



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R4-ES-2019-0106; FXES1111090FEDR-245-FF09E21000]

RIN 1018-BE10

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Endangered Florida Bonneted Bat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for the Florida bonneted bat (*Eumops floridanus*) under the Endangered Species Act of 1973 (Act), as amended. In total, approximately 1,160,625 acres (469,688 hectares) in 13 Florida counties fall within the boundaries of the critical habitat designation. This rule extends the Act's protections to this species' critical habitat.

DATES: This rule is effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: This final rule is available on the internet at <https://www.regulations.gov> and <https://www.fws.gov/species/florida-bonneted-bat-eumops-floridanus>. Comments and materials we received are available for public inspection at <https://www.regulations.gov> at Docket No. FWS-R4-ES-2019-0106.

Availability of supporting materials: Supporting materials we used in preparing this rule are available at <https://www.regulations.gov> at Docket No. FWS-R4-ES-2019-0106. The coordinates or plot points or both from which the maps are generated are included in the decision file for this critical habitat designation and are available at <https://www.regulations.gov> at Docket No. FWS-R4-ES-2019-0106, at

<https://www.fws.gov/species/florida-bonneted-bat-eumops-floridanus>, and at the Florida Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**, below).

FOR FURTHER INFORMATION CONTACT: Lourdes Mena, Classification and Recovery Division Manager, U.S. Fish and Wildlife Service, Florida Ecological Services Field Office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256; telephone (352) 749–2462. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, when we determine that any species is an endangered or threatened species, we are required to designate critical habitat, to the maximum extent prudent and determinable. Designations of critical habitat can only be completed by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 et seq.).

What this document does. This rule designates critical habitat for the Florida bonneted bat. The designation includes approximately 1,160,625 acres (ac) (469,688 hectares (ha)) in portions of 13 Florida counties.

The basis for our action. Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area

occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impacts of specifying any particular area as critical habitat.

Previous Federal Actions

Please refer to the Florida bonneted bat's final listing rule (78 FR 61004; October 2, 2013), proposed critical habitat rule (85 FR 35510; June 10, 2020), and revised proposed critical habitat rule (87 FR 71466; November 22, 2022) for a detailed description of previous Federal actions concerning this species.

Peer Review

In accordance with our joint policy on peer review published in the *Federal Register* on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained in the proposed critical habitat rule (85 FR 35510; June 10, 2020). We sent the proposed rule to six independent peer reviewers and received two responses. Following the public comment period for the revised proposed rule (87 FR 71466; November 22, 2022), we sent the revised proposed rule to five independent peer reviewers and received one response. The peer reviews can be found at <https://www.regulations.gov>. We incorporated the results of these reviews, as appropriate, into this final rule. A summary of the peer review comments and our responses can be found under **Summary of Comments and Recommendations**, below.

Summary of Changes from the Proposed Rule

After considering the comments we received during the public comment period (refer to **Summary of Comments and Recommendations**, below) and new information published or obtained since the revised proposed rule was published (87 FR 71466; November 22, 2022), we made changes to this final critical habitat designation, as described below. No changes were made to our economic analysis after considering public comments on the draft document; thus, we finalized the economic analysis of the designation. We added the following supporting documents at <https://www.regulations.gov> under Docket No. FWS-R4-ES-2019-0106: (1) A table entitled, “Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation,” (2) coordinates from which the final critical habitat maps are generated, (3) a list of literature cited in this final rule, (4) the peer reviews of the revised proposed rule and the accompanying conflict of interest forms, and (5) a table of requested additions to the proposed and revised proposed critical habitat designations and the outcome of our evaluation for each area.

In this rule, we make many small, nonsubstantive changes and corrections (e.g., updating the discussion under **Background**, below, in response to comments and making minor clarifications) that do not affect the designation. We also make several minor updates to the biological information for and habitat use by the Florida bonneted bat based on new and updated information. Specifically, we update measurements of roost characteristics, add detail on foraging areas and insects associated with agricultural crops, add information about the Florida bonneted bat’s use of seasonally inundated forested wetlands, and add new information about the species’ breeding and resource defense. In addition, we update citations supporting existing statements as needed. The following items describe changes made between the revised proposed rule (87 FR 71466; November 22, 2022) and this final rule:

(1) In *Cover or Shelter*, under **Physical or Biological Features Essential to the Conservation of the Species**, below, we update roost habitat characteristics and roost measurements, including both averages and ranges in our description, and we clarify the role of artificial roosts in Florida bonneted bat habitat.

(2) In *Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements*, under **Physical or Biological Features Essential to the Conservation of the Species**, below, we add information on the influence of artificial lighting on Florida bonneted bat habitat.

(3) In both the *Summary of Essential Physical or Biological Features*, under **Physical or Biological Features Essential to the Conservation of the Species**, and in the rule portion of this document, below, we modified the first and second physical or biological features essential to the conservation of the Florida bonneted bat to include sufficient darkness as a habitat feature, and we modified the first physical or biological feature to qualitatively characterize roosting habitat.

(4) Under **Special Management Considerations or Protection**, below, we update estimates of the critical habitat area to be affected by sea level rise or converted to developed land by 2070 based on the areas included within this final critical habitat designation, and we add a discussion under the heading *Ecological Light Pollution* to align with the changes we make to the physical or biological features noted in (2) and (3), above, regarding artificial lighting and sufficient darkness.

(5) Under **Final Critical Habitat Designation**, below, we adjust the boundaries of Subunits 3B, 9M, 9N, and 9O to include a total of an additional 1,179 ac (477 ha). Subunit 3B now includes an additional 1,118 ac (452 ha) of lands primarily owned by Lee County, based on a peer review comment and to ensure we are designating the specific areas that contain the physical or biological features essential to the conservation of the Florida bonneted bat. Subunit 9M includes an additional 10 ac (4 ha) of lands

owned by Miami-Dade County, based on a request from Miami-Dade County and new information indicating these areas have the essential physical or biological features.

Subunit 9N includes an additional 10 ac (4 ha) of lands primarily owned by the State of Florida and managed by Miami-Dade County, based on a request from Miami-Dade County and new information indicating this area also contains the essential physical or biological features. Subunit 9O includes an additional 42 ac (17 ha) of lands primarily owned by Miami-Dade County (38 ac (15 ha)) and the U.S. Coast Guard (4 ac (2 ha)), based on new information indicating this area also contains the essential physical or biological features.

(6) Under *Application of the “Adverse Modification” Standard*, below, we add excessive alteration of natural lighting as an action that would significantly reduce habitat suitability or impact the prey base for the Florida bonneted bat in the list of activities that we may, during a consultation under section 7(a)(2) of the Act (16 U.S.C. 1531 et seq.), consider likely to destroy or adversely modify critical habitat.

(7) We exclude the Coral Reef Commons Habitat Conservation Plan (HCP) on-site preserve and off-site mitigation areas in Subunit 9O from this final designation pursuant to section 4(b)(2) of the Act based on the provisions of the HCP. This amounts to a decrease of approximately 104 ac (42 ha) from the critical habitat areas we proposed.

(8) We exclude Tribal lands of the Seminole Tribe of Florida in Unit 6. This amounts to a decrease of approximately 14,455 ac (5,850 ha) from the critical habitat areas we proposed.

(9) We exclude Tribal lands of the Miccosukee Tribe of Florida in Subunit 1B. This amounts to a decrease of approximately 1.25 ac (0.5 ha) from the critical habitat areas we proposed.

(10) We apply updated information on parcel boundaries and parcel ownership that we obtained from counties, which changed some of the areas of critical habitat by

land ownership category from what we presented in table 1 in the revised proposed rule (87 FR 71466, November 22, 2022, p. 71475; see table 1 under **Final Critical Habitat Designation**, below, for comparison). However, the total area of critical habitat in Units 2, 4, 5, 7, and 8 are the same as we proposed. The total area has only substantially changed for those units where exclusions or boundary adjustments were applied, as noted above in (5), (7), (8), and (9).

(11) Because of the above boundary adjustments and exclusions, in this rule, we revise the index map and maps for Units 1, 3, 6, and 9A–9O in the rule portion of this document.

Beyond those changes, this critical habitat designation is unchanged from what we proposed on November 22, 2022 (87 FR 71466).

Summary of Comments and Recommendations

We requested that all interested parties submit written comments on the proposed critical habitat rule (85 FR 35510; June 10, 2020) and on the revised proposed critical habitat rule (87 FR 71466; November 22, 2022) for the Florida bonneted bat. The comment period for the proposed critical habitat rule closed on August 10, 2020; the comment period for the revised proposed critical habitat rule closed on January 23, 2023.

For the proposed critical habitat rule (85 FR 35510; June 10, 2020), we contacted appropriate Federal and State agencies, Tribes, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. For the revised proposed critical habitat rule (87 FR 71466; November 22, 2022), we again contacted appropriate Federal and State agencies, Tribes, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. In the November 22, 2022, revised proposed rule, we stated that any comments we received in response to the June 10, 2020, proposed rule need not be resubmitted as they would be fully considered in this final rule.

For the June 10, 2020, proposed rule, newspaper notices inviting general public comment were published in the Orlando Sentinel, Ft. Myers News-Press, Sarasota Herald Tribune, and Miami Herald newspapers on June 9, 2020. For the November 22, 2022, revised proposed rule, a newspaper notice inviting general public comment was published in the Miami Herald newspaper on November 28, 2022.

For the June 10, 2020, proposed rule, we did not receive any requests for a public hearing, but we held public informational webinars on June 16 and 17, 2020. For the November 22, 2022, revised proposed rule, we did not receive any requests for a public hearing.

Because of the comprehensive changes we made to the June 10, 2020, proposed rule in the November 22, 2022, revised proposed rule, some substantive comments and information we received during the comment period on the June 10, 2020, proposed rule no longer apply, and we do not address them below. All other substantive information we received during both comment periods has either been incorporated directly into this final determination or is addressed below.

During the comment period on the June 10, 2020, proposed rule, we received approximately 1,900 written comment letters on the proposed critical habitat designation or the draft economic analysis (DEA) and supplemental memo (IEc 2020a, b, entire). During the comment period on the November 22, 2022, revised proposed rule, we received an additional 41 comment letters on the revised proposed critical habitat designation or the DEA and supplemental memo (IEc 2021a, b, entire). During the comment period on the November 22, 2022, revised proposed rule, we also received four requests for exclusion of areas that were not identified as being considered for exclusion in the proposed rule or the revised proposed rule. We reviewed each exclusion request, whether received in response to the proposed or revised proposed rule, to determine if the requester provided information or a reasoned rationale to initiate an analysis of exclusion

or support an exclusion (see Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (81 FR 7226; February 11, 2016), hereafter referred to as our 2016 section 4(b)(2) policy). All substantive information provided to us during both comment periods has been incorporated directly into this final determination or, in the case of substantive information regarding the DEA received during the comment period on the June 10, 2020, proposed rule, was used to revise the economic analysis and supplemental memo (IEc 2021a, b, entire) between the June 10, 2020, proposed and November 22, 2022, revised proposed rules.

Peer Reviewer Comments

As discussed in **Peer Review** above, we received comments from two peer reviewers on the June 10, 2020, proposed rule and one peer reviewer on the November 22, 2022, revised proposed rule. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the Florida bonneted bat and its habitat use and needs. The peer reviewers provided critiques of our methods but generally concurred with our designation of critical habitat and conclusions and provided additional information, clarifications, and suggestions to improve the designation. Our revised proposed critical habitat rule (87 FR 71466; November 22, 2022) was developed in part to address some of the critiques and information raised by the peer reviewers in 2020. The additional details and information we received or that were raised by the peer reviewers have been incorporated into this final rule, as appropriate. Peer review comments are addressed in the following summary.

(1) Comment: In response to the June 10, 2020, proposed critical habitat rule (85 FR 35510) and the November 22, 2022, revised proposed critical habitat rule (87 FR 71466), we received peer review and public comments requesting that we consider adding 71 areas to the critical habitat designation for the Florida bonneted bat. Specific additions were recommended with supporting information, including information

regarding habitat and evidence of use by the Florida bonneted bat. Commenters also stated their views that the critical habitat areas included in the June 10, 2020, proposed and November 22, 2022, revised proposed designations were not sufficient to ensure long-term conservation of the species in light of future threats, such as climate change and urbanization, and that unoccupied habitat should be reexamined for inclusion.

Our Response: In preparing this final designation, we evaluated all requests for the addition of specified areas (see “Areas Requested for Addition to Florida Bonneted Bat Critical Habitat” under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). In the November 22, 2022, revised proposed designation, we included 24 additions requested in response to the June 10, 2020, proposed rule that resulted from our development of new critical habitat criteria and analysis of physical or biological features that are essential to the Florida bonneted bat, which guided a new delineation of revised critical habitat units. Of those areas not included in the November 22, 2022, revised proposed rule, we determined that four meet the definition of critical habitat for the Florida bonneted bat, and we include these areas in this final designation as reflected in boundary changes made to four subunits (Subunits 3B, 9M, 9N, and 9O; see **Final Critical Habitat Designation**, below). The remaining areas, including identified golf courses, parks, and heavily fragmented areas, are not included in this final designation. While we agree that such areas can be important to the species and are considered in recovery and regulatory processes, our evaluation indicated the identified areas did not meet our criteria for designating critical habitat.

A critical habitat designation does not signal that habitat outside the designated area is unimportant or should not be managed or conserved for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) section 9 of the Act, which prohibits

taking any individual of the species, including taking caused by actions that affect habitat; and (3) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to jeopardize the continued existence of any endangered or threatened species. Thus, Federal agencies must consult with the Service even if actions they authorize, fund or carry out are conducted outside of designated critical habitat if those activities may affect listed species.

In accordance with section 3(5)(A) of the Act, we are designating critical habitat in specific areas within the geographical area occupied by the species at the time of listing that contain the physical or biological features essential to the conservation of the species and which may require special management considerations or protection. We acknowledge that a variety of roosting and foraging habitats are important to the conservation of the Florida bonneted bat. However, a critical habitat designation identifies the habitat areas essential to the species; it is not necessary to include in the designation all areas that can be occupied by the species or where the species has been detected. We may designate critical habitat that is outside the geographical area occupied by the species if we determine it to be essential for the conservation of the species. Accordingly, during the development of our November 22, 2022, revised proposed rule, we evaluated areas both within and outside the species' current range to identify those areas that have the essential physical or biological features we established for inclusion in critical habitat. We then evaluated whether the areas considered to be occupied are sufficient to ensure conservation of the species. Based on our determination that the occupied units included in the November 22, 2022, revised proposed rule represent the appropriate quantity and spatial arrangement essential to the species, we determined unoccupied areas are not essential for the conservation of the Florida bonneted bat. However, this designation does include areas in the northern extremes of the species'

current range that, while currently occupied, may become of much higher value to the species as the climate changes (see description of Unit 1 under **Final Critical Habitat Designation**, below).

(2) Comment: Peer reviewers recommended acknowledging the important role artificial roosts play in Florida bonneted bat conservation and recovery, and they suggested including artificial roosts (e.g., bat houses, bat boxes) in the species' essential physical or biological features and our habitat analysis.

Our Response: Physical or biological features are features that support the species' life-history needs, such as reproduction. Roosting habitat is essential to Florida bonneted bats to provide shelter and support reproduction, socialization, and other natural behaviors. While artificial roosts can provide alternative, long-term, and hurricane-resilient roosting habitat for the species where roosting habitat is limited, they are an imperfect surrogate for natural roosting habitat and are not on their own a habitat feature essential for the species' survival (see *Cover or Shelter*, below, for additional details). It is also for this reason that we do not include roost measurements of artificial or supplemental roosts in our description of roosting habitat, although available locations of artificial roosts are included in the presence dataset used for our habitat analysis (see "Florida Bonneted Bat Habitat Analysis" under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). Additionally, while our knowledge regarding how to design bat houses with conservation benefits for Florida bonneted bats is improving, many designs still present thermal issues to bat colonies and can be harmful (Crawford and O'Keefe 2021, entire; Bat Conservation International 2022, pp. 10–11). Also, bat houses often require human intervention to repair and replace as they deteriorate, especially in Florida, reducing the potential for these structures to provide long-term conservation benefits for Florida bonneted bats. We appreciate the efforts of our partners to provide safe supplemental roosts for the Florida

bonneted bat, and we agree that, with proper placement, design, and maintenance, supplemental roosts play an important role in the conservation of the species. While not intentionally included or excluded, all bat houses for Florida bonneted bats at Fred C. Babcock-Cecil M. Webb Wildlife Management Area (Babcock-Webb WMA) and the majority (80 percent) of known bat houses for Florida bonneted bats in Miami-Dade County are located within the final critical habitat designation. Additionally, as noted above, areas including artificial roosts remain subject to regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to jeopardize the continued existence of any endangered or threatened species.

(3) Comment: In response to the June 10, 2020, proposed and November 22, 2022, revised proposed rules, peer reviewers and public commenters stated their views that additional discussion and consideration of urban areas were needed, and they suggested including some or all urban areas within the species' range (including golf courses, parks, urban ponds, and canals, especially within Miami-Dade County) in the critical habitat designation. Commenters voiced that the addition of these areas is needed to allow the Florida bonneted bat to forage in fragmented landscapes. Commenters also questioned why the proposed and revised proposed rules include negative associations with respect to urban areas and Florida bonneted bat habitat, when a significant portion of the overall population uses an urban landscape; commenters suggested that suburban and urban areas be modeled at a different, smaller scale than areas outside the urban matrix and/or be considered using different criteria for inclusion in the critical habitat designation.

Our Response: To identify specific areas that may qualify as critical habitat for the Florida bonneted bat, in accordance with 50 CFR 424.12(b), we included the following considerations in the process: (1) Identifying the geographical area occupied by

the species at the time of listing; (2) identifying physical or biological habitat features essential to the conservation of the species; (3) identifying the specific areas within the geographical area occupied by the species that contain one or more of the physical or biological features essential to the conservation of the species; (4) determining which of these essential features may require special management considerations or protection; and (5) identifying specific areas outside the geographical area occupied by the species that are essential for the species' conservation. Our evaluation and conclusions are described in detail below under the following headings: **Physical or Biological Features Essential to the Conservation of the Species, Special Management Considerations or Protection, and Conservation Strategy and Selection Criteria Used to Identify Critical Habitat.**

In development of the November 22, 2022, revised proposed designation, we developed revised physical or biological features based on new information as well as peer review and public comments on the June 10, 2020, proposed rule. As a result, habitat within the Miami-Dade urban matrix was evaluated, and those areas that contain the physical or biological features essential to the conservation of the species were included in our revised proposed designation (i.e., Unit 9). However, while natural areas within urban landscapes are used by Florida bonneted bats, increased urbanization is considered a threat to the species as these areas can have limited resources, such as a lack of roost trees, and increased conflicts with humans. Therefore, despite their use by the species and their local importance, many urban areas have a lower conservation value to the species as a whole and do not contain the physical or biological features essential to the conservation of the Florida bonneted bat.

Results of our habitat analysis (see "Florida Bonneted Bat Habitat Analysis" under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>) did not specifically inform our consideration of urban areas

as part of our revised proposed critical habitat methodology or delineation. The MaxEnt model that we used in our analysis did not identify the amount of urbanization as a habitat-related variable having strong influence on the probability of Florida bonneted bat occurrence. Thus, no urbanization covariate was incorporated in our model output or analysis results, and we have no model-related results to estimate its correlation (positive or negative) with Florida bonneted bat occupancy or the relative conservation value of these areas.

In addition, model covariate layers representing high-quality foraging habitat include certain natural areas within the urban matrix based on our evaluation of land cover type characteristics; thus, we did not assume a broad negative association between foraging habitat quality and urbanization. We acknowledge that choice of scale typically impacts the results of any spatial analysis and that the influence and association of urban areas with Florida bonneted bat occurrence and habitat suitability may differ from our MaxEnt results if a different scale (i.e., grid cell size) is used. Based on the attributes of the available covariate data, as well as on available sample size, we identified our grid cell size using the best available data on Florida bonneted bat biology and habitat use at the time of analysis (see “Florida Bonneted Bat Habitat Analysis” under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>).

