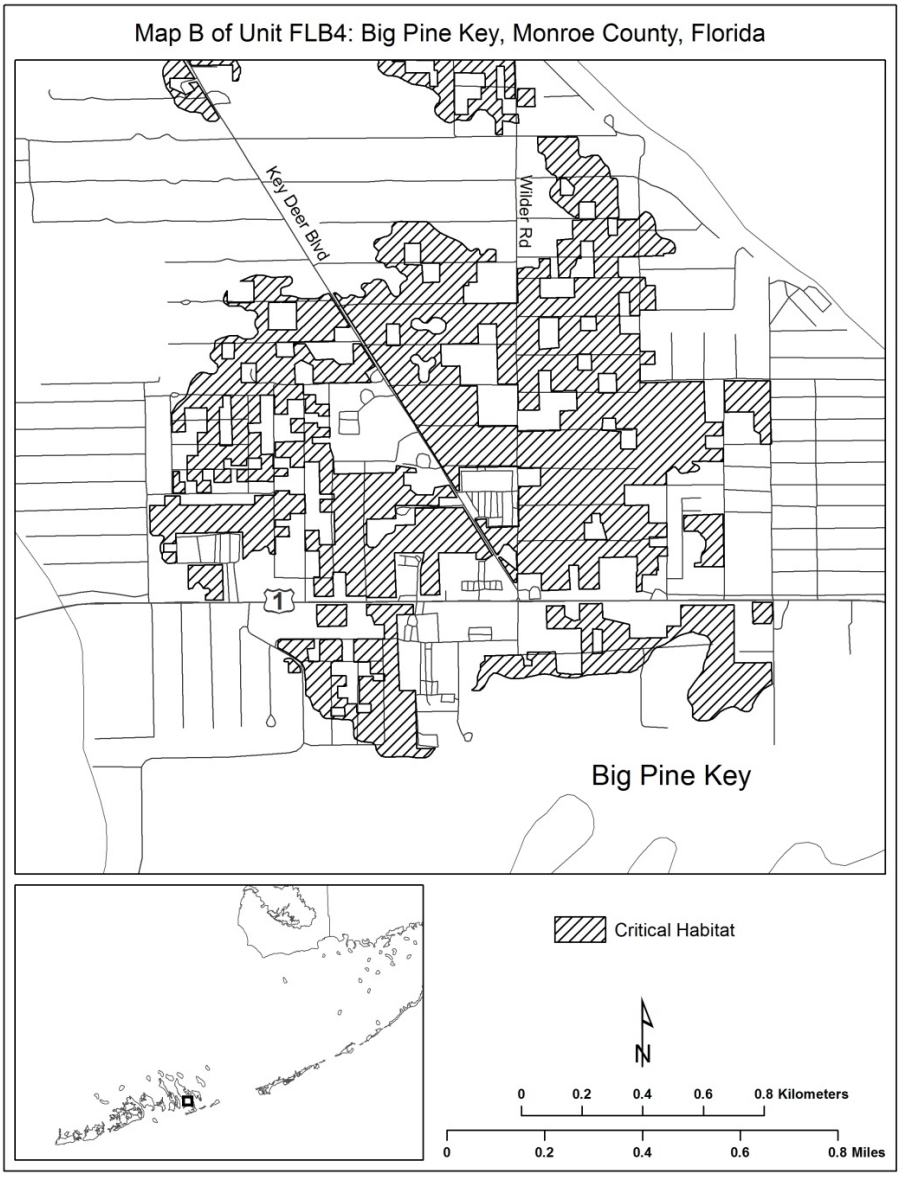
(ii) Index map of Unit FLB4 follows:


Index Map of Unit FLB4: Big Pine Key, Monroe County, Florida
Gulf Blvd
Map A
Big Pine St
Key Deer Blvd
Watson Blvd
Little Torch Key
Map B
1
Big Pine Key
Critical Habitat
N
0 0.5 1 1.5 2 Kilometers
0 0.5 1 1.5 2 Miles

(A) Note: Map A of Unit FLB4: Big Pine Key, Monroe County, Florida, follows:



(B) Note: Map B of Unit FLB4: Big Pine Key, Monroe County, Florida, follows:



* * * * *

Dated: August 6, 2013.

Michael Bean
Acting Principal Deputy Assistant Secretary for Fish and Wildlife and Parks

Billing Code 4310–55–P

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