

Mr. Mark Salvato  
United States Fish and Wildlife Service  
South Florida Ecological Services Field Office  
1339 20<sup>th</sup> Street  
Vero Beach Florida  
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Dear Mr. Salvato-

Thank you for the opportunity to peer review “Proposed Designation of Critical Habitat for Florida Leafwing and Bartram’s Scrub-Hairstreak Butterflies” [Docket No.FWS-R4-ES-2013-0031] as well as “Endangered Status for the Florida Leafwing and Bartram’s Scrub-Hairstreak Butterflies.” [Docket No. FWS-R4-ES-2013-0084]. Except where noted below, I found the data used in developing both proposed rules to be relevant and sound and I believe that the USFWS used the best available science in making the proposed determination. My comments follow.

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Column 2 (4) indicates that “A dynamical natural disturbance regime or one that artificially duplicates natural ecological processes (e.g. fire, hurricanes or other weather events at 3-5 year intervals) that maintains the pine rockland habitat and associated plant community.” represents a primary constituent element for the Florida leafwing butterfly. It is recognized that fire, hurricanes and other weather events, such as periodic frost are critical to maintain pine rockland habitat and associated plant communities. However, existing data do not support the necessity of including a 3-5 year disturbance return interval indicated for this PCE. Observations of adult and immature Florida leafwings in Long Pine Key in 2013, when considered with fire history records, indicate that they occupy and reproduce in pine rockland habitat that was last burned between 1 and 10 or more years ago. While other disturbances have occurred (e.g. frost events in 2009 and 2010), it has not been demonstrated that these events influence Florida leafwing or pineland croton populations in a manner similar to that of fire and may or may not represent a suitable surrogate. In addition, the general lack of prescribed fire in most burn units in Long Pine Key since 2007 also make it unlikely that observations of leafwings in units that have not recently burned represent recruitment from adjacent units that have recently burned. While a 3-5 year disturbance return interval may be suitable for maintaining Florida leafwing populations, it does not appear to be required. Based on this information, it is recommended that the return interval for these disturbance types be removed as a component of this PCE.

**Pages 49870-49873. Unit FLB1 Index map and Maps A-C**

Boundaries of critical habitat in FLB1 unit do not accurately represent boundaries of pine rockland habitat within Everglades National Park. More importantly, several areas with a substantial number of Florida leafwing sightings in areas with host plants were not included within the proposed critical habitat boundaries (Figure 1). These areas are generally considered to be important areas for Florida

leafwing butterflies based on consistent sightings of adults and/or larvae and substantial, apparently stable host plant populations. The proposed critical habitat boundaries should be modified to include these locations. While it does not appear to be specifically stated in the listing package, comparison of the proposed critical habitat boundaries provided by the USFWS with the Florida Land Use Land Cover Map (FLUCCS) from 2005 indicates that this or a more recent version of the FLUCCS map was used as the basis for the proposed critical habitat boundaries. Comparison of those polygons with current aerial photographs indicates that the FLUCCS coverage omits significant amounts of pine rockland habitat in Everglades National Park used by Florida leafwings. This appears to have resulted from the use of only the coniferous category (FLUCCS Code 4110) and not including the wetland coniferous forest category (FLUCCS Code 6250). Field experience, Florida leafwing sighting records and existing maps of host plants confirm the inability of this approach to adequately capture the range of pine rockland habitat occupied by Florida leafwing butterflies with Everglades National Park. Inclusion of all pine rockland habitat as critical habitat is not being recommended here. However, improvements to the proposed critical habitat boundaries to incorporate all known Florida leafwing sightings that correspond with host plants should be made. One potential approach to address this issue is to utilize both coniferous and wetland coniferous forest community types (referenced above) as the basis for revised proposed critical habitat boundaries. In order to avoid including pine rockland habitat that is not believed to be essential to the survival of Florida leafwing butterflies, I recommend that the proposed boundaries for Unit FLB1 be revised by using the above indicated vegetation types and constraining the maximum possible extent to correspond with the known extent of Florida leafwing occurrences in areas with host plants using existing NPS data maintained at Everglades National Park. An example of this approach is shown in Figure 2. This approach would exclude an isolated pine rockland fragment locally known as the Hayes Barn pineland south of Long Pine Key. This pineland fragment has abundant host plant as well as observations of Florida leafwings. This area could be included in proposed critical habitat by hand drawing a polygon around the suitable habitat using aerial photography.

#### **Page 49873 Unit FLB1 Map C**

As currently proposed, critical habitat unit FLB1 represents two geographically distinct regions of pine rockland habitat within Everglades National Park commonly referred to as Long Pine Key (Pages 49871-49872, Maps A and B of Unit FLB1) and Pine Island (Page 49873 Map C of Unit FLB1). As noted above, existing data support the inclusion of pine rockland habitat in the Long Pine Key area as occupied habitat. In the Pine Island portion of the proposed unit, host plant is very limited and no sight records or other data indicating the presence of Florida leafwings are included or referenced in the listing package. Unless data exists that demonstrates the presence of Florida leafwings in this portion of the proposed critical habitat, it should be considered separately from the remainder of the FLB1. Habitat in this area should be considered unoccupied and justification for its inclusion should be made that is separate from the justification for occupied habitat. If the approach to improving critical habitat using both coniferous and wetland coniferous forest FLUCCS categories constrained by existing distribution information is adopted, this comment will no longer be relevant as habitat in the Pine Island area would be excluded in this modification. However, if changes to proposed critical habitat boundaries are not made in response to the previous comment, please consider this comment as well.