Given acknowledged limitations of the habitat analysis, additional criteria were applied to identify areas containing the essential physical or biological features and delineate critical habitat (see *Selection Criteria and Methodology Used to Identify Critical Habitat*, below), including in urban areas.

(4) *Comment*: One peer reviewer and several public commenters stated their views that habitat is a three-dimensional concept, and therefore the airspace above the substrate, where the Florida bonneted bat forages and socializes, is essential to the conservation of the species. The peer reviewer also mentioned that because this three-

dimensional habitat approach has been used in critical habitat for aquatic and fossorial species, the same approach should be applied to the Florida bonneted bat as a flying species. Some commenters suggested, citing Diehl et al. 2017 and other studies, that airspace above disturbed areas, including over paved surfaces, is vital habitat and heavily used by the species in some areas.

Our Response: We agree that airspace is important to this species. “Open areas,” as described in the second essential physical or biological feature for the Florida bonneted bat, include the ground, water, vegetation, and air where the Florida bonneted bat forages and socializes above those surfaces; thereby, the air above the surfaces where the Florida bonneted bat forages and socializes is included in the open areas described in the essential physical or biological features for the species. Since the species’ listing, consultations have considered the species’ use of habitat in three dimensions, and the evaluation of impacts to Florida bonneted bat habitat addressed in the Florida Bonneted Bat Consultation Guidelines also considers habitat use in three dimensions (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>).

(5) Comment: One peer reviewer and several public commenters expressed concerns regarding policy and language in the proposed rule that states that critical habitat does not include lands covered by buildings, pavement, and other structures (see paragraph (3) in the proposed rule text for the Florida bonneted bat’s critical habitat designation at 85 FR 35510, June 10, 2020, p. 35539). Commenters stated their views that excluding these areas is arbitrary and unsupported by the best data available on the Florida bonneted bat, and thus these areas are inappropriately omitted from the critical habitat designation.

Our Response: The Florida bonneted bat may roost in buildings and forage above human-made structures, but critical habitat is not intended to include all areas and

locations that the species uses. While certain human-made structures and the lands on which they are located are not included in the designated critical habitat for the Florida bonneted bat, impacts to bats using these areas may still be considered during consultations for effects to the species.

(6) Comment: One peer reviewer suggested that live oaks (*Quercus virginiana*) be included in the *Cover or Shelter* discussion as a potential roost tree species. The reviewer mentioned that a non-volant (flightless) pup was found below a bisected tree cavity in a live oak, providing evidence that the Florida bonneted bat will roost in live oak trees. The peer reviewer also noted that the rule should acknowledge live oak as a potential roost tree species considering mature trees of this species with cavities are plentiful near known Florida bonneted bat foraging areas.

Our Response: Known natural roosts with Florida bonneted bat colonies have been documented in slash pine (*Pinus elliottii*), longleaf pine (*Pinus palustris*), bald cypress (*Taxodium distichum*), and royal palm (*Roystonea regia*) (see *Cover or Shelter*, below). All trees of appropriate size, regardless of species, are considered to be possible roost trees when project areas are evaluated and surveyed for consultations. While no tree species is omitted from consideration under the Florida bonneted bat's essential physical or biological feature describing roosting habitat, we do not have the information needed to specifically identify live oak trees as a species in which roosts with Florida bonneted bat colonies have repeatedly been observed.

Federal Agency Comments

(7) Comment: Comments from the U.S. Army Corps of Engineers and Miami-Dade County recommended that conservation plans and additional conservation measures for the Florida bonneted bat be included either as part of the final rule or shared with Federal and local governments outside of the rulemaking process. Other suggestions included that the Service provide funding for land acquisition, incentives for limiting

pesticide use, guidance regarding bat-friendly lighting and exclusions, and outreach materials.

Our Response: We appreciate our partners' support for conservation of the Florida bonneted bat and interest in specific and additional ways to conserve the species and its habitat. While critical habitat is one tool that supports conservation of the species, providing additional or specific conservation recommendations or funding conservation is not within the scope of a critical habitat designation. Additional discussion of conservation actions can be found in the Florida Bonneted Bat Conservation Strategy and the Florida Bonneted Bat Consultation Guidelines (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>) and will be more fully addressed in the species' recovery plan. For further coordination on development of conservation plans related to the Florida bonneted bat or other listed species, please contact the Service (see **FOR FURTHER INFORMATION CONTACT**).

(8) *Comment:* In response to the June 10, 2020, proposed rule, the U.S. Army Corps of Engineers requested that private lands enrolled in the Wetland Reserve Easement Partnership Program (WREPP, formerly the Wetlands Reserve Program (WRP)) and lands within the Picayune Strand Restoration Project be excluded from critical habitat designation. They suggested that exclusion should be considered on an economic basis for both areas of land and, for lands enrolled in WREPP, that exclusion should also be considered due to the conservation benefits associated with the program.

Our Response: We listed this exclusion request in table 2 in the *Exclusion Requests Received During the Previous Public Comment Period* section of the revised proposed rule (87 FR 71466, November 22, 2022, p. 71481). In this final rule, we do not conduct an analysis of these lands to determine whether the benefits of potentially excluding any specific area from this critical habitat designation outweigh the benefits of including that area in the designation under section 4(b)(2) of the Act. Under our 2016

section 4(b)(2) policy, we may choose to exclude proposed critical habitat if there is a signed conservation plan or program that provides for the necessary long-term conservation and management of habitat for a species and an analysis has determined that the benefits of excluding outweigh the benefits of including the area in critical habitat.

This comment was received in the context of the June 10, 2020, proposed rule, and the WREPP lands that were requested for exclusion (Wolf Island) were in Unit 1 of the proposed designation. Under the revised physical or biological features proposed in the November 22, 2022, revised proposed rule, those WREPP lands no longer meet the definition of critical habitat.

However, in our November 22, 2022, revised proposed designation, there were other WREPP lands that overlapped with our revised proposed critical habitat units, consisting of 387 ac (157 ha) in Subunit 2A. Because of this, we extrapolated the logic of the initial request to exclude WREPP lands, and we considered this initial request to also apply to WREPP lands in the revised proposal, although we did not receive a comment from the U.S. Army Corps of Engineers requesting that we consider these other WREPP lands for exclusion. However, we did not conduct an analysis considering the benefits of excluding WREPP lands covered by a non-permitted voluntary conservation plan because the initial request did not provide information on the benefits of exclusion that would be needed to weigh the potential benefits of excluding these lands from the critical habitat designation against including them in the designation. Further, we did not receive any other comments about this request. Additionally, it is our understanding that the conservation in agreements under the WREPP program is highly variable among landowners, and no landowner for these WREPP lands provided information or comment on either the June 10, 2020, proposed or November 22, 2022, revised proposed rule. Similarly, we do not conduct an exclusion analysis based on economic impacts for either WREPP lands or lands within the Picayune Strand Restoration Project (consisting of

64,490 ac (26,098 ha) in Unit 6) because the commenter described an economic burden that is purely associated with listing, and they did not describe any additional anticipated project modifications or costs anticipated to result from the designation of critical habitat for the Florida bonneted bat.

State Comments

(9) Comment: Two State agencies (the Florida Fish and Wildlife Conservation Commission and Florida Farm Bureau) and other commenters recommended that the Service provide assurances that the critical habitat designation would not negatively affect a land manager's or private landowner's ability to implement resource management activities (e.g., prescribed fire, invasive species management, grazing, tree harvesting) or recreational activities (e.g., hunting, off road vehicle use) within critical habitat, and that it will not add regulatory burden. Further, commenters recommended that the Service identify which activities are likely to require (or not require) consultation with the Service and clarify the project modifications that would be needed to avoid adverse effects to or the destruction or adverse modification of critical habitat.

Our Response: The purpose of the designation of critical habitat is to identify those areas critical to the conservation of the species, not to impede resource or habitat management. Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of designated critical habitat. Each Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. To help Federal and State agencies and members of the public recognize the actions considered to have potential effects on designated critical habitat, we generally identify those types of actions that could potentially result in destruction or adverse modification of designated critical habitat (see *Application of the "Adverse Modification" Standard*, below). The actual effects of a

proposed action on designated critical habitat are dependent on many project-specific factors related to both the action being proposed and the project area. Therefore, we cannot determine or provide specific thresholds for adverse effects or adverse modification within this rule. Determination of adverse effects or adverse modification is conducted through the section 7 process, during which specific factors of the proposed action and conditions within the project area can be evaluated. This consultation requirement under section 7 is not a prohibition of otherwise lawful actions; rather, it is a means by which they may proceed in a manner that avoids destruction or adverse modification of critical habitat. Even in areas absent designated critical habitat, if the action may affect a listed species, consultation is still required to ensure the action is not likely to jeopardize the species. There is not expected to be any difference between a jeopardy analysis (on the species) and an adverse modification analysis (on the species' critical habitat) conducted as part of the consultation because threats to the Florida bonneted bat are largely habitat-related and all critical habitat units are occupied.

Additionally, there are opportunities for collaboration and cooperation with our partners to develop conservation strategies, conservation plans, and programmatic consultations to streamline regulatory procedures and compliance and to benefit listed species.

Public Comments

(10) Comment: In response to the November 22, 2022, revised proposed critical habitat rule, one commenter requested clarification regarding how all peer review, public comments, and new information provided in response to the June 10, 2020, proposed rule were considered in our revised proposed designation process. They also asked what changes were made from the proposed rule to the revised proposed designation and reasons for those changes.

Our Response: All peer review, public comments, and new information we received on the June 10, 2020, proposed rule were thoroughly reviewed and considered in our November 22, 2022, revised proposed designation. Based on this review, we determined that changes were needed to the physical or biological features essential to the conservation of the Florida bonneted bat and the criteria and methodology used to identify those specific areas that constitute critical habitat for the species (see **New Information and Revisions to Previously Proposed Critical Habitat** at 87 FR 71466, November 22, 2022, p. 71469). To sufficiently address comments we received and incorporate new information, we comprehensively rewrote the proposed designation based on the development of a conservation strategy and corresponding critical habitat criteria, a new habitat analysis, and new essential physical or biological features, all based on the best available science. Given the significant and substantive changes we made in identifying the essential physical or biological features and, accordingly, the areas that meet the definition of critical habitat for the Florida bonneted bat, we determined it was necessary to revise the proposal and provide for notice and comment; therefore, we published the November 22, 2022, revised proposed rule (87 FR 71466). In this final rule, we are providing responses to peer review and public comments we received on both the June 10, 2020, proposed and November 22, 2022, revised proposed rules, and, where appropriate, we have noted how our November 22, 2022, revised proposed designation addressed comments on the June 10, 2020, proposed rule.

(11) Comment: One commenter stated their view that the November 22, 2022, revised proposed rule explains how genetic diversity, geographic extent, and ecological diversity were incorporated in the revised proposed critical habitat designation, but it does not show that the designation is sufficient to achieve resiliency, redundancy, and representation.

Our Response: To determine and select appropriate areas, we incorporated information from the conservation strategy for the species (see “Florida Bonneted Bat Conservation Strategy” under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). This conservation strategy helped identify those areas within the Florida bonneted bat’s range that contain the essential physical or biological features. In the absence of population estimates or trend data, we used current presence data along with information regarding future changes to the landscape (e.g., due to climate and urbanization) to estimate the quantity and spatial arrangement of units that would be sufficient to conserve the species. The resulting 1,160,625-ac (469,688-ha) designation includes the four known Florida bonneted bat populations that support resiliency, redundancy, and representation of the species by including areas that maintain or reestablish connectivity within and between populations (supporting resiliency), that are predicted to be unaffected or less affected by sea-level rise and climate change (supporting resiliency), that are in each of the known genetically distinct areas and distributed across the geographic range of the species (supporting representation, redundancy, resiliency), and that are in each major ecological community that provides roosting habitat (supporting representation and resiliency).

(12) Comment: In response to the June 10, 2020, proposed and November 22, 2022, revised proposed critical habitat rules, several commenters stated their views that our designation process did not consider the best available scientific information and that information was not considered sufficiently or interpreted correctly. Specific concerns expressed included failure to incorporate all Florida bonneted bat location data, including acoustic and telemetry data, as well as specific published and unpublished information sources related to the species’ range, movements, biology, genetics, habitat use, and threats (including climate change). One commenter disagreed with our interpretation of

acoustic data, specifically related to the level of bat activity, which the commenter believes resulted in an over-inclusive designation regarding Subunit 9O.

Our Response: In development of the November 22, 2022, revised proposed critical habitat rule, we reviewed all information sources and specific information identified in comments on the June 10, 2020, proposed rule to ensure that they were considered as part of our revised designation process. We also obtained and incorporated all available location data for the Florida bonneted bat, including geographic information system (GIS) and non-GIS data from acoustic surveys, reports, and researchers (including roost locations and maps of telemetry data). All of this information was used in multiple facets of our revised designation process, including the development of our Florida Bonneted Bat Conservation Strategy and Florida Bonneted Bat Habitat Analysis (see these documents under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>), physical or biological features essential to the Florida bonneted bat, critical habitat criteria, and critical habitat delineation methods. As such, the November 22, 2022, revised proposed rule incorporated substantial new information representing the best available science. In addition, in the development of this final designation, we have reviewed additional information sources provided through public comments on the November 22, 2022, revised proposed rule and have updated the rule as appropriate (see **Summary of Changes from the Proposed Rule**, above).

We followed our standard peer review process for both the June 10, 2020, proposed and November 22, 2022, revised proposed rules to help ensure we are applying the best available information and that our interpretation is appropriate. While acoustic locations were used to indicate presence of Florida bonneted bats as part of our habitat analysis, information related to the level of bat activity (e.g., number of Florida bonneted bat calls or percentage of total bat calls) did not provide further insight into the presence of Florida bonneted bats in an area and was not used in delineating Subunit 9O or in any

part of the revised designation process. Furthermore, as mentioned, the designation process is complex and not based on presence data alone.

(13) Comment: In response to the November 22, 2022, revised proposed critical habitat rule, one commenter stated their view that the habitat analysis methods used were flawed and that the results appear to conflict with the best available science. Specifically, the commenter expressed concerns that our use of a combination of roost locations and positive acoustic detections (the latter of which represented the majority of locations) resulted in skewed data. The commenter asserted that the use of non-random acoustic data may have influenced our analysis results, which they said seem to disagree with independent research and peer-reviewed studies that suggest agricultural areas are important for the Florida bonneted bat. The commenter also questioned why and how we classified cover types as high-quality foraging habitat in our development of modeling covariates.

Our Response: In response to comments we received on the June 10, 2020, proposed critical habitat rule, we incorporated all available data (e.g., acoustic detections from all available sources, including locations sampled by Bailey et al. (2017a, entire), as well as known roost locations) in our November 22, 2022, revised proposed designation. In our initial exploratory analyses during the development of the revised proposed designation, model results based only on roost locations indicated the model was overfitted (i.e., model results corresponded too closely to the data used and thus may fail to predict future observations reliably), likely resulting from small sample size ($n = 21$). Because these exploratory analyses showed that a roost-only model is not appropriate based on data available at the time of our analysis, in our final analysis, we chose to combine roost locations with acoustic data in a single presence dataset to ensure we incorporated all available GIS data into our model. Likewise, we did not limit our analysis to only those data collected using a randomized sampling design, as that would

exclude a large amount of available data. As acknowledged in our Florida Bonneted Bat Habitat Analysis (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>), we recognize that the majority of acoustic data were collected during pre-development surveys and thus may exhibit a certain level of habitat bias based on project locations (but not due to survey protocol, as agricultural areas are included in potential foraging habitat to be surveyed (see “Florida Bonneted Bat Consultation Guidelines” under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>)). We agree that this habitat bias likely contributed to the differing results obtained from our model related to correlation of species’ occurrence with agricultural areas when compared to the results of those studies identified by the commenter (i.e., Bailey et al. 2017a, p. 1589; Webb 2018, p. 25), although our results were also (and possibly more so) influenced by differences in the source and classification of land cover data, model covariates, and/or model spatial scale. While our designation is based on the best available data, we believe continued modeling efforts would be useful to better understand the Florida bonneted bat’s habitat needs at both local and landscape scales, including how different habitat types contribute to supporting the long-term conservation of the species.

Many habitats or land cover types contribute at least minimally to providing foraging opportunities for Florida bonneted bats (e.g., by producing prey), but not all of these areas are equal in the amount or type of prey they produce or in having the open habitat structure needed for maneuvering to catch prey. To explore these relationships, we classified land cover data in two ways: (1) Foraging habitat quality (high quality, low quality, not foraging habitat) based on the cover type’s likelihood of producing large insects (e.g., beetles and moths); and (2) foraging habitat structure (open, not open) based on the cover type description (see table 1 in Florida Bonneted Bat Habitat Analysis under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on

<https://www.regulations.gov>). Many land cover types, including most agricultural types, were classified as high-quality foraging habitat (based on prey production); cover types we associated with lower prey production consisted of saltwater/saline habitats, highly manicured areas (e.g., lawns), and unvegetated cover types. Of those cover types classified as high-quality foraging, all having an open habitat structure were classified as high-quality open foraging habitat. These classifications were then used to develop model covariate layers to investigate their potential influence on Florida bonneted bat occurrence. The MaxEnt model that we used in our analysis does not identify the amount of high-quality or high-quality open foraging habitat as having a strong influence on the probability of Florida bonneted bat occurrence; thus, these covariates were not incorporated in our model output or analysis results.

(14) Comment: In response to the November 22, 2022, revised proposed critical habitat rule, commenters stated concerns about various aspects of how current and future land use, the overall spatial extent of the designation, ownership, and habitat quality were considered in the revised proposed designation of critical habitat. Some commenters stated their views that private lands, urban areas, and agricultural areas were seemingly arbitrarily avoided in our revised critical habitat designation and that the spatial extent of the designation was arbitrarily reduced from the June 10, 2020, proposal. Other commenters expressed concern with the revised proposed critical habitat not aligning with ownership boundaries, such as conservation easements, property lines, or other easements, or suggested that the Service should consider future development plans when delineating critical habitat and aim to avoid or protect areas with plans for development. One commenter requested additional information regarding how we considered “hot spots” identified by the habitat analysis, specifically expressing concerns that some apparently high-quality areas were omitted from the revised proposed designation.

Our Response: Critical habitat, as defined in section 3 of the Act, includes the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection. In the development of our November 22, 2022, revised proposed designation, we followed this approach to identify and delineate critical habitat for the Florida bonneted bat using a step-wise process incorporating critical habitat criteria based on the species' conservation strategy, results of our spatially explicit habitat analysis, and additional information that could not be incorporated into our spatial analysis (see **Conservation Strategy and Selection Criteria Used To Identify Critical Habitat**, below). We did not consider ownership or management of any areas during this process, and ownership and management information (including easements) is not evaluated until after critical habitat delineation is completed; future development plans are not considered in the definition or delineation of critical habitat. Thus, private lands were not purposefully avoided, and most units include private lands to some degree. Urban and agricultural areas, while not specifically avoided, are less prevalent than certain land cover types (e.g., forested lands, freshwater wetlands) in the designation; this is primarily a result of their lower likelihood of containing the essential physical or biological features or their lower conservation value. For example, despite their use by Florida bonneted bats and their local importance in the southeastern extent of the species' range, many urban areas have lower conservation value to the species as a whole and do not contain the physical or biological features essential for the conservation of the Florida bonneted bat, as further discussed above in our response to (3) *Comment*. Likewise, although some agricultural areas are known to provide foraging habitat for the species, the conservation value of these areas is generally lower than that of other open foraging habitats that are dominated by native vegetation and not exposed to regular pesticide applications. Regardless of critical habitat

designation, Federal agencies are required to fulfill their conservation responsibilities by consulting with the Service if the actions they authorize, fund, or carry out “may affect” listed species; therefore, Florida bonneted bats and their habitat are still protected by the Act where they occur, including in urbanized and agriculture areas.

Just as the composition of our November 22, 2022, revised proposed designation was guided by the factors described above, so were the spatial arrangement and extent of our revised critical habitat units. During the development of our revised proposed rule, we evaluated areas both within and outside the species’ known range to identify those areas that meet the definition of critical habitat. This evaluation included areas identified as potential “hot spots” (areas having higher probability of Florida bonneted bat occurrence) in the predictive maps produced based on our MaxEnt model. We further evaluated these areas for the temperature limitations of the species and to ensure that land cover data were correctly categorized, and we eliminated areas that were unlikely to contain the physical or biological features essential to the species (e.g., areas at the far northern edge of the model’s spatial extent where winter temperatures are typically too low for the bat, areas where aerial imagery indicated poor habitat quality). Other areas identified as “hot spots” by the model but that were not occupied (e.g., area east of Lake Okeechobee) were eliminated in a later step of our delineation process because we determined unoccupied areas are not essential for the conservation of the Florida bonneted bat, as further discussed in our response to *(1) Comment*, above. The remaining areas were included in our November 22, 2022, revised proposed designation, as were additional areas where the physical or biological features essential to the species are found and which we determined were necessary to fulfill critical habitat criteria (e.g., areas for connectivity between model-identified “hot spots” that fall within the geographical area occupied by the species as defined at 50 CFR 424.02). These methods produced the specific critical habitat units included in our November 22, 2022, revised

proposed designation, and any differences in unit size, arrangement, or composition between the June 10, 2020, proposed and November 22, 2022, revised proposed units are a result of delineations made following revised criteria to identify the essential physical or biological features rather than arbitrary changes (see also our response to (10) *Comment*, above).

(15) *Comment*: In response to the November 22, 2022, revised proposed critical habitat rule, one commenter questioned the removal of minimum patch size as a criterion for critical habitat units and suggested that this was not supported other than to allow for additional connectivity, including the addition of smaller patches or “stepping stones.” The commenter also requested that a definition be provided for the term “stepping stones.”

Our Response: Based on peer review and public comments on the June 10, 2020, proposed rule and new information, we determined that use of a minimum patch size was not appropriate for the Florida bonneted bat because using a minimum patch size would have eliminated areas that contain the physical or biological features essential to the conservation of the species and that provide necessary ecological community and genetic representation. “Stepping stones” are characterized in the November 22, 2022, revised proposed rule and in this rule under *Space for Individual and Population Growth and for Normal Behavior*, below, as suitable habitat in the form of linear corridors or patches and are described more specifically in the description of the essential physical or biological features as patches such as tree islands or other isolated natural areas within a matrix of otherwise low-quality habitat.

(16) *Comment*: Several comments expressed concerns that many threats to the Florida bonneted bat, as well as details related to some of the outlined threats (e.g., habitat loss, climate change, environmental stochasticity, pesticides and contaminants), were not mentioned or fully addressed in the **Special Managements Considerations or**

Protection discussions in the June 10, 2020, proposed and November 22, 2022, revised proposed rules.

Our Response: The threats included in the discussion under **Special Management Considerations or Protection**, below, as well as in the June 10, 2020, proposed and November 22, 2022, revised proposed rules, are potential threats to the physical and biological features, not threats directly to the Florida bonneted bat. Additionally, the threats included in our discussion are not intended to be an exhaustive list. Additional discussion of threats to the Florida bonneted bat can be found in the final rule to list the Florida bonneted bat as an endangered species (78 FR 61004; October 2, 2013) A comprehensive discussion of current and future threats to the species will be a part of the species' upcoming recovery plan.

(17) Comment: Several commenters stated that the baseline approach used by the Service to assess economic impacts, which considers only impacts solely attributable to the critical habitat designation, is flawed and severely underestimates costs presented in the DEA. Commenters further suggested that considering all costs regardless of whether they are incremental to critical habitat designation, thus including those costs likely to be incurred to avoid adverse habitat modification as well as jeopardy to the species, would more accurately analyze how a critical habitat designation affects property owners.

Our Response: Because the primary purposes of the Service's economic analysis are to facilitate the mandatory consideration of the economic impact of the designation of critical habitat, to inform the discretionary section 4(b)(2) exclusion analysis, and to determine compliance with relevant statutes and Executive orders, our economic analysis focuses on the incremental impact of the designation. The economic analysis of the designation of critical habitat for the Florida bonneted bat follows this incremental approach. As such, costs associated with actions that are anticipated to occur regardless of critical habitat designation for the Florida bonneted bat are not included.

The Service acknowledges that historically the method for assessing the economic impact of critical habitat designations has been the subject of significant debate. The United States Court of Appeals for the Tenth Circuit in *New Mexico Cattlegrowers Ass'n v. FWS*, 248 F.3d 1277 (10th Cir. 2001) found that the regulatory definition of the jeopardy standard fully encompassed the adverse modification standard, rendering any purported economic analysis done utilizing the baseline approach, which only considers economic impacts that would not occur “but for” the critical habitat, virtually meaningless. For this reason, the court rejected the baseline approach to economic analysis. Later, in 2004, the Ninth Circuit (*Gifford Pinchot Task Force v. USFWS*, 378 F.3d 1059 (9th Cir. 2004)) invalidated the regulatory definition of “destruction or adverse modification.” The court held that the definition gave too little protection to critical habitat by not giving weight to Congress’ intent that designated critical habitat supports the recovery of listed species. On August 27, 2019, the Service issued a final rule (84 FR 44976) revising the definition of destruction or adverse modification in a way that allows the Service to define an incremental effect of the designation. This process eliminated the predicate for the Tenth Circuit’s analysis and decision. Therefore, the Service has concluded that it is appropriate to consider the impacts of designation on an incremental basis. Indeed, no court outside of the Tenth Circuit has followed *New Mexico Cattle Growers* since the Ninth Circuit issued *Gifford Pinchot Task Force* and the Service revised its definition of “destruction or adverse modification.”

Most recently, the U.S. Ninth Circuit Court of Appeals upheld the incremental approach as lawful explaining that “the very notion of conducting a cost/benefit analysis is undercut by incorporating in that analysis costs that will exist regardless of the decision made.” Further, when the plaintiffs filed a petition for *writ of certiorari* asking the U.S. Supreme Court to specifically answer the question of whether the government is required to “analyze all of the economic impacts of ‘critical habitat’ designation (regardless of

whether the impacts are co-extensive with, or cumulative of, other causes), as the Tenth Circuit decided, or instead only those impacts for which ‘critical habitat’ designation is a ‘but for’ cause, as the Ninth Circuit decided,” the Supreme Court declined to hear the case (*Home Builders Association of Northern California v. United States Fish and Wildlife Service*, 616 F.3d 983 (9th Cir. 2010), cert. denied, 179 L. Ed 2d 301, 2011 U.S. Lexis 1392, 79 U.S.L.W. 3475 (2011)); citing *Arizona Cattle Growers v. Salazar*, 606 F.3d 1160 (9th Cir. 2010), cert. denied, 179 L. Ed. 2d 300, 2011 U.S. Lexis 1362, 79 U.S. L.W. 3475 (2011)). Subsequently, on August 28, 2013, the Service issued a final rule (78 FR 53058) revising its approach to conducting impact analyses for designations of critical habitat, specifying that we will compare the impacts with and without the designation (50 CFR 424.19(b)).

(18) Comment: Several commenters stated concerns that critical habitat designation for the Florida bonneted bat will alter land management, development, and conservation activities and will result in economic impacts that are not included or are underestimated in the DEA. Commenters specifically cited concerns that the costs that private entities incur during section 7 consultation (e.g., biologist and consultant fees, project modifications and mitigation, costs associated with permit and project delays) and potential increased litigation risk are a significant economic burden.

Our Response: Section 4 of the economic analysis (IEc 2021a, pp. 22–25) outlines the substantial baseline protections currently afforded the Florida bonneted bat throughout areas in the revised proposed critical habitat designation. These baseline protections result from the listing of the Florida bonneted bat under the Act and the presence of the species in all critical habitat units, as well as overlap with habitat of other, similar listed species and designated critical habitat. Specifically, once a species is listed as endangered or threatened, section 7 of the Act requires Federal agencies to consult with the Service to ensure that the actions they authorize, fund, or carry out will not

jeopardize the continued existence of the species, even absent critical habitat designation. For designated critical habitat, section 7 also requires Federal agencies to ensure that their actions will not destroy or adversely modify critical habitat. Thus, a key focus of the economic screening analysis is evaluating whether the designation of critical habitat would trigger project modifications to avoid adverse modification that would be above and beyond modifications that would already have been undertaken to avoid adverse effects to the species itself. The jeopardy analysis conducted as part of consultation would focus on the same impacts that an adverse modification standard analysis would because threats to the Florida bonneted bat are habitat-related (e.g., removal, fragmentation, or degradation of habitat due to construction, development, or climate change). Under those circumstances, project modifications or conservation measures would likely be required to address the species, regardless of whether there is designated critical habitat, because of the effects on the species. Therefore, it is unlikely that an analysis would identify a difference between measures needed to avoid the destruction or adverse modification of critical habitat from measures needed to avoid jeopardizing the species. Thus, the designation of critical habitat is unlikely to generate recommendations for additional project modifications in occupied areas. As such, we do not forecast any incremental costs associated with project modifications that would involve additional conservation efforts resulting from this critical habitat designation. Incremental costs include additional time for the Service, action agencies, and third parties to participate in consultations related to designated critical habitat for the Florida bonneted bat.

The Service makes its decision whether to specify any particular area as critical habitat based on the best available science after taking into consideration the economic impact, the impact on national security, and any other relevant impact. We do not consider the costs of litigation surrounding the critical habitat rule itself when considering

the economic impacts of the rule. The extent to which litigation could increase the costs of a critical habitat designation is purely speculative and inappropriate for consideration.

(19) Comment: Several commenters stated that the number of actions that would be affected by the designation of critical habitat for the Florida bonneted bat, and thus the costs associated with those actions, may be larger than estimated in the DEA.

Commenters specifically stated that the number of consultations associated with private projects that require Federal authorization (e.g., those triggering consultation under section 404 of the Clean Water Act, 33 U.S.C. 1251 et seq.) are underestimated in the DEA.

Our Response: The economic analysis forecasts the likely number of future section 7 consultation actions based on the number of consultations for the Florida bonneted bat that have occurred since its listing in 2013 and information from the Service about likely future actions in particular units. The analysis also incorporates information provided by several government agencies, as well as by several public commenters, into the forecast of the number of likely actions that will require section 7 consultation. Specifically, the analysis incorporates information from the National Park Service, the U.S. Army Corps of Engineers, the Florida Department of Transportation, the Service's Southwest Florida Refuge Complex, the Miccosukee Tribe of Florida, the Seminole Tribe of Florida, Florida Power and Light (FPL), and other commenters. By adding the number of annual consultations based on the historical rate to the specific known actions and actions identified through commenter input, our estimate of the number of future consultation actions is likely to be overstated because some of these actions would have also been captured in the historical number of consultations. Also, see our response to *(18) Comment*, regarding the substantial baseline protections currently afforded the Florida bonneted bat throughout areas in the revised proposed critical habitat designation.

(20) Comment: Several commenters stated that the DEA underestimates the effect of the designation of critical habitat for the Florida bonneted bat on private land values, primarily because it does not account for the full perceptual effects of designating critical habitat.

Our Response: Section 5 of the economic analysis discusses the possible perceptual effects of the proposed designation on private property values. Specifically, this section of the economic analysis discusses comments and concerns submitted in response to previous critical habitat rulemakings that the designation of critical habitat may affect the value of a private property due to the public perception that the Act may preclude, limit, or slow development or somehow alter the highest and best use of the property. The analysis acknowledges that incremental costs from public perception of the critical habitat designation for Florida bonneted bat could be possible. As stated in the analysis, public attitudes and concerns about the regulatory effects of the Act can cause real economic effects to the owners of property, regardless of whether such concerns and effects are actually realized. Over time, as public awareness grows with respect to the role of critical habitat and the impacts of a critical habitat designation, particularly where no Federal nexus compelling a section 7 consultation exists, concerns regarding the effect of critical habitat designation on properties may subside.

While existing economic literature and prior public comments on previous designations suggest that costs may result from public perception about how critical habitat may affect private lands, given the differences in circumstances, including varying species, geographic locations, public attitudes, and potential for a Federal nexus, we lack the ability to calculate costs associated with public perception in a manner that does not require extensive speculation. Additionally, we are unable to estimate the magnitude of perception-related impacts to property values likely to result from this designation. We are unable to do this due to existing data limitations regarding the

probability that such effects will occur, the likelihood of perception effects above and beyond those associated with the listing, and the presence of other co-occurring listed species and designated critical habitats.

(21) Comment: In response to the June 10, 2020, proposed rule, one commenter stated that the Service should account for and incorporate planned land use changes in the economic impacts of critical habitat designation considered in the DEA.

Our Response: Planned land use changes were considered and incorporated into our economic analysis of this critical habitat designation. Section 3 of the economic analysis forecasts section 7 consultations based on data on past consultation efforts for the Florida bonneted bat in or near proposed critical habitat areas and identifies known or probable projects in proposed critical habitat that may affect critical habitat designation or require consultation under section 7 of the Act. Known or probable projects were identified based on information we received from Federal agencies during the development of the incremental effects memorandum (IEM) and from the public in response to the June 10, 2020, proposed rule. In addition, public comments we received on the proposed rule from FPL, Collier Enterprises Management, and a number of other interested parties provided information about potential effects of the critical habitat designation for Florida bonneted bat on ongoing activities. We used this information, as well as comments from Federal and State agencies, to forecast the number of consultations that will occur for the Florida bonneted bat in proposed critical habitat areas over the next 10 years. Information we received during the public comment period for the November 22, 2022, revised proposed rule about potential effects of critical habitat designation for Florida bonneted bat on ongoing activities was also considered in our analysis of the probable incremental economic impacts of this critical habitat designation.

(22) Comment: One commenter stated that the DEA fails to account for private development on county-owned leased lands in the Miami-Dade Rocklands Unit (Unit 9)

and thus does not adequately estimate incremental costs, including those associated with perceptual effects, associated with private development on county-owned leased lands.

Our Response: We appreciate the information the commenter submitted with respect to Unit 9. We did consider potential activity on all areas within this unit, including county-owned leased lands, when evaluating the economic impacts. Because the primary purposes of the economic analysis are to facilitate the mandatory consideration of the economic impact of the designation of critical habitat, to inform the discretionary section 4(b)(2) exclusion analysis, and to determine compliance with relevant statutes and Executive orders, the economic analysis focuses on the incremental impact of the designation. The economic analysis of the designation of critical habitat for the Florida bonneted bat follows this incremental approach. Based on the consultation history and public and agency comments, the economic analysis anticipates that approximately 2 formal consultations, 15 informal consultations, and 3 technical assistance efforts will occur in the Miami-Dade Rocklands Unit that will consider Florida bonneted bat critical habitat during the next 10 years, or approximately 2 consultation actions annually. These forecasted consultations are not specific to particular landowners and may include county-owned lands.

Critical habitat would only affect a private development project on county-owned leased lands if there were a Federal nexus for the project or the designation of critical habitat triggered regulatory compliance under State or local laws. We are aware of Miami-Dade County approving a long-term lease for lands within Unit 9. Because this area is considered occupied for Florida bonneted bat and co-occurs with other listed species and their critical habitats, should there be a Federal nexus for a project conducted on these lands, the incremental economic impact as a result of this critical habitat designation would be limited to minor additional administrative economic costs due to the additional analysis required for the destruction or adverse modification analysis.

As the commenter notes, the economic analysis specifically discusses perception-related impacts as related to privately owned lands. Perception-related effects are also possible for county-owned lands that may be leased to private developers. However, for the reasons discussed above (see our response to *(20) Comment*), we are unable to estimate the magnitude of perception-related impacts to property values that may result from this designation.

(23) Comment: In response to the June 10, 2020, proposed rule, Collier Enterprises Management, Inc. requested that we exclude the lands within the boundary of the draft East Collier Multiple Species Habitat Conservation Plan (HCP), totaling 3,772 ac (1,526 ha) within Units 5 and 6 of the revised proposed designation.

Our Response: We listed this exclusion request in table 2 of the revised proposed rule (87 FR 71466, November 22, 2022, pp. 71481–71482); however, we did not conduct an analysis to determine whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act because this HCP was withdrawn prior to the publication of this final rule.

(24) Comment: In response to the June 10, 2020, proposed rule, Aliese Priddy, JB Ranch I, LLC, requested that we exclude the property owned by JB Ranch I, LLC, and Sunniland Family Limited Partnership lands. In addition, Miami-Dade Limestone Products Association requested that we exclude lands overlapping the Florida legislature-designated Lake Belt mining area.

Our Response: We listed these exclusion requests in table 2 of the revised proposed rule (87 FR 71466, November 22, 2022, pp. 71481–71482), and we noted that these requests do not overlap with the revised proposed designation for the Florida bonneted bat. In this final rule, we did not conduct an analysis to determine whether the benefits of potentially excluding these specific areas outweigh the benefits of including

them under section 4(b)(2) of the Act because the lands identified in these requests do not overlap with the final critical habitat designation.

(25) Comment: In response to the June 10, 2020, proposed and November 22, 2022, revised proposed rules, several commenters requested that broad areas of land (e.g., all private property; all currently operating cattle ranches, associated rights-of-way, and access points within proposed critical habitat; all Federal and other publicly owned lands; entire proposed critical habitat units; and/or all proposed critical habitat) be excluded from designation because of economic and regulatory burdens. Commenters expressed concerns that critical habitat designation would restrict or prevent actions from proceeding on those lands. One commenter supported their request for exclusion by stating that our approach for assessing the economic impacts of critical habitat designation was flawed and advocated for a coextensive approach. One commenter further stated that all Federal and publicly owned lands should be excluded from the critical habitat designation because the Service has not demonstrated that exclusion of all lands from critical habitat will result in the extinction of the Florida bonneted bat.

Our Response: We considered these requests according to our 2016 section 4(b)(2) policy, which outlines measures we consider when excluding any areas from critical habitat. The commenters provided general statements of their desire to be excluded but provided no specific information about the economic impacts or reasoned rationale about the benefits of excluding any specific areas. To properly evaluate an exclusion request, the commenters must provide information concerning the economic impacts of the designation, and hence the need for exclusion. Thus, we did not conduct an analysis to balance or weigh the benefits of excluding the areas against the benefits of including the areas in the critical habitat designation. Neither the Act nor the implementing regulations at 50 CFR 424.19 requires the Secretaries of the Interior and Commerce (Secretaries) to conduct a discretionary section 4(b)(2) exclusion analysis

(see, e.g., *Cape Hatteras Access Preservation Alliance v. DOI*, 731 F. Supp. 2d 15, 29–30 (D.D.C. 2010)). Rather, the Secretaries have discretion as to whether to conduct that analysis. If the Secretary decides not to consider exclusion of any particular area, no additional analysis is required.

Regarding the concern that the critical habitat designation would restrict or prevent actions, the requirement to consult with us on actions with a Federal nexus that may affect designated critical habitat is designed to allow actions to proceed while avoiding destruction or adverse modification of critical habitat, as further discussed in our responses to *(9) Comment* and *(18) Comment*.

Regarding the concern that our approach for assessing the economic impacts is flawed, the economic analysis for the designation of critical habitat for the Florida bonneted bat follows an incremental approach, which has been upheld by the courts, as further discussed in *(17) Comment*.