Due to the extremely similar known distributions of both Florida leafwing and Bartram's scrub-hairstreak butterflies within Everglades National Park and to avoid redundancy, my comments above apply to portions of the proposed rules for critical habitat for Bartram's scrub hairstreak butterflies as well. It is my opinion that critical habitat for both of these species within Everglades National Park should be identical.

Thank you again for the opportunity to review these proposed rules. I will be happy to assist the USFWS with data or other information in support of the comments that I have provided.

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Figure 1. Florida leafwing sighting records displayed with proposed critical habitat for Florida leafwing butterfly. Areas considered important for Florida leafwings not included within critical habitat boundary outlined in blue.

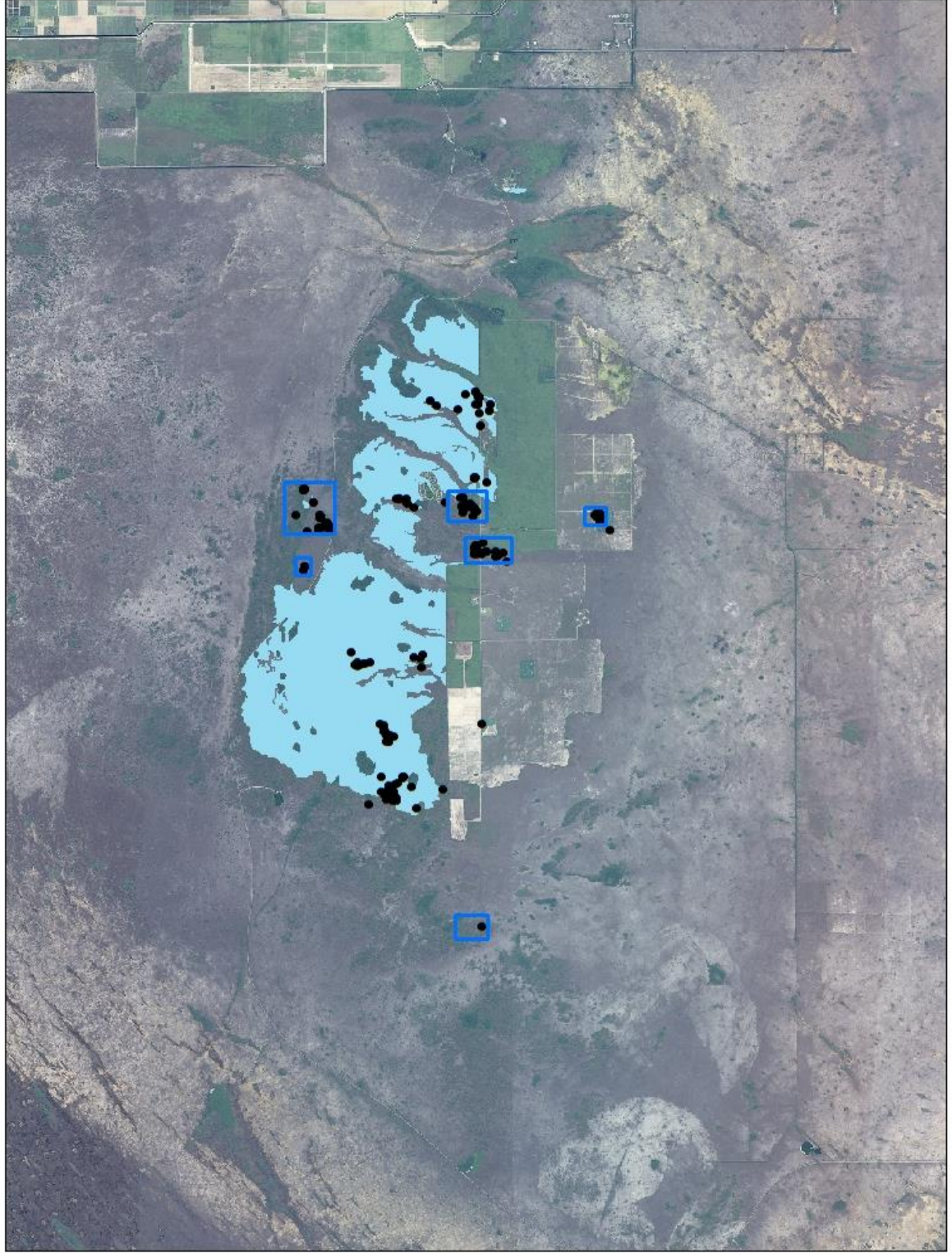




Figure 2. Florida leafwing sighting records displayed with Florida Land Use Land Cover map categories coniferous (4110) and wetland coniferous (6250). Areas considered important for Florida leafwings not included within critical habitat boundary outlined in blue. Potential constraint on maximum extent of revised critical habitat outlined in black.