Regarding one commenter's assertion that all critical habitat should be excluded because this would not result in extinction of the species, we are mandated by the Act to designate critical habitat for listed species, to the maximum extent prudent and determinable. The Act does not require us to exclude lands from the designation if that exclusion would not result in the extinction of the species. Rather, the Secretary of the Interior (Secretary) may exclude any particular area if she determines that the benefits of such exclusion outweigh the benefits of including such area as part of the critical habitat, unless she 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 (see **Consideration of Impacts under Section 4(b)(2) of the Act**, below). As stated earlier in this comment response, because the commenter did not provide specific information or reasoned rationale about the benefits of excluding any specific areas, we chose not to

conduct an analysis to balance or weigh the benefits of excluding the areas against the benefits of including the areas in the critical habitat designation.

(26) Comment: In response to the November 22, 2022, revised proposed rule, Miami-Dade County requested that we exclude the 327 ac (132 ha) of the developed footprint of Zoo Miami due to concerns that including this area in the critical habitat designation would prevent the zoo from conducting activities needed to adhere to Association of Zoos and Aquariums (AZA) accreditation standards. The commenter expressed concern that if they were not able to meet AZA standards, they could lose their AZA accreditation, which impacts the zoo's economic capacity.

Our Response: We appreciate our partners' efforts to conserve wildlife and inspire stewardship for local wildlife as well as species around the world. We considered this request for exclusion according to our 2016 section 4(b)(2) policy, and we consulted with AZA accreditation experts and reviewed the AZA accreditation standards and related policies (AZA 2024, entire).

Because a focus on conservation and active stewardship of the natural environment, including wildlife, is part of the accreditation process and standards (AZA 2024, pp. 6, 12, 27–28), it is reasonable to assume that a demonstrated commitment to supporting the conservation of an endangered species, such as the Florida bonneted bat, would benefit an organization seeking accreditation.

Human-altered areas such as buildings or pavement without any type of vegetation that could provide roosting habitat or support insect populations that provide prey for the Florida bonneted bat may not possess the physical and biological features essential to the conservation of the species and would not meet the definition of critical habitat. These areas are “excluded by text” from the designation. However, the Zoo Miami property does include areas that contain the physical and biological features

essential to the conservation of the Florida bonneted as well as features essential to five other species with designated critical habitat within the Zoo Miami area.

Also, critical habitat designations do not affect activities by private landowners unless projects have a Federal nexus (e.g., on Federal property, using Federal funding, authorized or carried out by a Federal agency). Furthermore, any regulatory burden related to updating or improving exhibits or expanding the developed areas of Zoo Miami to maintain accreditation would be associated with the species' listing, not the critical habitat designation. Therefore, since the designation of critical habitat is unlikely to have a negative effect on the ability of Zoo Miami to continue AZA accreditation and any foreseen regulatory burden would be purely associated with listing, we did not conduct an analysis to determine whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act. Neither the Act nor the implementing regulations at 50 CFR 424.19 require the Secretaries to conduct a discretionary 4(b)(2) exclusion analysis (see, e.g., *Cape Hatteras Access Preservation Alliance v. DOI*, 731 F. Supp. 2d 15, 29–30 (D.D.C. 2010)). Rather, the Secretaries have discretion as to whether to conduct that analysis. If the Secretary decides not to consider exclusion of any particular area, no additional analysis is required.

(27) *Comment:* We received comments from the Division of Charlotte County Mosquito Control and the Collier Mosquito Control District requesting that the areas of critical habitat overlapping their respective mosquito control districts be excluded from critical habitat; we also received comments expressing concern about designating the portions of Lee, Collier, and Charlotte Counties for which taxes fund mosquito control services. Commentors expressed concerns that the designation of critical habitat would restrict their ability to conduct mosquito control practices within critical habitat, resulting in negative impacts to public health, suppression of economic growth, and reductions in land value.

Our Response: We considered this request for exclusion under our 2016 section 4(b)(2) policy. No specific information was provided to enable us to conduct an analysis to balance or weigh the benefits of excluding the areas against the benefits of including the areas in the designation. Therefore, we did not conduct an analysis to determine whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act. Neither the Act nor the implementing regulations at 50 CFR 424.19 require the Secretaries to conduct a discretionary section 4(b)(2) exclusion analysis (see, e.g., *Cape Hatteras Access Preservation Alliance v. DOI*, 731 F. Supp. 2d 15, 29–30 (D.D.C. 2010)). Rather, the Secretaries have discretion as to whether to conduct that analysis. If the Secretary decides not to consider exclusion of any particular area, no additional analysis is required.

The lands included in this critical habitat designation are all considered occupied by the Florida bonneted bat. Therefore, regardless of any critical habitat designation, activities that may take Florida bonneted bat are subject to prohibitions under section 9 of the Act. We would recommend protective measures be established for the Florida bonneted bat regardless of critical habitat designation within mosquito control districts because of potential impacts to the species, but this critical habitat designation does not limit or stop mosquito control operations or reduce efforts to protect communities from mosquito-borne viruses.

(28) Comment: Miami-Dade County and several other commenters requested clarification regarding the areas that are excluded from designation “by text,” specified at paragraph (3) in the regulatory text of the critical habitat designation for the Florida bonneted bat, and what meets the characteristics of natural habitats at the time of critical habitat designation. Commenters also stated their views that some areas within Unit 9 in the November 22, 2022, revised proposed designation should not be included in the final

designation because they should be considered developed or because they do not contain the physical or biological features essential for the conservation of the species.

Our Response: As specified at paragraph (3) of the regulatory text in this rule (see **Regulation Promulgation**, below), critical habitat does not include human-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located. These types of structures and lands that are within critical habitat units on the effective date of this final rule (see **DATES**, above) are excluded from designation “by text.” Areas within delineated critical habitat units that (1) are not human-made structures or the land on which they are located and (2) include any of the physical or biological features essential to the conservation of the Florida bonneted bat are designated critical habitat. These areas could include human-altered areas such as areas near buildings or pavement with any type of vegetation that could provide roosting habitat or could support insect populations that provide prey for the Florida bonneted bat. Where specific areas were identified by commenters, we evaluated and determined that removal from the final designation was not appropriate or required because the areas would already be excluded from the designation under paragraph (3) of the regulatory text or because they have at least one physical or biological feature essential to the conservation of the species that requires special management considerations or protection (and, thus, do meet our criteria for designating critical habitat). Questions regarding whether other specific areas are included in the designation should be directed to the Service (see **FOR FURTHER INFORMATION CONTACT**). Even absent critical habitat designation, Federal agencies are still required to consult with the Service if any action they authorize, fund, or carry out may affect listed species, so impacts to Florida bonneted bats using these areas may still be considered during consultations for effects to the species.

(29) Comment: One commenter requests an explanation of how the State of Florida's assumption of permitting authority under section 404 of the Clean Water Act program affects the consideration of critical habitat in reviews of projects or actions impacting Florida bonneted bats.

Our Response: Consistent with the biological opinion, which is titled, "U.S. Environmental Protection Agency's Approval of Florida Department of Environmental Protection's Assumption of the Administration of the Dredge and Fill Permitting Program under Section 404 of the Clean Water Act" (Service 2020, entire), and a memorandum of understanding between the Service, Florida Department of Environmental Protection (FDEP), and Florida Fish and Wildlife Conservation Commission (FWC), we provide technical assistance to FDEP to ensure that no State 404 permit action jeopardizes the continued existence of federally listed species or adversely modifies or destroys critical habitat, pursuant to 40 CFR 233.20(a). We continue to consult with the U.S. Army Corps of Engineer on permits they issue pursuant to section 404 of the Clean Water Act.

(30) Comment: One commenter stated that the Service should prepare an environmental impact statement to comply with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.) for every Federal action significantly affecting the quality of the human environment. The commenter also stated that the Service should have included an initial regulatory flexibility analysis with the proposed rule to comply with the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 et seq.). The commenter further stated that the Service has not accurately represented the significant impact that this critical habitat rule will have on a substantial number of small entities.

Our Response: 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 NEPA 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)). Therefore, it is appropriate that we did not prepare an environmental impact statement for this designation of critical habitat. See also *National Environmental Policy Act* (42 U.S.C. 4321 *et seq.*), below.

As required by the RFA, we evaluated the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself. Under section 7 of the Act, only Federal action agencies are directly subject to this specific regulatory requirement imposed by critical habitat designation. Therefore, because no small entities will be directly regulated by this rulemaking, we certify that this critical habitat designation will not have a significant economic impact on a substantial number of small entities. See *Regulatory Flexibility Act* (5 U.S.C. 601 *et seq.*), below, for more detail.

(31) Comment: In response to the November 22, 2022, revised proposed critical habitat rule, two commenters noted that the information necessary to evaluate the impacts of critical habitat (e.g., Florida Bonneted Bat Consultation Guidelines, shapefile for critical habitat maps) were not available or difficult to obtain during the comment period for the revised proposed rule, thus making it difficult to fully review and provide comment on the revised proposed rule.

Our Response: We agree that sharing the supporting documents for proposed rules during the comment period is important for providing the public the ability to fully review and comment on a proposed rule. During the comment period for the November, 22, 2022, revised proposed critical habitat rule, all supporting documents, with the exception of shapefiles (which are not supported by the platform), were made available at <https://www.regulations.gov> under Docket No. FWS-R4-ES-2019-0106, as noted in the revised proposed rule (87 FR 71466; November 22, 2022). During the comment period

for the November 22, 2022, revised proposed rule, the Florida Ecological Services Field Office website was undergoing updates, and we were unable to make some information directly available from the office website, although much of it was available in the docket for the revised proposed rule on <https://www.regulations.gov>. However, the November 22, 2022, revised proposed rule also provided our contact information to the public for questions, and we did, upon being contacted, provide the link to the critical habitat shapefile directly to the commenter and all other individuals and partners who requested this information.

(32) Comment: In response to the November 22, 2022, revised proposed critical habitat rule, one commenter suggested that the Service should be more transparent with the data we consider in the designation of critical habitat, making data and information publicly accessible unless we risk compromising sensitive information and sharing peer reviews we receive on proposed rules.

Our Response: We agree that transparency is important and always strive to share with the public the information that supports our proposed and final rules where prudent to do so. As noted in *(31) Comment*, we made supporting documents publicly available concurrent with the publication of the June 10, 2020, proposed and November 22, 2022, revised proposed rules, with the exception of shapefiles, which we shared upon request. Included in these supporting documents were the DEA, conservation strategy, a list of conservation lands that overlap with the proposed designation, conservation and natural resource management plans for areas we were considering for exclusion, a summary of the habitat analysis conducted to inform delineation of the revised proposed critical habitat units, and a list of all literature cited in the rule with references available as attachments. The Florida Bonneted Bat Conservation Strategy provides a technical foundation for recovery strategies, summarizing the best scientific data available concerning the status of the species and threats affecting the species, and outlines

objectives for achieving recovery of the Florida bonneted bat. This document was prepared based on input and information from researchers and species experts.

Additionally, we have provided the Recovery Outline for Florida Bonneted Bat (*Eumops floridanus*) (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>) concurrent with publication of this final rule. The recovery outline is a brief document that broadly sketches the interim conservation and management program for the Florida bonneted bat during the time between the species' final listing under the Act and completion of a recovery plan.

We also agree that it is important to provide the public access to the peer review responses we receive on proposed rules. In accordance with our joint policy on peer review published in the *Federal Register* on July 1, 1994 (59 FR 34270), we summarize peer review in this final rule. Prior to the publication of the November 22, 2022, revised proposed rule, we also shared all peer review comments on the June 10, 2020, proposed rule and the accompanying conflict of interest forms completed by the peer reviewers; these peer reviews and conflict of interest forms were made available at <https://www.regulations.gov> under Docket No. FWS-R4-ES-2019-0106 on September 29, 2020. Concurrent with the publication of this final rule, we have made available the most recent peer review and accompanying completed conflict of interest form on the revised proposed critical habitat rule at <https://www.regulations.gov> under Docket No. FWS-R4-ES-2019-0106.

(33) *Comment:* In response to the November 22, 2022, revised proposed critical habitat rule, we received two comments that raised concerns that the peer review of the proposed rule was flawed, specifically, that there were not enough reviewers, reviewers were unqualified, and that a peer reviewer had an undisclosed conflict of interest.

Our Response: The Service has long been committed to the use of best available science in decision-making and to the use of peer review to improve such science. The

Service solicited independent scientific reviews of both the June 10, 2020, proposed and November 22, 2022, revised proposed rules in accordance with our joint policy on peer review (59 FR 34270; July 1, 1994), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act.

The policy and memo direct us to solicit an independent scientific review from a minimum of three reviewers; accordingly, we sent the June 10, 2020, proposed critical habitat rule to six reviewers and the November 22, 2022, revised proposed critical habitat rule to five reviewers. In response, we received two reviews of the June 10, 2020, proposed rule and one review of the November 22, 2022, revised proposed rule.

As directed in our August 22, 2016, memorandum, we selected qualified reviewers with, “expertise and/or experience relevant to the scientific questions and determinations addressed in our actions.” Peer reviewers were selected based on their ability to act as an independent reviewer and on their expertise related to the Florida bonneted bat and its habitat and threats. Peer reviewers were asked to review the science applied to the June 10, 2020, proposed and November 22, 2022, revised proposed critical habitat rules, and the peer reviews they submitted did indeed focus on critique of the science rather than policy. One peer reviewer who provided comments on the June 10, 2020, proposed rule is a Service employee but does not work within Florida, did not contribute otherwise to the development of this rule, and is a subject matter expert (bats); thus, we think this person meets the standards set forth by our peer review policy and clarified in our August 22, 2016, memorandum. Additionally, we solicited peer review from five other external experts.

Per our August 22, 2016, memorandum, peer reviewers were required to complete a conflict of interest form, and we assessed potential conflicts of interest by examining financial and business relationships and consulting arrangements, using applicable standards issued by the Office of Government Ethics. As noted in our August 22, 2016,

memorandum, “Divulging a conflict of interest does not invalidate the comments of the reviewer; however, it will allow for transparency to the public regarding the reviewer’s possible biases or associations.” In instances where a reviewer has a substantial conflict of interest, we will evaluate their comments in light of that conflict; however, we did not determine that any of the three peer reviewers who submitted comments on the two proposed rules have a substantial conflict of interest.

(34) Comment: Several commenters suggested that the Service should notify private landowners if their land overlaps a proposed critical habitat designation.

Our Response: We strive for good communication with the public, including communicating our intent to designate critical habitat and making available proposed critical habitat rules, which include the specific locations where critical habitat is proposed. Section 4(b)(5) of the Act requires us to, not less than 90 days before the effective date of the regulation, publish a general notice and the complete text of the proposed regulation in the *Federal Register*. For the June 10, 2020, proposed and November 22, 2022, revised proposed critical habitat rules for the Florida bonneted bat, we notified the public via publication in the *Federal Register* on June 10, 2020 (85 FR 35510), and November 22, 2022 (87 FR 71466), respectively. On June 9, 2020, we posted a press release notifying the public of the publication of the June 10, 2020, proposed critical habitat rule on our Regional website, and on November 21, 2022, we also posted a press release notifying the public of the publication of the November 22, 2022, revised proposed critical habitat rule at <https://www.fws.gov/press-release/2022-11/florida-bonneted-bat>. For the June 10, 2020, proposed rule, newspaper notices inviting general public comment were published in the Orlando Sentinel, Ft. Myers News-Press, Sarasota Herald Tribune, and Miami Herald newspapers. For the November 22, 2022, revised proposed rule, a newspaper notice inviting general public comment was again published in the Miami Herald newspaper. For the proposed and revised proposed rules,

we also disseminated notice of the publication on various social media platforms, including Twitter and Facebook, and sent notices to several interested parties, including nongovernmental organizations and interested industry and property-holding entities. Accordingly, we make every attempt to ensure the public is well-informed of proposed regulations that may affect it.

Background

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate a species' critical habitat concurrently with listing the species. 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.

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (i.e., range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (e.g., migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

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 also 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 Federal agency would be required to consult with the Service under section 7(a)(2) of the Act. However, even if the Service were to conclude that the proposed activity would likely result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must 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) which are 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).

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.

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 any generalized conservation strategy, criteria, or outline that may have been developed for the species; 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, will 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) the prohibitions found in section 9 of the Act. 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 will continue to contribute to recovery of this species. 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, HCPs, or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Physical or Biological Features Essential to the Conservation of the Species

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological features that are essential to the conservation of the species and which may require special management considerations or protection. The regulations at 50 CFR 424.02 define “physical or biological features essential to the conservation of the species” as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat

characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkaline soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or absence of a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, we may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of the species. These characteristics include, but are not limited to, space for individual and population growth and for normal behavior; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; food, water, air, light, minerals, or other nutritional or physiological requirements; and habitats with appropriate disturbance regimes (for more information, see the October 4, 2012, proposed rule to list the Florida bonneted bat (77 FR 60750), and the Florida Bonneted Bat Conservation Strategy (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>)). We summarize below the more important habitat characteristics, particularly those that support the description of physical or biological features essential to the conservation of the Florida bonneted bat. We also consider these habitat features relative to the scale at which Florida bonneted bats use the features,

allowing us to more logically organize the physical or biological features to delineate the critical habitat.

Space for Individual and Population Growth and for Normal Behavior

Due to the spatial variability of its prey, its large size, and its wing morphology, the Florida bonneted bat has significant spatial needs for foraging. Insect abundance, density, and community composition frequently vary across space and over time based on season and environmental conditions. As a result of this spatial variability, Florida bonneted bats may need to travel far distances and feed over large areas to satisfy dietary needs. For example, Florida bonneted bats from Babcock-Webb WMA, on average, traveled 9.5 miles (mi) (15 kilometers (km)) from their roosts and flew 24 mi (39 km) total per night (Webb et al. 2018, p. 8; Webb 2018, pers. comm.). These bats also traveled maximum distances of more than 24 mi (39 km) from their roosts and more than 56 mi (90 km) total in one night (Webb et al. 2018, p. 8; Webb 2018, pers. comm.). Florida bonneted bats also require open areas for foraging due to their large body size and the morphology of their wings, which are designed for fast and efficient, but less maneuverable, flight.

This large bat relies on swarms of larger insects for feeding; thus, foraging habitat for the Florida bonneted bat consists of areas that hatch and concentrate insects of this size, including vegetated areas and waterways. These bats are also frequently detected in agricultural areas and golf courses (Bailey et al. 2017a, entire) and are known to feed on insects associated with crops (Webb 2018, pp. 12, 61).

Ecologically diverse areas of suitable habitat representing the geographic extent of the species' range are also important for population growth and persistence. The major ecological communities (Myers and Ewel 1990, entire; Service 1999, entire; FNAI 2010, entire) that provide Florida bonneted bat roosting habitat in central and southern Florida include: pine rocklands (south Florida rockland, rockland pine forest, rockland

hammock); cypress communities (cypress swamps, strand swamps, domes, sloughs, ponds); hydric pine flatwoods (wet flatwoods); mesic pine flatwoods; and high pine. A variety of other habitats, including agricultural areas, may be used as well (Bailey et al. 2017a, entire), and freshwater forested wetlands, including areas with longer hydroperiods and deeper water, may be more important to the species than previously thought (FWC and Fish and Wildlife Research Institute (FWRI) 2023, pp. 15–24). Diverse, open foraging habitats (e.g., prairies, riverine habitat) are also important. Adequate roosting and foraging habitats are essential to the species, as they provide the diversity necessary to allow for population resiliency following minor disturbances (e.g., loss of roost tree, cold snap) as well as more significant stochastic events (e.g., hurricane, drought, forest disease, climate change).

Structural connectivity (suitable habitat in the form of linear corridors or patches creating “stepping stones”) facilitates the recolonization of extirpated populations; facilitates the establishment of new populations; and allows for natural behaviors needed for foraging, exploratory movements, and dispersal. Four genetically differentiated populations of the Florida bonneted bat have been identified (Charlotte, Polk/Osceola, Lee/Collier, and Miami-Dade Counties) (Austin et al. 2022, entire; also see the Florida Bonneted Bat Conservation Strategy under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). While dispersal of Florida bonneted bats appears to be geographically restricted between populations, the geographic extent of the four genetically differentiated areas is not yet known, and maintaining structural connectivity to allow for ongoing and future functional connectivity (i.e., actual movement of animals and/or exchange of genes) between known populations remains important to the species for resiliency as well as population stability and growth (Austin et al. 2022, pp. 507–508). Structural connectivity in the form of vegetated corridors with opportunities for roosting and/or foraging, vegetated river

corridors and other areas with freshwater available year-round, and habitat patches such as pine rockland fragments and tree islands are needed to provide and maintain connections between regions where known Florida bonneted bat populations occur. Maintaining viable populations in each of the known genetically differentiated areas and protecting connectivity is necessary for the demographic and genetic health of the species. Therefore, it is important that this species has areas of ecologically diverse and connected habitat, including sufficient amounts of open foraging habitat.

Cover or Shelter

The Florida bonneted bat primarily roosts in tree cavities, either as individuals or small or large colonies (Ober et al. 2017, p. 378; Braun de Torrez et al. 2020a, p. 6; 2020b, entire). Roosts provide protection from sunlight, adverse weather, and predators; sites for mating, rearing of young, social interaction and information sharing, resting, and digestion of food; and microclimate stability (Kunz 1982, entire; Ormsbee et al. 2007, pp. 130–135; Marks and Marks 2008a, p. 4; Dechmann et al. 2010, pp. 1–7; Bohn 2012, in litt.).

Florida bonneted bat roosts are difficult to locate; only 36 natural roosts have been identified (not all currently occupied), the first in 2013 (Angell and Thompson 2015, entire; Braun de Torrez et al. 2016, entire; Braun de Torrez et al. 2020b, entire; Braun de Torrez 2021, pers. comm.; Borkholder 2022, pers. comm.; Braun de Torrez 2022, pers. comm.). Known natural roosts have been documented in the following tree species: slash pine, longleaf pine, bald cypress, and royal palm (Braun de Torrez et al. 2020b, entire). A significant proportion of known roosts are in snags of these tree species (Braun de Torrez et al. 2020b, entire). One non-volant (flightless) pup was found at the base of a live oak hours after a tree cavity was bisected (Ridgley 2020, pers. comm.); it is not known if this tree species is commonly used as a roost site or may be used particularly where suitable trees are sparse.

Relative to surrounding trees, Florida bonneted bat roost trees tend to have greater overall height (average of 58 feet (ft) (17.7 meters (m)) with a range of 34 to 93 ft (10.4 to 28.2 m)), diameter (average of 15 inch (in) (38 centimeter (cm)) diameter at breast height (dbh) with a range of 7.4 to 27 in (19 to 69.5 cm) dbh), and canopy height relative to the surrounding trees (average of 19.8 ft (6 m) with a range of -2.6 to 49 ft (-0.8 to 15 m)) (Braun de Torrez et al. 2020b, entire; Hoyt 2023a, b, pers. comm.). The species also appears to require sufficient unobstructed space for emergence, with cavities high above the ground (average of 49 ft (14.9 m) with a range of 27.5 to 77 ft (8.4 to 23.5 m)) and roost trees set apart from the nearest tree (by an average of 12 ft (3.8 m) with a range of 2 to 39 ft (0.6 to 11.9 m)) (Braun de Torrez et al. 2020b, entire; Hoyt 2023a, pers. comm.), often in open or semi-open canopy and canopy gaps. Cavities may require a minimum of approximately 27.5 ft (8.4 m) of ground clearance (i.e., cavity height above the ground) (Braun de Torrez et al. 2020b, entire; Hoyt 2023a, pers. comm.); however, there are two instances of Florida bonneted bats using bat houses with approximately 13 ft (4 m) of ground clearance in Miami-Dade County (Ridgley 2021, unpublished data). Collectively, this indicates that this species prefers large trees with adequate space around the cavity for emergence. Florida bonneted bats typically roost in cavities made by other species (notably woodpeckers) or by natural damage caused by fire, storms, or decay.

The Florida bonneted bat is suspected to have high roost-site fidelity. Some roosts are used for several years by Florida bonneted bat colonies, possibly decades (Myers 2013, pers. comm.; Scofield 2013a–b, pers. comm.; 2014a–b, pers. comm.; Bohn 2014, pers. comm.; Gore et al. 2015, p. 183; Angell and Thompson 2015, p. 186; Hosein 2016, pers. comm.; Webb 2017, pers. comm.; B. Myers 2018, pers. comm.; Aldredge 2019, pers. comm.). Conversely, natural roosts may frequently succumb to natural causes (i.e., hurricanes, wildfire), resulting in total loss or too much damage to allow for future roosting. At least 37 percent of the known natural roosts discovered since 2013 are now

uninhabitable (due to decay, hurricanes, and other factors) (Braun de Torrez et al. 2020b, entire). Suitable roost sites are a critical resource, are an ongoing need of the species, and may be limiting population growth and distribution in certain situations. The loss of a roost site may represent a greater impact to this species relative to some other bat species (Ober 2012, in litt.).

Florida bonneted bats also roost in artificial structures (e.g., homes with barrel-tile roofs, chimneys, barns, hangars, utility poles) and bat houses (Marks and Marks 2008b, p. 8; Morse 2008, entire; Trokey 2012a–b, pers. comm.; Gore et al. 2015, entire; see *Use of Artificial Structures (Bat Houses)* in the final listing rule (78 FR 61004, October 2, 2013, p. 61010)). While artificial roosts can provide valuable alternative, long-term, and hurricane-resilient roosting habitat for the species where roosting habitat is limited (Braun de Torrez 2022, pers. comm.), these are imperfect surrogates for natural roosting habitat and are not on their own a habitat feature essential for the species' survival. Therefore, natural roosts (i.e., live or dead trees and tree snags, especially longleaf pine, slash pine, bald cypress, and royal palm, taller than 34 ft (10.4 m) and greater than 7.4 in (19 cm) dbh and having unobstructed space for emergence) are important habitat characteristics for this species.

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

Sites supporting the Florida bonneted bats' breeding activities appear to be required year-round (Timm and Genoways 2004, p. 859; Ober et al. 2017, p. 382; Bailey et al. 2017b, p. 556; see also *Life History* in the final listing rule (78 FR 61004, October 2, 2013, pp. 61005–61006) and *Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements*, below). Reproductively active adults have been observed during August, December, and April capture sessions, and non-volant pups (young not yet capable of flying) have been documented in roosts in every month other than February and March (Scofield 2014b, pers. comm.; Angell and Thompson 2015, p. 186;

Ridgley 2015, pers. comm.; Ober et al. 2017, pp. 381, 383–384; Gore 2017, pers. comm.; J. Myers 2018, pers. comm.; 2020, pers. comm.). Based upon these data, flightless young bonneted bats and females with high energetic demands due to pregnancy and lactation may be vulnerable to disturbance for at least 10 months of the year. Most roosting bats are sensitive to human disturbance (Kunz 1982, p. 32), and maternity colonies may be especially intolerant of disturbance (Harvey et al. 1999, p. 13; see also *Inadvertent and Purposeful Impacts from Humans* in the final listing rule (78 FR 61004, October 2, 2013, pp. 61033–61034)).

Florida bonneted bat colonies conform to a harem structure (one dominant male, several reproductively active females and their young) with males exhibiting resource defense polygyny (dominant males defend the roost from other males) (Ober et al. 2017, p. 382; Braun de Torrez et al. 2020a, pp. 10–12). This type of social organization, together with evidence of high roost-site fidelity, underscores the importance of roosts to this species for population maintenance, population growth, and natural behaviors. Disturbance of a roost at any time can alter social dynamics and impact reproductive success (Ober et al. 2017, p. 382). Accordingly, areas where roosting and other natural behaviors can occur undisturbed are important in considering the conservation of the species.

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

The Florida bonneted bat's precise foraging habits and long-term requirements are unknown (Belwood 1992, p. 219). However, because the species is active year-round and aseasonally polyestrous (i.e., having more than one period of estrous in a year, not restricted to one season) (Timm and Genoways 2004, p. 859; Marks and Marks 2008a, p. 9; Ober et al. 2016, entire), the Florida bonneted bat likely needs constant and/or multiple sources of prey to support its high metabolism. Energy demands of the Florida bonneted bat probably fluctuate seasonally (e.g., assumed higher demands during cold weather as

the species does not have periods of torpor (a state of decreased physiological activity in an animal, including decreased body temperature, heart rate, and metabolism)) and during sensitive times (e.g., maternity, nursery, supporting offspring). The maternity season is a time of particular sensitivity, with increased energy demands and risks as females leave young in roosts while making multiple foraging excursions to support lactation (Kurta et al. 1989a, entire; Kurta et al. 1990, entire; Kunz et al. 1995, entire; Marks and Marks 2008a, pp. 8–9; Ober et al. 2016, entire). Exploitation of insects in patches that yield high-energy returns for pregnancy and lactation is important (Kunz et al. 1995, p. 412). Reduced insect populations in urban areas may make it difficult for females to successfully raise offspring to maturity (Kurta et al. 1990, entire; Kurta and Teramino 1992, p. 260).

Most insectivorous bats eat large quantities of insects (Ross 1967, entire; Black 1974, entire; Kunz 1974, entire; Kunz et al. 1995, entire; Kurta and Whitaker 1998, entire; Lee and McCracken 2002, pp. 306–313; 2005, entire; Leelapaibul et al. 2005, entire; Kunz et al. 2011, entire). Insectivorous bat activity and diversity are strongly correlated with arthropod abundance (Racey and Swift 1985, pp. 210–211, 214; Wickramasinghe et al. 2004, entire; Wickramasinghe et al. 2003, pp. 987–992), suggesting that bats seek out areas of concentrated prey sources (Kunz et al. 2011, p. 5). Foraging behavior is tied in part to insect abundance, availability, and density (Anthony and Kunz 1977, entire; Racey and Swift 1985, p. 212; Wickramasinghe et al. 2003, pp. 987–992; Wickramasinghe et al. 2004, entire). Exploitation of insects in patches that yield high-energy returns appears to be important for meeting the energy needs associated with prolonged flights as well as pregnancy and lactation (Kunz et al. 1995, p. 412). In general, bats foraging from continuous flight must encounter prey at relatively high rates and successfully attack many individual items (Fenton 1990, p. 416). Since Florida bonneted bats are thought to employ this feeding strategy, areas with higher insect

abundance, more (multiple) prey sources, and diverse natural habitats that produce prey diversity are essential for suitable foraging habitat.

Like other molossids (e.g., Brazilian free-tailed bats (*Tadarida brasiliensis*)), the species may be a generalist predator, capable of opportunistically exploiting available resources (McCracken et al. 2012, entire). Limited information from guano analyses indicates Florida bonneted bats feed on flying insects of the following orders: Coleoptera (beetles), Diptera (flies), Hemiptera (true bugs), Lepidoptera (moths), and Trichoptera (caddisflies) (Belwood 1981, p. 412; 1992, p. 220; Marks 2013, entire; Marks and Marks 2015, pp. 2–3). Like other large molossids, the Florida bonneted bat's physiological characteristics (e.g., large size, broad jaws, big teeth, large ears) and lower frequency echolocation make it well equipped for finding and taking relatively larger insects and harder prey items (Freeman 1979, entire; 1981, pp. 166–173; Obrist et al. 1993, entire; Aguirre et al. 2003, p. 207; Timm and Genoways 2004, pp. 855–857; Mora and Torres 2008, p. 12).

It is not clear if insect availability is limiting or sufficient; however, if the Florida bonneted bat is similar in its needs to other insectivorous bats, then reduced prey abundance or density could negatively affect the species, affecting survival, growth, and reproduction. We find that foraging habitat sufficient to support insect populations and the seasonal nutritional needs of the bat are essential to its conservation. Protecting natural habitats conducive to insect diversity (Marks 2013, p. 2) is also essential to the Florida bonneted bat's survival.

Sources of drinking water are important for most insectivorous bat species (Kurta et al. 1989b, entire; 1990, pp. 59, 63; Adams and Hayes 2008, pp. 1, 6). Water sources and wetlands also provide important sources and concentrations of prey (Belwood and Fenton 1976, entire; Swift and Racey 1983, entire; Barclay 1991, pp. 174–176; Brigham et al. 1992, entire; Sullivan et al. 1993, entire; Racey et al. 1998, pp. 200–201; Russo and

Jones 2003, pp. 197, 201; Nam et al. 2012, p. 1095; Wickramasinghe et al. 2004, p. 1289; Fukui et al. 2006, entire).

Water sources (for drinking, prey, and structure) are important habitat components for the Florida bonneted bat. This species forages over ponds, streams, and wetlands and drink when flying over open water (Marks and Marks 2008a, p. 4; 2008c, p. 3). For example, in Big Cypress National Preserve the vast majority of Florida bonneted bat calls were recorded in 2014 at one remote pond surrounded by wetland forest (Arwood 2014a–c, pers. comm.). At Picayune Strand State Forest (PSSF), all sites where the species has been detected were located near canals (Smith 2013, pers. comm.). At Florida Panther National Wildlife Refuge, the highest detection of Florida bonneted bat calls occurred in areas with the largest amount of open water (Maehr 2013, pp. 7–11; 2013a–c, pers. comm.). In the Miami area (Richmond pine rocklands (Zoo Miami, Larry and Penny Thompson Park, and the Martinez Preserve)), the species has been detected in a variety of habitat types, but peak activity occurred in areas of artificial freshwater lakes adjacent to intact pine rocklands (Ridgley 2013a–d, pers. comm.).

We find that open water and wetlands provide drinking water, open foraging areas, and concentrations of prey that are essential to the conservation of the species. During dry seasons, bats become more dependent on remaining ponds, streams, and wetland areas for foraging purposes, making these precious resources essential (Marks and Marks 2008c, p. 4; 2008d, p. 3). Because the Florida bonneted bat, like other *Eumops*, appears to be confined to foraging in open spaces due to its wing morphology (Norberg and Rayner 1987, pp. 399–400; Voigt and Holderied 2012, entire), larger water bodies and more open wetlands in general may be structurally better foraging habitat than smaller, more confined areas.

The Florida bonneted bat's physiological or behavioral responses to abiotic factors, such as artificial lighting, have not been specifically studied; however, some

information about other bat species' responses to artificial lighting is available for closely related bats and bat species with edge and open space foraging behaviors, similar to those of the Florida bonneted bat. Although edge and open space foraging bat species are considered to generally be more tolerant of artificial lighting than those species foraging in forests, tolerance to artificial light appears to vary among bat species with similar foraging strategies and flight techniques (Rowse et al. 2016, pp. 200–202). Responses to artificial light can vary depending on the development intensity, land use type, and vegetation community where artificial light occurs (Rowse et al. 2016, pp. 200–202; Voigt et al. 2020, pp. 190, 197–199). However, even open space foraging species that are considered to be light-tolerant can be impacted by artificial light, as evidenced by delays in night-time foraging activity and reduced abundance at foraging sites (Mariton et al. 2022, pp. 6–8). Additionally, urban habitats with artificial lights can act as ecological traps with lower habitat quality for reproduction and potential for lower survival in bat species that are more frequent or abundant in urban habitats (Russo and Ancillotto 2015, pp. 209–210).

Artificial light aversion has been documented in other species closely related to Florida bonneted bat (i.e., within Molossididae and/or Eumops) (Jung and Kalko 2010, pp. 147–148; Mena et al. 2022, pp. 568–571). Despite increases in research of Florida bonneted bat ecology since the species' listing in 2013, there has been no evidence that Florida bonneted bats exploit artificial light sources, and the highest Florida bonneted bat activity within an urban matrix has been associated with large, dark, open areas with tree cover (Bat Conservation International 2022, p. 18; Ridgley 2023, unpublished data; Ridgley and Gamba-Rios 2023, unpublished data). Artificial lighting has been demonstrated to also have broadscale negative effects on insects and insect populations (e.g., reduced abundance; altered larval development, reproduction, and other behaviors) (van Grunsven et al. 2020, entire; Boyes et al. 2021, entire; Pennisi 2021, entire),

potentially reducing the availability of prey (Mariton et al. 2022, pp. 2, 7) and the quality of foraging habitat for Florida bonneted bats. In addition to effects on foraging habitat, artificial lighting can impact roosting habitat quality because light at emergence is thought to disrupt emergence cues and increase predation risk (or perceived predation risk) at emergence for other open-space-foraging and insectivorous bats (Rydell et al. 1996, pp. 249, 251; Mariton et al. 2022, p. 8). Therefore, areas where roosting, foraging, and other natural behaviors, such as commuting, can occur with limited or no impacts from artificial light are important in considering the conservation of the species.

Similarly, temperature requirements and tolerances for the Florida bonneted bat are not fully understood. The species is active year-round and considered semi-tropical (Ober et al. 2016, entire). Florida bonneted bats have been detected in Polk and Osceola Counties (Bailey et al. 2017a, p. 1589), but future surveys in additional counties are needed to help determine the limit of the northern extent of the range. There are low probabilities of occurrence of bonneted bats in areas where historical mean minimum temperatures dropped below 15 degrees Celsius ($^{\circ}\text{C}$) (59 degrees Fahrenheit ($^{\circ}\text{F}$)), which suggests that the species may be limited to southern Florida due to temperature (Bailey et al. 2017a, p. 1591). At this time, the most northern known roost sites are located at Avon Park Air Force Range and its vicinity (Angell and Thompson 2015, entire; B. Myers 2018, pers. comm.; Webb 2018, pers. comm.). Mean monthly temperatures at this location range from 15 to 28 $^{\circ}\text{C}$ (60–83 $^{\circ}\text{F}$), with an average low of 8.3 $^{\circ}\text{C}$ (47 $^{\circ}\text{F}$) (January) and an average high of 33.9 $^{\circ}\text{C}$ (93 $^{\circ}\text{F}$) (July). Prolonged cold temperatures resulted in bonneted bat mortalities at one known colony site in North Fort Myers, Florida, during a severe cold snap in 2010 (Trokey 2010a–b, pers. comm.; 2012a, pers. comm.; see also the discussion of Factor E factors in the final listing rule (78 FR 61004, October 2, 2013, pp. 61033–61034)). Limited data at survey sites in south Florida indicated reduced bat activity under conditions of lower ambient temperatures (Arwood

2014d, pers. comm.). In general, molossids that inhabit the warmer temperate and subtropical zones incur much higher energetic costs for thermoregulation during cold weather events than those inhabiting northern regions (Arlettaz et al. 2000, pp. 1004–1014; see also the discussion of Factor E factors in the final listing rule (78 FR 61004, October 2, 2013, pp. 61033–61034)). As a result, we recognize the species' requirement of subtropical climate conditions for its long-term persistence.

This species is suspected to seasonally vary its use of the northern and southern extent of its known range. This may relate to temperature sensitivity (as described above), different nutritional needs during peak reproductive seasons, or changes in prey availability. Florida bonneted bat detection is positively influenced by Julian date and minimum temperature of the survey night; thus, future monitoring efforts should be focused on warm nights later in the spring to maximize detection probabilities (Bailey et al. 2017a, pp. 1589, 1591). Florida bonneted bats were also “more common in areas with higher historical mean annual rainfall but seemed to prefer areas with lower rainfall during the spring” (Bailey et al. 2017a, p. 1591). The authors concluded that higher detection probabilities observed were likely a result of increased insect abundance due to increased temperatures, humidity, and precipitation influencing the bats' activity (Bailey et al. 2017a, p. 1591). Therefore, we find that seasonal differences and these other climatological conditions, in addition to temperature, likely influence the species' distribution, habitat requirements, and foraging opportunities, thereby affecting its conservation. Differences in these environmental conditions may occur seasonally or on finer temporal scales.

Habitats with Appropriate Disturbance Regimes

The Florida bonneted bat not only requires healthy and ecologically diverse habitat, it also needs areas with an appropriate disturbance regime. The Florida bonneted bat's entire range is within the fire-dependent and fire-adapted landscape of central and

south Florida (Noss 2018, entire). The species uses fire-dependent vegetation communities for roosting (Belwood 1992, pp. 219–220; Angell and Thompson 2015, entire; Braun de Torrez et al. 2016, p. 240) and foraging (Bailey et al. 2017a, entire; Braun de Torrez et al. 2018a–c, entire). Florida bonneted bats appear to be attracted to recently burned areas (Braun de Torrez et al. 2018a, entire); it appears that Florida bonneted bats are fire-adapted and benefit from prescribed burn programs that closely mimic historical fire regimes. Fires during the historical fire season (i.e., early wet season, April through June) at a moderate frequency (more than 3 to 5 years) appear to optimize habitat for bats in both pine flatwoods and prairies (Braun de Torrez et al. 2018b, pp. 6–9). Fire may result in an increase of suitable roosts (i.e., create more snags and cavities), more open flight space, and increased prey availability (Boyles and Aubrey 2006, pp. 111–113; Armitage and Ober 2012, pp. 107–109; O’Keefe and Loeb 2017, p. 271; Braun de Torrez et al. 2018a, p. 1120; 2018b, pp. 8–9).

Fire also has the potential to harm bats through disturbance or destruction of roost trees (Morrison and Raphael 1993, p. 328; Dickinson et al. 2010, pp. 2196–2200).

Despite the risks that Florida bonneted bats may abandon roosts, or roosts and pups may be lost during fires, it is critical for fires to occur on the landscape to maintain suitable habitat; precautions can be taken to reduce risks appropriately (see *Inadvertent Impacts from Land Management Practices*, below). Therefore, based on the information in this discussion, we identify areas of diverse habitat types and ecological communities maintained via appropriate disturbance regimes as essential physical or biological features for this species.

Summary of Essential Physical or Biological Features

We derive the specific physical or biological features essential to the conservation of Florida bonneted bat from studies of the species’ habitat, ecology, and life history as described below and further in the Florida Bonneted Bat Conservation Strategy (see

Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>) and the proposed and final listing rules (77 FR 60750, October 4, 2012; 78 FR 61004, October 2, 2013). We have determined that the following physical or biological features are essential to the conservation of the Florida bonneted bat:

(1) Habitats with sufficient darkness that provide for roosting and rearing of offspring. Such habitat provides structural features for rest, digestion of food, social interaction, mating, rearing of young, protection from sunlight and adverse weather conditions, and cover to reduce predation risks for adults and young, and is generally characterized by:

(a) Live or dead trees and tree snags, especially longleaf pine, slash pine, bald cypress, and royal palm, that are sufficiently large (in diameter) and tall and that have cavities of a sufficient size for roosts; and

(b) Live or dead trees and tree snags with sufficient cavity height, spacing from adjacent trees, and relative canopy height to provide unobstructed space for Florida bonneted bats to emerge from roost trees; this may include open or semi-open canopy and canopy gaps.

(2) Habitats that provide adequate prey and space for foraging, which may vary widely across the Florida bonneted bat's range, in accordance with ecological conditions, seasons, and disturbance regimes that influence vegetation structure and prey species' distributions. Foraging habitat may be separate and relatively far from roosting habitat. Essential foraging habitat consists of sufficiently dark open areas in or near areas of high insect production or congregation, commonly including, but not limited to:

(a) Freshwater edges and freshwater herbaceous wetlands (permanent or seasonal);

(b) Prairies;

(c) Wetland and upland shrub; and/or

(d) Wetland and upland forests.

(3) A dynamic disturbance regime (e.g., fire, hurricanes, forest management) that maintains and regenerates forested habitat, including plant communities, open habitat structure, and temporary gaps, which is conducive to promoting a continual supply of roosting sites, prey items, and suitable foraging conditions.

(4) A sufficient quantity and diversity of habitats to enable the species to be resilient to short-term impacts associated with disturbance over time (e.g., drought, forest disease). This quantity and diversity are essential to provide suitable conditions despite temporary alterations to habitat quality. The ecological communities the Florida bonneted bat inhabits differ in hydrology, fire frequency/intensity, climate, prey species, roosting sites, and threats, and include, but are not limited to:

(a) Pine rocklands;

(b) Cypress communities (cypress swamps, strand swamps, domes, sloughs, ponds);

(c) Hydric pine flatwoods (wet flatwoods);

(d) Mesic pine flatwoods; and

(e) High pine.

(5) Habitats that provide structural connectivity where needed to allow for dispersal, gene flow, and natural and adaptive movements, including those that may be necessitated by climate change. These connections may include linear corridors such as vegetated, riverine, or open-water habitat with opportunities for roosting and/or foraging, or patches (i.e., stepping stones) such as tree islands or other isolated natural areas within a matrix of otherwise low-quality habitat.

(6) A subtropical climate that provides tolerable conditions for the species such that normal behavior, successful reproduction, and rearing of offspring are possible.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area 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 protection. Recovery of the Florida bonneted bat will require special management considerations or protection of the essential physical or biological features including passive (e.g., allowing natural processes to occur without intervention) and active (e.g., taking actions to restore and maintain habitat conditions or address threats) management. The features essential to the conservation of this species that may require special management considerations or protection to reduce the threats that are related to inadvertent impacts from land management practices are discussed below.

Habitat Loss

Habitat loss, degradation, and modification from human population growth and associated development (including infrastructure and energy development) and agriculture have impacted the Florida bonneted bat and are expected to further curtail its limited range (see the Factor A discussion in the final listing rule (78 FR 61004, October 2, 2013, pp. 61026–61030); Bailey et al. 2017a, entire). Based on the expected rates of human population growth and urbanization in southern Florida, nearly all agricultural and private natural lands are predicted to be converted to developed land by 2060 (Zwick and Carr 2006, pp. 15, 18). Of this, approximately 2.6 percent of designated critical habitat (30,716 ac (12,430 ha)) is predicted to be converted to developed land by 2070 (Carr and Zwick 2016, entire). The species occurs, in part, on publicly owned lands that are managed for conservation, ameliorating some of these threats (see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). However, any unknown extant populations of the bat or suitable habitat on private lands

or non-conservation public lands are vulnerable to habitat loss and fragmentation. Retaining a habitat network of large and diverse natural areas for conservation purposes in a spatial configuration throughout the Florida bonneted bat's range and actively managing those lands will likely be essential to conservation. In addition, conservation efforts on private lands can help reduce the threats of habitat loss, increasing the potential for long-term survival.

Natural roosting habitat appears to be limiting, and competition for tree cavities is high (see *Competition for Tree Cavities* under the Factor E discussion in the final listing rule (78 FR 61004, October 2, 2013, p. 61034)). To help conserve the Florida bonneted bat, efforts should be made to retain tall trees, cavity trees, trees with hollows or other decay, and snags wherever possible to protect habitat, reduce competition for suitable roosts, and bolster or expand populations within the species' known range (Angell and Thompson 2015, p. 187; Braun de Torrez et al. 2016, pp. 235, 240; Ober et al. 2016, p. 7). The use of artificial structures for the Florida bonneted bat may also be beneficial in some locations, especially where roosting structures are lacking or deficient (see *Use of Artificial Structures (Bat Houses)* in the final listing rule (78 FR 61004, October 2, 2013, p. 61010)).

Substantial losses in suitable foraging habitats are expected to occur in the coming decades as natural and agricultural areas are converted to other uses and as areas become urbanized (Carr and Zwick 2016, entire; Bailey et al. 2017a, p. 1591). Conservation of natural and semi-natural habitats and restoration with native plants is imperative to help maintain sufficient prey base. Natural habitats conducive to insect diversity should be protected and any pesticides should be used with caution (for more information, see the final listing rule (78 FR 61004; October 2, 2013) under *Life History* (pp. 61005–61006), and *Pesticides and Contaminants* in the Factor E discussion (pp. 61035–61036).

Climate Change and Sea Level Rise

The effects resulting from climate change, including sea level rise, saltwater intrusion, and coastal squeeze, are expected to become severe in the future and result in additional habitat losses, including the loss of roost sites and foraging habitat (see the Factor A discussion in the final listing rule (78 FR 61004, October 2, 2013, pp. 61026–61030)). Within the species’ range, low-lying areas along the coast are most vulnerable to inundation, and additional areas are likely to experience changes in plant species composition (decline in forested habitat such as cabbage palm forests, pine rockland, and coastal hardwood hammocks). Occupied Florida bonneted bat habitat located near the coast in south Florida (e.g., Collier, Lee, Miami-Dade, Monroe, Charlotte, Desoto, and Sarasota Counties) will be vulnerable to inundation and/or saltwater intrusion as sea levels rise. Based on source data used by the National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise map viewer, an estimated 8.7 percent (100,840 ac (40,809 ha)) of the designated occupied habitat area is projected to be inundated by 6 feet of salt water around 2070 (sea level rise plus tidal flooding; Sweet et al. 2017, entire; Sweet et al. 2018, entire; Sweet et al. 2019, entire; Sweet et al. 2022, entire). In addition, data from Florida’s statewide digital elevation model (University of Florida (UF) GeoPlan Center 2017, entire) indicate that an additional 14.3 percent (166,257 ac (67,282 ha)) of designated occupied habitat outside of the areas mapped by NOAA are at or below 6 feet in elevation and may also be affected by sea level rise (this does not include area in Unit 1 due to the unlikelihood of sea level rise impacts). Although we are unable to accurately estimate the extent of other climate change-related effects, we expect additional occupied habitat will be impacted by saltwater intrusion, drier conditions, and increased variability in precipitation, likely resulting in changes to vegetation composition and prey availability, decreased forest regeneration, and potential increases in wildfire frequency, severity, and scale (for more information, see the final listing rule (78 FR 61004; October 2, 2013) under the discussion of Factor A in *Land Use Changes*

and Human Population Growth (pp. 61026–61027) and *Climate Change and Sea Level Rise* (pp. 61028–61029)). The trend toward higher temperatures and lower rainfall (or shifts in rainfall patterns) could result in the degradation of wetlands and other important open water habitats, or complete loss of affected foraging areas if drought-like conditions persist. 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.

As a result of these impacts and other causes of habitat loss and degradation, the essential physical or biological features for the Florida bonneted bat may no longer be available in some areas, and the amount of suitable occupied Florida bonneted bat habitat is likely to shrink dramatically in the future. Habitat loss from sea level rise and saltwater intrusion will be greatest in areas closer to the coast and is likely to result in the loss of some bonneted bat populations, such as those in eastern Miami-Dade County, reducing the species' ability to withstand catastrophic events (i.e., redundancy). We anticipate additional populations near the coast will be reduced in size, such as those in Charlotte, Lee, Collier, Monroe, and remaining areas in Miami-Dade Counties, resulting in decreased overall health and fitness (i.e., resiliency) of those populations. Further, most of the remaining bat populations face similar threats and pressures (e.g., development pressure, effects of climate change, coastal squeeze, droughts, hurricanes) that are expected to reduce their resiliency. This limits the species' ability to recover from population declines when many populations are similarly affected. However, we lack certainty as to the severity of impacts the effects of sea level rise may have on the Florida bonneted bat's critical habitat.

Directly addressing sea level rise is beyond the control of landowners or managers. However, while landowners or land managers may not be able prevent these events, they may be able to respond with management or protection. Management actions or activities that could ameliorate the effects of sea level rise on the Florida bonneted bat

(i.e., loss and degradation of habitats that provide for roosting or foraging, especially those areas closer to the coast) include providing protection of inland or higher elevation suitable habitats (e.g., in the northern portion of the bat's range) that are predicted to be unaffected or less affected by sea level rise, or habitat restoration or enhancement of these areas.

Environmental Stochasticity

Hurricanes, storm surges, and other catastrophic and stochastic events are of significant concern (for more information, see final listing rule (78 FR 61004; October 2, 2013) under the discussion of Factor E in *Environmental Stochasticity* (pp. 61037–61039) and *Aspects of the Species' Life History and Climate Change Implications* (p. 61039)). In 2017 alone, at least four known roost trees were impacted by Hurricane Irma. While landowners or land managers cannot prevent these events, they may be able to respond with protection or management that can help reduce some effects or facilitate recovery from these events. Retention of large trees and snags wherever possible in multiple locations can help provide valuable roosting habitat throughout the species' range (Braun de Torrez et al. 2016, pp. 235, 240; Ober et al. 2016, p. 7). Management actions or activities that could enhance forest recovery following storms may include hand or mechanical removal of damaged vegetation or prescribed fire, if or when conditions are suitable. If large trees, cavity trees, trees with hollows or other decay, or snags need to be removed due to safety issues, visual or other inspection should occur to ensure that active roosts are not removed in this process.

Artificial structures could potentially help provide roosting opportunities in areas impacted by stochastic events or where suitable natural roosts are lacking or deficient. More research on the role of bat houses in bonneted bat conservation is needed, especially given the bat's social structure (FWC 2013, pp. 11–12; Ober et al. 2016, p. 7). If used, bat houses should be appropriately designed, placed, maintained, and monitored;

such structures may also need to be reinforced and duplicated to prevent loss. If an occupied area is severely impacted, causing major losses of suitable natural roosts, the use of artificial structures could be explored as one possible option to help regain lost roosting capacity.

Pesticides and Contaminants

More study is needed to fully assess the risk that pesticides (particularly insecticides) and contaminants pose to the Florida bonneted bat (see *Pesticides and Contaminants* under the Factor E discussion in the final listing rule (78 FR 61004, October 2, 2013, pp. 61035–61036)). Although data are lacking, the species may be exposed to a variety of compounds through multiple routes of exposure. Areas with intensive pesticide activity may not support an adequate food base. Foraging habitat can be enhanced, in part, by limiting the use of pesticides, including agrochemicals (chemicals used in agriculture) (Russo and Jones 2003, pp. 206–207; Wickramasinghe et al. 2003, pp. 991–992; Wickramasinghe et al. 2004, entire). While exposure to some contaminants (e.g., mercury) may be beyond the realm of what individuals or agencies can rectify, risks from pesticides can be partially reduced at the local level. For example, landowners and land managers can help reduce some risks of exposure and improve foraging conditions for the Florida bonneted bat by avoiding or limiting use of insecticides (e.g., mosquito control, agricultural), wherever possible, and especially in areas known to be occupied by the Florida bonneted bat. An increased occurrence of bonneted bats was found in agricultural areas and was attributed to a combination of insect abundance in these areas and the species' ability to forage in open spaces (Bailey et al. 2017a, pp. 1589, 1591). It is reasonable to assume that prey base (i.e., availability, abundance, and diversity of insects) would be more plentiful with reduction of insecticides, where possible. If pesticides cannot be avoided, ways to reduce impacts

should be explored. Protecting natural and semi-natural habitats that support insect diversity can also improve foraging conditions and contribute to conservation.

Ecological Light Pollution

The Florida bonneted bat's behavioral response to ecological light pollution has not specifically been examined (see *Ecological Light Pollution* under the Factor E discussion in the final listing rule (78 FR 61004, October 2, 2013, p. 61036)); however, there is evidence of closely related and other open space foraging bat species avoiding artificial lighting and of the Florida bonneted bat preferring darker landscapes within an urban matrix (Jung and Kalko 2010, pp. 147–148; Bat Conservation International 2022, p. 18; Mena et al. 2022, pp. 568–571). Artificial lighting can impact roosting habitat quality as light at emergence can disrupt emergence cues and may increase predation risk (or perceived predation risk) for other open space foraging and insectivorous bats (Rydell et al. 1996, pp. 249, 251; Mariton et al. 2022, p. 8). Similarly, lighting can restrict habitat connectivity and fragment foraging areas (Voigt et al. 2020, pp. 197–199).

Artificial lighting can also affect the abundance and availability of insects (van Grunsven et al. 2020, entire; Boyes et al. 2021, entire; Pennisi 2021, entire; Mariton et al. 2022, pp. 2, 7), thereby reducing the quality of foraging habitat for Florida bonneted bats. Thus, at this time, we consider ecological light pollution a potential threat to the Florida bonneted bat and its habitat. Management actions or activities that could ameliorate ecological light pollution include avoiding and minimizing the use of artificial lighting, retaining natural light conditions, and promoting the use of environmentally friendly lighting practices to minimize impacts to wildlife (e.g., Voigt et al. 2018, entire).

Inadvertent Impacts from Land Management Practices

Forest management can help maintain and improve the Florida bonneted bat's roosting and foraging habitat (see *Use of Forests and Other Natural Areas* in the final listing rule (78 FR 61004, October 2, 2013, pp. 61007–61010)), and a lack of forest

management, including a lack of prescribed fire or invasive plant control, can be detrimental to the species. For example, prescribed burns may benefit Florida bonneted bats by improving habitat structure, enhancing the prey base, and creating openings; restoration of fire to fire-dependent forests may improve foraging habitat for this species and create snags (Carter et al. 2000, p. 139; Boyles and Aubrey 2006, pp. 111–113; Lacki et al. 2009, entire; Armitage and Ober 2012, pp. 107–109; FWC 2013, pp. 9–11; Ober and McCleery 2014, pp. 1–3; Braun de Torrez et al. 2018a–b, entire).

Fire is a vital component in maintaining suitable Florida bonneted bat habitat (Braun de Torrez et al. 2018b, entire), and while many prescribed fire and other land management practices mimic natural processes and benefit native species on broad spatial and temporal scales, these activities can result in inadvertent negative impacts in the near term. For example, extensive removal of trees with cavities or hollows during activities associated with forest management, fuel reduction, vista management, off-road vehicle trail maintenance, prescribed fire, or habitat restoration may inadvertently remove roost sites or reduce the availability of roost sites (see *Land Management Practices* in the final listing rule (78 FR 61004, October 2, 2013, p. 61027)).

The features essential to the conservation of the Florida bonneted bat may require special management considerations or protection to reduce threats and conserve these features. Actions that could ameliorate threats include, but are not limited to:

- (1) Retaining and actively managing a habitat network of large and diverse conservation lands throughout the Florida bonneted bat's range;
- (2) Protecting, restoring, or enhancing inland or higher elevation habitats that are predicted to be unaffected or less affected by sea level rise;
- (3) Protecting habitats that support high insect diversity and abundance, and avoiding the excessive use of pesticides wherever possible;
- (4) Retaining potential roost trees and snags (see *Cover or Shelter*, above); and

(5) Developing and implementing specific guidelines (see the Florida Bonneted Bat Consultation Guidelines under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>) to minimize impacts of activities associated with hurricane clean-up, prescribed fire, invasive species management, forest management, and development.

Conservation Strategy and Selection Criteria Used to Identify Critical Habitat

Conservation Strategy

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 specific areas within the geographical area occupied by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat. We are not designating any areas outside the geographical area occupied by the species because we have not identified any unoccupied areas that meet the definition of critical habitat. The occupied areas identified encompass the varying types and distribution of habitat needed by the species and provide sufficient habitat to allow for maintaining and potentially expanding the populations.

To determine and select appropriate occupied areas that contain the physical or biological features essential to the conservation of the species or unoccupied areas otherwise essential for the conservation of the Florida bonneted bat, we incorporated information from the conservation strategy for the species. The goal of our conservation strategy for the Florida bonneted bat is to recover the species to the point where the protections of the Act are no longer necessary. The role of critical habitat in achieving this conservation goal is to identify the specific areas within the Florida bonneted bat's range that provide essential physical or biological features without which the Florida

bonneted bat's rangewide resiliency, redundancy, and representation could not be achieved. Specifically, this conservation strategy helped identify those areas within the Florida bonneted bat's range that contain the physical or biological features without which rangewide resiliency, redundancy, and representation could not be achieved. Our conservation strategy identified goals, from which we developed the following six critical habitat criteria for determining the specific areas that contain the physical or biological features essential to the conservation of the species:

(1) Genetic diversity—To maintain viable populations in each of the known genetically differentiated areas (see *Space for Individual and Population Growth and for Normal Behavior*, above), critical habitat should include one unit within each of the four genetically differentiated populations.

(2) Geographic extent—To maintain viable populations that are distributed across the geographic range of the Florida bonneted bat (see *Current Distribution* in the final listing rule (78 FR 61004, October 2, 2013, pp. 61010–61011)), critical habitat units should represent the extent of the species' existing known range.

(3) Ecological diversity—To maintain at least one viable population in each major ecological community that provides roosting habitat for the Florida bonneted bat (see *Habitats with Appropriate Disturbance Regimes*, above), these community types should be well represented in critical habitat units.

(4) Climate change resilience—To maintain at least one viable population in suitable habitat predicted to be unaffected or less affected by sea level rise and climate change, critical habitat should include one unit in the northern, inland portion of the Florida bonneted bat's range.

(5) High conservation value (HCV) habitat—To maintain sufficient habitat with HCV that supports the life history of the species within each population, critical habitat

units should incorporate multiple areas that support roosting and foraging needs and that have HCV (as informed by habitat analysis results and telemetry data).

(6) Structural connectivity—To maintain, enhance, and reestablish connectivity within and between Florida bonneted bat populations, critical habitat units should be configured within the central and south Florida landscape to provide connectivity based on the best available movement data for the species (see *Space for Individual and Population Growth and for Normal Behavior*, above).

Selection Criteria and Methodology Used to Identify Critical Habitat

To delineate the specific areas that are occupied by the species and that contain the physical or biological features essential to the Florida bonneted bat's conservation, we conducted a habitat analysis. Acknowledging some limitations in the information available, we used the best available data to conduct our habitat analysis (see Florida Bonneted Bat Habitat Analysis under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). Information used in the habitat analysis and/or the delineation of critical habitat units consists of the following:

- (1) Confirmed presence data compiled in our Geographic Information System (GIS) database from 2003 through 2021, and provided by FWC, UF, and other various sources, including survey reports, databases, and publications;
- (2) Vegetation cover types from the Cooperative Land Cover map (CLC; version 3.4) developed by FWC and Florida Natural Areas Inventory;
- (3) Canopy height from the global forest canopy height map (2019) developed by Global Land Analysis and Discovery;
- (4) Red-cockaded woodpecker (*Picoides borealis*) potential habitat (2016) developed by FWC, based on evidence indicating Florida bonneted bats use woodpecker cavities for roosting;

(5) Artificial sky luminance from the New World Atlas of Artificial Sky Brightness developed by the Light Pollution Science and Technology Institute (Falchi et al. 2016, entire);

(6) Fire frequency data provided by the Monitoring Trends in Burn Severity program;

(7) Urban development data (2010 baseline) from the Florida 2070 project developed by the Florida Department of Agriculture and Consumer Services, the UF GeoPlan Center, and 1000 Friends of Florida;

(8) Maps of unpublished telemetry data collected and provided by UF and FWC; and

(9) ArcGIS online basemap aerial imagery (2018–2020) to cross-check CLC data and ensure the presence of physical or biological features.

To help identify potential factors affecting Florida bonneted bat use, we conducted a spatial analysis to quantify relationships of habitat-related and other environmental variables with species occurrence (see Florida Bonneted Bat Habitat Analysis under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). Available presence data incorporated into the analysis primarily consisted of acoustic data, as well as locations of known roosts. Maps of telemetry locations were used to inform our evaluation of HCV areas but were not part of the habitat analysis dataset because coordinate data were not available at the time. We identified 10 covariates that related to habitat types (e.g., pine/cypress) and other factors (e.g., fire history) thought to influence habitat suitability and use by the Florida bonneted bat and modeled those at three spatial scales (see Florida Bonneted Bat Habitat Analysis under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). Model output included predictive maps representing the probability of species occurrence based on the covariates included in the final models,

and we used these maps to characterize the relative habitat suitability and conservation value of areas within central and south Florida. We also conducted sensitivity/specificity analyses to identify an objective threshold value for each model, which we then applied to identify areas with high conservation value to the species. For full details of our methodology and results, including links to data sources used, see the Florida Bonneted Bat Habitat Analysis under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>.

We considered the model output and the conservation strategy to determine the specific areas occupied by the species on which are found the physical or biological features that are essential to the Florida bonneted bat. Those specific areas (critical habitat units) were identified and delineated using the following steps:

(1) We identified areas having high conservation value (as described above) for the Florida bonneted bat based on model output because those areas are likely to contain the combination of characteristics that we have determined are essential physical or biological features for the Florida bonneted bat.

(2) We refined these areas to eliminate any unsuitable or less suitable areas that are unlikely to contain features essential to the conservation of the species based on the Florida bonneted bat's biology (e.g., temperature requirements) and aerial imagery.

(3) We considered telemetry maps and certain critical habitat criteria that were not incorporated into the models (e.g., connectivity). Where telemetry maps indicated high use (e.g., HCV foraging habitat), or where additional area was needed to ensure sufficient connectivity, we delineated additional habitat using CLC data and aerial imagery and based on model output and covariate relationships identified in our habitat analysis.

(4) We evaluated the resulting units to determine whether occupied habitat is adequate to ensure conservation of the species. We specifically evaluated occupied units to ensure they fulfill all critical habitat criteria and meet the goals and objectives in our

conservation strategy for identifying the areas that contain the features that are essential to the Florida bonneted bat. Based on our determination that occupied areas are sufficient for the conservation of the species, no unoccupied habitat is included in this critical habitat designation.

When determining critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for the Florida bonneted bat. 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 rule have been excluded by text and are not designated as critical habitat. Therefore, 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 physical or biological features in the adjacent critical habitat.

We are designating as critical habitat areas that we have determined are occupied at the time of listing (i.e., currently occupied) and that contain one or more of the physical or biological features that are essential to support life-history processes of the species. We considered areas occupied at the time of listing if they have documented presence of Florida bonneted bats from October 2013 through 2021. Due to the species' life span and high site fidelity, it is reasonable to conclude that these areas found to be occupied in 2013 to 2021 would have been inhabited by Florida bonneted bats when the species was listed in 2013. Each critical habitat unit contains all the identified physical or biological features essential to the conservation of the species.

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 under **Regulation**

Promulgation. 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 <https://www.regulations.gov> at Docket No. FWS-R4-ES-2019-0106 and at the Florida bonneted bat species webpage at <https://www.fws.gov/species/florida-bonneted-bat-eumops-floridanus>.

Final Critical Habitat Designation

We are designating nine units as critical habitat for the Florida bonneted bat. The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the Florida bonneted bat. The nine areas we designate as critical habitat are: (1) Kissimmee Unit, (2) Peace River Unit, (3) Babcock Unit, (4) Fisheating Creek Unit, (5) Corkscrew Unit, (6) Big Cypress Unit, (7) Everglades Tree Islands Unit, (8) Long Pine Key Unit, and (9) Miami Rocklands Unit. All nine units are occupied by the species. Table 1, below, shows the units and the approximate area of each unit/subunit within each land ownership category.

TABLE 1. Final critical habitat units and subunits for the Florida bonneted bat, including acres (ac) and hectares (ha) by land ownership category. Area estimates reflect all land within critical habitat unit boundaries, and land ownership was determined using the most recent parcel data provided by each county. All units are occupied.

Critical Habitat Unit/Subunit	Land Ownership: ac (ha)						Total Area: ac (ha)
	Federal	State	County	Local	Private/Other	Unidentified	
1. Kissimmee	99 (40)	137,283 (55,556)	834 (338)	0	35,455 (14,348)	2,065 (836)	175,735 (71,118)
1A	90 (36)	136,846 (55,380)	629 (255)	0	29,701 (12,020)	2,065 (836)	169,331 (68,526)
1B	9 (4)	437 (177)	205 (83)	0	5,753 (2,328)	<1	6,404 (2,592)
2. Peace River	32 (13)	6,369 (2,577)	710 (287)	165 (67)	18,874 (7,638)	1,897 (768)	28,046 (11,350)

Critical Habitat Unit/Subunit	Land Ownership: ac (ha)						Total Area: ac (ha)
	Federal	State	County	Local	Private/Other	Unidentified	
2A	0	0	0	0	2,603 (1,053)	0	2,603 (1,053)
2B	0	0	0	0	5,478 (2,217)	200 (81)	5,678 (2,298)
2C	0	0	0	0	2,029 (821)	2 (1)	2,031 (822)
2D	32 (13)	6,369 (2,577)	710 (287)	165 (67)	8,765 (3,547)	1,694 (686)	17,734 (7,177)
3. Babcock	0	108,748 (44,009)	1,843 (746)	19 (8)	23,739 (9,607)	328 (133)	134,677 (54,502)
3A	0	80,238 (32,471)	782 (316)	19 (8)	7,193 (2,911)	328 (133)	88,559 (35,839)
3B	0	28,510 (11,538)	1,062 (430)	0	16,546 (6,696)	0	46,118 (18,663)
4. Fisheating Creek	0	7,689 (3,112)	<1	0	5,300 (2,145)	6 (2)	12,995 (5,259)
5. Corkscrew	0	26,313 (10,648)	5,188 (2,100)	0	17,324 (7,011)	41 (16)	48,865 (19,775)
6. Big Cypress	533,227 (215,789)	152,559 (61,738)	8,421 (3,408)	229 (93)	16,011 (6,480)	3,638 (1,472)	714,085 (288,980)
7. Everglades Tree Islands	16,596 (6,716)	1 (1)	4 (2)	0	2 (1)	1 (1)	16,604 (6,719)
8. Long Pine Key	25,147 (10,177)	2 (1)	0	0	187 (76)	0	25,337 (10,253)
9. Miami Rocklands	603 (244)	785 (318)	2,458 (995)	8 (3)	381 (154)	46 (19)	4,281 (1,732)
9A	0	0	52 (21)	0	0	1 (<1)	53 (21)
9B	0	0	104 (42)	0	0	1 (<1)	104 (42)
9C	0	0	5 (2)	0	0	0	5 (2)
9D	0	0	0	0	28 (11)	<1	28 (12)
9E	0	21 (9)	230 (93)	<1	13 (5)	2 (1)	267 (108)

Critical Habitat Unit/Subunit	Land Ownership: ac (ha)						Total Area: ac (ha)
	Federal	State	County	Local	Private/Other	Unidentified	
9F	140 (57)	0	<1	0	<1	0	140 (57)
9G	0	8 (3)	0	0	19 (8)	<1	28 (11)
9H	0	235 (95)	0	0	0	3 (1)	238 (96)
9I	0	0	22 (9)	0	0	0	22 (9)
9J	0	60 (24)	<1	8 (3)	28 (11)	3 (1)	99 (40)
9K	0	26 (10)	11 (4)	0	0	0	37 (15)
9L	0	77 (31)	<1	0	<1	0	77 (31)
9M	0	0	123 (50)	0	0	0	123 (50)
9N	0	28 (11)	0	0	<1	0	28 (11)
9O	462 (187)	0	1,215 (492)	0	22 (9)	1 (<1)	1,700 (688)
9P	0	48 (19)	0	0	13 (5)	<1	61 (25)
9Q	0	<1	7 (3)	0	7 (3)	0	14 (6)
9R	0	36 (15)	22 (9)	0	14 (6)	8 (3)	80 (32)
9S	0	34 (14)	63 (26)	0	35 (14)	2 (1)	135 (55)
9T	0	10 (4)	0	0	25 (10)	<1	36 (14)
9U	0	18 (7)	4 (2)	0	1 (<1)	<1	23 (9)
9V	0	0	0	0	30 (12)	1 (1)	31 (13)
9W	0	9 (4)	103 (42)	0	<1	<1	112 (45)

Critical Habitat Unit/Subunit	Land Ownership: ac (ha)						Total Area: ac (ha)
	Federal	State	County	Local	Private/Other	Unidentified	
9X	0	0	10 (4)	0	20 (8)	<1	30 (12)
9Y	0	0	18 (7)	0	11 (4)	4 (1)	32 (13)
9Z	0	0	28 (11)	0	<1	3 (1)	31 (13)
9AA	0	22 (9)	24 (10)	0	37 (15)	0	84 (34)
9BB	0	0	19 (8)	0	23 (9)	1 (<1)	43 (17)
9CC	0	0	9 (4)	0	15 (6)	<1	24 (10)
9DD	0	19 (8)	0	0	0	0	19 (8)
9EE	0	12 (5)	<1	0	1 (<1)	5 (2)	18 (7)
9FF	0	0	39 (16)	0	<1	0	39 (16)
9GG	0	81 (33)	240 (97)	0	28 (12)	1 (<1)	351 (142)
9HH	0	22 (9)	0	0	<1	0	22 (9)
9II	0	18 (7)	5 (2)	0	10 (4)	6 (2)	39 (16)
9JJ	<1	0	105 (42)	0	0	2 (1)	108 (44)
Total	575,703 (232,979)	439,750 (177,960)	19,459 (7,875)	421 (170)	117,272 (47,458)	8,021 (3,246)	1,160,625 (469,688)

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 bonneted bat, below.

Unit 1: Kissimmee Unit

Unit 1 encompasses 175,735 ac (71,118 ha) of lands in Polk, Osceola, Highlands, and Okeechobee Counties, Florida. This unit consists of two subunits generally located along the eastern bank of Lake Kissimmee northeast to SR-192, north of SR-60; and along portions of the Kissimmee River, south of SR-60. Unit 1 predominately consists of State-owned conservation lands (137,283 ac (55,556 ha)) and private lands (35,455 ac (14,348 ha)). The largest conservation landholdings within this unit include Kissimmee Prairie Preserve State Park, Three Lakes WMA, Herky Huffman/Bull Creek WMA, Triple N Ranch WMA, and South Florida Water Management District lands along the Kissimmee River. Other smaller conservation lands also occur within this unit (for more information, see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). We excluded approximately 1.25 ac (0.5 ha) of Tribal lands (Miccosukee Tribe of Florida) that occur within Subunit 1B from this final critical habitat designation (see *Exclusions Based on Other Relevant Impacts*, below).

Unit 1 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented presence of Florida bonneted bats within the unit. The Kissimmee Unit represents the northern extent of the species' range and provides resiliency against the expected impacts from habitat loss due to climate change as the unit includes areas considered less vulnerable to these effects. Habitat in this unit provides ecological diversity (i.e., high pine and mesic flatwoods) and includes areas identified as having HCV, specifically high-quality roosting habitat (e.g., potential roost trees, red-cockaded woodpecker activity in the area) and foraging habitat (e.g., open water, abundant prey). In addition, the Florida bonneted bats in this area are genetically differentiated from those occurring elsewhere in the range (Austin et al. 2022, entire), and thus contribute to the genetic diversity of the overall population.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 1 may require special management considerations or protection due to the following threats: Habitat loss and fragmentation from changes in land use (e.g., land clearing for residential/commercial development); lack of habitat management and/or inadvertent impacts from these habitat management practices (e.g., prescribed fire, snag removal); and excessive pesticide use (see **Special Management Considerations or Protection**, above).

Under section 4(a)(3)(B)(i) of the Act, we are exempting Avon Park Air Force Range lands (99,523 ac (40,276 ha)) from the critical habitat designation because the U.S. Air Force has an approved integrated natural resources management plan (INRMP) that provides benefits to the Florida bonneted bat and its habitat (see **Exemptions**, below, for more detailed information).

Unit 2: Peace River Unit

Unit 2 encompasses 28,046 ac (11,350 ha) of lands in Hardee, DeSoto, and Charlotte Counties, Florida. This unit consists of four subunits located along portions of the Peace River and its tributaries (e.g., Shell Creek, Charlie Creek), south of CR-64 with the majority west of U.S.-17. Unit 2 predominately consists of privately owned lands (18,874 ac (7,638 ha)) and State-owned conservation lands (6,369 ac (2,577 ha)). The largest conservation landholdings within this unit include the Peace River State Forest and the Deep Creek Preserve. Other smaller conservation lands also occur within this unit (for more information, see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>).

Unit 2 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented presence of Florida bonneted bats within the unit. The Peace River Unit encompasses a

known movement corridor (generally connecting Units 1 and 3), allowing gene flow between these populations, and includes areas identified as having HCV, specifically high-quality foraging habitat along the Peace River and adjacent forested lands that provide open water and abundant prey. In addition, this unit adds ecological diversity (a natural river corridor) to the overall designation.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 2 may require special management considerations or protection due to the following threats: Habitat loss, fragmentation, or degradation from changes in land use (e.g., land clearing for residential/commercial development); lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal); excessive pesticide use; and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation) (see **Special Management Considerations or Protection**, above).

Unit 3: Babcock Unit

Unit 3 encompasses 134,677 ac (54,502 ha) of lands in Charlotte, Lee, and Glades Counties, Florida. This unit consists of two subunits, with the majority of Unit 3 located in Charlotte County, east of I-75; other portions are in northwestern Lee and western Glades Counties. This unit predominately consists of State-owned conservation lands (108,748 ac (44,009 ha)) and private lands (23,739 ac (9,607 ha)). The largest conservation landholdings within this unit are Babcock-Webb WMA and Babcock Ranch Preserve; other smaller conservation lands also occur within this unit (for more information, see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>).

Unit 3 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented

presence of Florida bonneted bats within the unit. Habitat in the Babcock Unit provides ecological diversity (i.e., hydric and mesic flatwoods) and includes areas identified as having HCV, specifically superior roosting and foraging habitat. Babcock-Webb WMA and surrounding areas support a large population of Florida bonneted bats and many of the known roost sites. In addition, the Florida bonneted bats in this westernmost extent of the species' range are genetically differentiated from those occurring elsewhere in the range (Austin et al. 2022, entire), thus contributing to the genetic diversity of the overall population.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 3 may require special management considerations or protection due to the following threats: Habitat loss, fragmentation, or degradation from changes in land use (e.g., land clearing for residential/commercial development); lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal); excessive pesticide use; and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation) (see **Special Management Considerations or Protection**, above).

Unit 4: Fisheating Creek Unit

Unit 4 encompasses 12,995 ac (5,259 ha) of lands in Glades and Highlands Counties, Florida. The majority of Unit 4 is located in Glades County, west of US-27; the remaining portion of the unit extends north into southern Highlands County. This unit predominately consists of State-owned conservation lands (7,689 ac (3,112 ha)) and private lands (5,300 ac (2,145 ha)). Conservation landholdings within this unit are Fisheating Creek WMA, Fisheating Creek/Lykes Brothers Conservation Easement, and Platt Branch Wildlife and Environmental Area.

Unit 4 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented

presence of Florida bonneted bats within the unit. High-quality foraging habitat along Fisheating Creek and adjacent forested lands provide open water and abundant prey. This unit serves as important foraging habitat connecting bats traveling between Unit 3 and areas to the north and east, and, along with Unit 2, this unit adds ecological diversity (natural river corridors) to the overall designation.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 4 may require special management considerations or protection due to the following threats: Habitat loss, fragmentation, or degradation from changes in land use (e.g., land clearing for residential/commercial development); lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal, hydrologic restoration); excessive pesticide use; and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation) (see **Special Management Considerations or Protection**, above).

Unit 5: Corkscrew Unit

Unit 5 encompasses 48,865 ac (19,775 ha) of lands in Lee and Collier Counties, Florida. This unit straddles the Lee/Collier county line, east of I-75, and predominately consists of State-owned conservation lands (26,313 ac (10,648 ha)) and private lands (17,324 ac (7,011 ha)). The largest conservation landholdings within this unit are Corkscrew Regional Ecosystem Watershed and the National Audubon Society's Corkscrew Swamp Sanctuary; other smaller conservation lands also occur within this unit (for more information, see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>).

Unit 5 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented

presence of Florida bonneted bats within the unit. Habitat within the Corkscrew Unit provides ecological diversity (i.e., cypress and hydric flatwoods) and includes areas identified as having HCV. Corkscrew Swamp Sanctuary was established to protect one of the largest remaining stands of cypress in North America, and this area likely includes high-quality roosting habitat. The area also provides connectivity between Babcock-Webb WMA and areas south. The natural habitat within Unit 5 serves as important habitat in an area that is otherwise under high development pressure.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 5 may require special management considerations or protection due to the following: Habitat loss, fragmentation, or degradation from changes in land use (e.g., land clearing for residential/commercial development); lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal); and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation) (see **Special Management Considerations or Protection**, above).

Unit 6: Big Cypress Unit

Unit 6 encompasses 714,085 ac (288,980 ha) of lands in Collier, Hendry, and Monroe Counties, Florida. The majority of Unit 6 is located in Collier County, south of I-75; the remainder occurs in southern Hendry County and mainland portions of Monroe County. This unit predominately consists of Federal (533,227 ac (215,789 ha)) and State-owned (152,559 ac (61,738 ha)) conservation lands. The largest landholdings within this unit are Big Cypress National Preserve, Florida Panther National Wildlife Refuge, Fakahatchee Strand Preserve State Park, and Picayune Strand State Forest; other smaller conservation lands also occur within this unit (for more information, see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on

<https://www.regulations.gov>). We excluded approximately 14,455 ac (5,850 ha) of Tribal lands (Seminole Tribe of Florida) that occur within Unit 6 from this final critical habitat designation (see *Exclusions Based on Other Relevant Impacts*, below).

Unit 6 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented presence of Florida bonneted bats within the unit. Habitat in the Big Cypress Unit, along with Unit 5, provides ecological diversity (i.e., cypress and hydric flatwoods) and includes areas identified as having HCV. Roosting habitat within this unit is of particularly high quality. Despite challenges in accessing this site to conduct surveys, a large Florida bonneted bat population has been documented in this unit, including the discovery of 25 natural roosts (the most of any unit). The Florida bonneted bats in this area are genetically differentiated from those occurring elsewhere in the range (Austin et al. 2022, entire), and thus contribute to the genetic diversity of the overall population.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 6 may require special management considerations or protection due to the following threats: Habitat loss, fragmentation, or degradation from changes in land use (e.g., land clearing for residential, commercial, transportation, or energy-related development); lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal, habitat and hydrologic restoration); excessive pesticide use; and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation, coastal squeeze) (see **Special Management Considerations or Protection**, above).

Unit 7: Everglades Tree Islands Unit

Unit 7 encompasses 16,604 ac (6,719 ha) of lands in Miami-Dade County, Florida, south of Tamiami Trail and west of Krome Avenue. Nearly this entire unit is Federal land within Everglades National Park (ENP; 16,596 ac (6,716 ha)).

Unit 7 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented presence of Florida bonneted bats within the unit. The Everglades Tree Islands Unit provides connectivity between Unit 6 and the southeast coast (Units 8 and 9), allowing gene flow between these populations. It also includes areas identified as having HCV. Despite limited effort and challenges accessing the area to conduct surveys, the Florida bonneted bat has been documented throughout this unit.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 7 may require special management considerations or protection due to the following threats: Lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal, habitat and hydrologic restoration) and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation) (see **Special Management Considerations or Protection**, above).

Unit 8: Long Pine Key Unit

Unit 8 encompasses 25,337 ac (10,253 ha) of lands in Miami-Dade County, Florida, along ENP's Main Park Road (SR-9336) between Mahogany Hammock and SW 237th Avenue. Nearly this entire unit is Federal land within ENP (25,147 ac (10,177 ha)).

Unit 8 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented presence of Florida bonneted bats within the unit. Habitat in the unit provides ecological diversity (i.e., pine rocklands) and includes areas identified as having HCV, specifically high-quality roosting and foraging habitat within Long Pine Key, the largest remaining contiguous occurrence of pine rockland habitat. This unit includes the southernmost extent of the species' range and provides additional connectivity between Units 6 and 9.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 8 may require special management considerations or protection due to the following: Lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed fire, snag removal) and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation) (see **Special Management Considerations or Protection**, above).

Unit 9: Miami Rocklands Unit

Unit 9 encompasses 4,281 ac (1,732 ha) of lands in Miami-Dade County, Florida. This unit consists of 36 subunits located between Tamiami Trail to the north and SR-9336 to the south, and is surrounded by a dense urban matrix typical of the Miami metropolitan area. This unit predominately consists of conservation lands owned by county (2,458 ac (995 ha)), State (785 ac (318 ha)), and Federal (603 ac (244 ha)) agencies. The largest landholdings within this unit are Zoo Miami, Larry and Penny Thompson Park, the U.S. Coast Guard Communication Station, Navy Wells, and the Deering Estate. Many county-owned preserves and parks, as well as other smaller conservation lands, also occur within this unit (for more information, see Conservation Lands Within Florida Bonneted Bat Final Critical Habitat Designation under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). We excluded approximately 104 ac (42 ha) from Unit 9 associated with the Coral Reef Commons HCP from this final critical habitat designation (see *Exclusions Based on Other Relevant Impacts*, below).

Unit 9 contains all of the essential physical or biological features for the Florida bonneted bat and is considered occupied at the time of listing based on documented presence of Florida bonneted bats within the unit. The Miami Rocklands Unit represents the easternmost extent of the species' range. Habitat in this unit provides ecological diversity (i.e., pine rocklands) and includes areas identified as having HCV. This unit

includes remaining fragments of pine rockland and rockland hammock habitat within an urbanized landscape. These fragments of natural habitat are used extensively by Florida bonneted bats and provide connectivity within the unit. Florida bonneted bats inhabiting the area are the most genetically differentiated from those occurring elsewhere in the range (Austin et al. 2022, entire), and thus contribute to the genetic diversity of the overall population.

The physical or biological features essential to the conservation of the Florida bonneted bat in Unit 9 may require special management considerations or protection due to the following: Habitat loss, fragmentation, or degradation from changes in land use (e.g., land clearing for residential, commercial, transportation, or energy-related development); lack of habitat management and/or inadvertent impacts from land management practices (e.g., prescribed burns, snag removal, habitat restoration); excessive pesticide use; and climate change (e.g., sea level rise/inundation, saltwater intrusion, habitat alteration/degradation, coastal squeeze) (see **Special Management Considerations or Protection**, above).

Under section 4(a)(3)(B)(i) of the Act, we are exempting Homestead Air Reserve Base (Base) lands (280 ac (113 ha)) from critical habitat designation because the U.S. Air Force has an approved INRMP that provides benefits to the Florida bonneted bat and its habitat (see **Exemptions**, below, for more detailed information).

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.

We published a final rule revising the definition of destruction or adverse modification on August 27, 2019 (84 FR 44976). Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed 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, authorized, or carried out by a Federal agency—do not require section 7 consultation.

Compliance with the requirements of section 7(a)(2) is documented 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 Service 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 set forth requirements for Federal agencies to reinstate consultation on previously reviewed actions. These requirements apply when the Federal agency has retained discretionary involvement or control over the action (or the agency’s discretionary involvement or control is authorized by law) and, subsequent to the previous consultation: (a) if the amount or extent of taking specified in the incidental take statement is exceeded; (b) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action. The reinstatement requirement applies only to actions that remain subject to some discretionary Federal involvement or control. As provided in 50 CFR 402.16, the requirement to reinstate consultations for

new species listings or critical habitat designation does not apply to certain agency actions (e.g., land management plans issued by the Bureau of Land Management in certain circumstances).

Application of the “Adverse Modification” Standard

The key factor related to the destruction or adverse modification determination is whether implementation of the proposed Federal action directly or indirectly alters the designated critical habitat in a way that appreciably diminishes the value of the critical habitat as a whole for the conservation of the listed species. As discussed above, the role of critical habitat is to support physical or biological features essential to the conservation of a listed species and provide for the conservation of the species.

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 violate section 7(a)(2) of the Act by destroying or adversely modifying such habitat, or that may be affected by such designation.

Activities that we may, during a consultation under section 7(a)(2) of the Act, consider likely to destroy or adversely modify critical habitat include, but are not limited to:

(1) Actions that would significantly alter roosting or foraging habitat or habitat connectivity such that they appreciably diminish the value of critical habitat as a whole. Such activities may include, but are not limited to: Land clearing for residential, commercial, transportation, energy-related or other development; water diversion, drainage, or wetland loss or conversion; and excessive alteration of natural lighting (that disrupts roosting, movements, or foraging conditions or impacts prey). These activities could destroy Florida bonneted bat roosting and foraging sites (necessary for food, shelter, protection from predation, and reproduction), reduce habitat conditions below what is necessary for the species’ survival and growth, and/or eliminate or reduce the

habitat necessary for successful reproduction, dispersal, and population expansion (see **Physical or Biological Features Essential to the Conservation of the Species**, above).

(2) Actions that would significantly alter vegetation structure or composition such that they appreciably diminish the value of critical habitat as a whole. Such activities could include, but are not limited to: Vegetation removal conducted in a manner that leads to significant, irreversible diminishment of physical or biological features essential to the conservation of the Florida bonneted bat. Habitat management or restoration activities that are intended to benefit Florida bonneted bat critical habitat (e.g., habitat or hydrologic restoration, prescribed burning and other forest management activities, or removal of invasive plants), following state and federal guidelines, and with previously approved management plans, under most circumstances would not significantly adversely alter designated critical habitat. These activities could affect habitat that provides for the Florida bonneted bat's roosting and rearing, foraging and prey, refuge from short-term changes to habitat, and/or protection from predation (see **Physical or Biological Features Essential to the Conservation of the Species**, above).

(3) Actions that would significantly reduce suitability of habitat or impact prey base (e.g., availability, abundance, density, diversity) such that they appreciably diminish the value of critical habitat as a whole. These actions include, but are not limited to: Hydrologic alteration, excessive pesticide applications, or excessive alteration of natural lighting that impact prey or alter foraging behavior or movement. These activities could significantly modify habitat that currently provides adequate prey and space for foraging for the Florida bonneted bat (see **Physical or Biological Features Essential to the Conservation of the Species**, above).

Activities that the Service may, during a consultation under section 7(a)(2) of the Act, consider likely to adversely affect critical habitat but not likely to destroy or adversely modify critical habitat include actions that significantly affect the unit or

subunit's ability to fulfill its primary functions (e.g., connectivity, foraging or roosting habitat, genetic representation), but do not appreciably diminish the value of critical habitat as a whole. Such activities may include a landscape-scale hydrologic restoration project that would convert large amounts of roosting habitat to foraging habitat within a unit; development that would eliminate a small amount of high-value foraging area or affect a known corridor; or habitat or invasive species management programs that are overall beneficial to Florida bonneted bat habitat but may result in inadvertent, but significant, impacts to roosting habitat.

When conducted with guidance from the Service or using established best management practices (BMPs) that prevent or minimize impacts, the actions mentioned above are beneficial and are encouraged as a part of standard land management practices. Avoidance and minimization measures can also reduce the impacts of habitat loss and other impacts from development projects, habitat alteration, and habitat conversion. General guidance has already been developed and is in use (see the Florida Bonneted Bat Consultation Guidelines, appendices D and E, and the Florida Bonneted Bat Avoidance and Minimization Measures under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>); additional guidance is under development to address habitat management practices on conservation lands.

Other activities that the Service may consider that may affect, but are unlikely to adversely affect, critical habitat include actions that are wholly beneficial (i.e., those that maintain, improve, or restore the functionality of critical habitat for the Florida bonneted bat without causing adverse effects to the essential physical or biological features), discountable (i.e., unlikely to occur), or insignificant. In such cases, the Act's section 7 consultation requirements can be satisfied through the informal concurrence process.

Whether an action will have insignificant effects must be considered within the context of the unit or subunit in which the action occurs. A localized reduction in roosting

or foraging habitat within a stand may have such a small impact on the essential physical or biological features within that stand that a “not likely to adversely affect” determination is appropriate. Similarly, effects to roosting habitat may be negligible where a hazard tree removal project occurs in a stand with many suitable roosting trees.

Exemptions

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

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an integrated natural resources management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

- (1) An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;
- (2) A statement of goals and priorities;
- (3) A detailed description of management actions to be implemented to provide for these ecological needs; and
- (4) A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, 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 geographical areas owned or

controlled by the Department of Defense (DoD), 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.

We consult with the military on the development and implementation of INRMPs for installations with listed species. We analyzed INRMPs developed by military installations located within the range of the critical habitat designation for Florida bonneted bat to determine if they meet the criteria for exemption from critical habitat under section 4(a)(3) of the Act. The following areas are DoD lands with completed, Service-approved INRMPs within the critical habitat designation.

Approved INRMPs

For discussion of the approved INRMP for Avon Park Air Force Range (Unit 1: Kissimmee Unit; 99,523 ac (40,276 ha)), see **Exemptions** in the proposed critical habitat rule (85 FR 35510, June 10, 2020, p. 35531).

For discussion of the approved INRMP for Homestead Air Reserve Base (Unit 9: Miami Rocklands Unit – Subunits KK, LL; 280 ac (113 ha)), see **Exemptions** in the revised proposed critical habitat rule (87 FR 71466, November 22, 2022, p. 71480).

In accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the identified lands are subject to Avon Park Air Force Range's and Homestead Air Reserve Base's INRMPs and that conservation efforts identified in the INRMPs will provide a benefit to the Florida bonneted bat. Therefore, lands within these installations are exempt from critical habitat designation under section 4(a)(3) of the Act. Accordingly, we are not including approximately 99,803 ac (40,389 ha) of habitat in this final critical habitat designation because of these exemptions.

Consideration of Impacts under 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 based on economic impacts, impacts on national security, or any other relevant impacts. Exclusion decisions are governed by the regulations at 50 CFR 424.19 and the Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (hereafter, the “2016 Policy”; 81 FR 7226, February 11, 2016)—both of which were developed jointly with the National Marine Fisheries Service (NMFS). We also refer to a 2008 Department of the Interior Solicitor’s opinion entitled, “The Secretary’s Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act” (M-37016). We explain each decision to exclude areas, as well as decisions not to exclude, to demonstrate that the decision is reasonable.

The Secretary may exclude any particular area if she determines that the benefits of such exclusion outweigh the benefits of including such area as part of the critical habitat, unless she 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 the determination to exclude a particular area, 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.

When identifying the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive due to the protection from destruction of adverse modification as a result of actions with a Federal nexus; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat. In

the case of the Florida bonneted bat, the benefits of critical habitat include public awareness of the presence of Florida bonneted bat and the importance of habitat protection, and, where a Federal nexus exists, increased habitat protection for the Florida bonneted bat due to the protection from destruction or adverse modification of critical habitat.

When identifying the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation or in the continuation, strengthening, or encouragement of partnerships. Additionally, continued implementation of an ongoing management plan that provides equal to or more conservation than a critical habitat designation would reduce the benefits of including that specific area in the critical habitat designation.

We evaluate the existence of a conservation plan when considering the benefits of inclusion. We consider a variety of factors, including, but not limited to, whether the plan is finalized; how it provides for the conservation of the essential physical or biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to evaluate whether the benefits of exclusion outweigh those of inclusion. If our analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, we then determine whether exclusion would result in extinction of the species. If exclusion of an area from critical habitat will result in extinction, we will not exclude it from the designation.

Exclusions Based on Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. In order to consider economic impacts, we prepared an IEM and screening analysis, including a memo addressing supplemental information on land values, which, together with our narrative and interpretation of effects, we consider our economic analysis of the critical habitat designation and related factors (IEc 2021a, b, entire). The original DEA, dated February 14, 2020, and the memo providing supplemental data supporting the original DEA, dated February 6, 2020, were made available for public review from June 10 through August 10, 2020 (85 FR 35510; June 10, 2020). The IEM and the economic analysis were revised prior to publication of the November 22, 2022, revised proposed rule, and the revised analyses, both dated September 1, 2021, were made available for public review from November 22, 2022, through January 23, 2023 (87 FR 71466, November 22, 2022). The economic analysis addressed probable economic impacts of critical habitat designation for Florida bonneted bat. Following the close of the comment period on the November 22, 2022, revised proposed rule, we reviewed and evaluated all information submitted during both comment periods that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Additional information relevant to the probable incremental economic impacts of critical habitat designation for the Florida bonneted bat is summarized below and available in the screening analysis for the Florida bonneted bat (IEc 2021a, entire), available at <https://www.regulations.gov>.

As part of our screening analysis, we considered the types of economic activities that are likely to occur within the areas likely affected by the critical habitat designation. In our evaluation of the probable incremental economic impacts that may result from this designation of critical habitat for the Florida bonneted bat, first we identified, in the

revised IEM dated June 22, 2021, probable incremental economic impacts associated with the following categories of activities: (1) Commercial or residential development; (2) transportation; (3) utilities; (4) energy (including solar, wind, and oil and gas); (5) water management (including water supply, flood control, and water quality); (6) recreation; (7) land management (including prescribed burning and invasive species control); and (8) habitat and hydrologic restoration. We considered each industry or category individually. Additionally, we considered whether their activities have any Federal involvement. Critical habitat designation generally will not affect activities that do not have any Federal involvement; under the Act, designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies. Because the Florida bonneted bat is already listed under the Act, in areas where the species is present, Federal agencies are currently required to consult with the Service under section 7 of the Act on activities they fund, permit, or implement that may affect the species. Consultations to avoid the destruction or adverse modification of critical habitat will be incorporated into the existing consultation process.

In our IEM, we attempted to clarify the distinction between the effects that result from the species being listed and those attributable to the critical habitat designation (i.e., difference between the jeopardy and adverse modification standards) for the Florida bonneted bat's critical habitat. The following specific circumstances in this case help to inform our evaluation: (1) The essential physical or biological features identified for critical habitat are the same features essential for the life requisites of the species, and (2) any actions that would result in sufficient harm to constitute jeopardy to the Florida bonneted bat would also likely adversely affect the essential physical or biological features of critical habitat. The IEM outlines our rationale concerning this limited distinction between baseline conservation efforts and incremental impacts of the designation of critical habitat for this species. This evaluation of the incremental effects

has been used as the basis to evaluate the probable incremental economic impacts of this designation of critical habitat.

The critical habitat designation for the Florida bonneted bat consists of nine units, all occupied by the species, totaling 1,160,625 ac (469,688 ha) and including lands under Federal, State, county, local, and private ownership (see table 1, above). Because all areas are occupied, the economic impacts of implementing the rule through section 7 of the Act will most likely be limited to additional administrative effort to consider adverse modification. This finding is based on the following factors:

- Any activities with a Federal nexus occurring within occupied habitat will be subject to section 7 consultation requirements regardless of critical habitat designation, due to the presence of the listed species; and
- In most cases, project modifications requested to avoid adverse modification are likely to be the same as those needed to avoid jeopardy in occupied habitat.

Our analysis considers the potential need to consult on development, transportation, utilities, land management, habitat restoration, and other activities authorized, undertaken, or funded by Federal agencies within critical habitat. The total incremental section 7 costs associated with this designation are estimated to be less than \$70,800 per year, with the highest costs expected in Unit 6 (IEc 2021a, pp. 2, 25). While the designated critical habitat area is relatively large, incremental section 7 costs are kept comparatively low due to the strong baseline protections that already exist for this species due to its listed status, the existence of a consultation area map that alerts managing agencies about the location of the species and its habitat, and the presence of other listed species in the area.

Florida Department of Transportation (FDOT) Rights-of-Way

Based on a request for exclusion from FDOT, we are examining the benefits of inclusion or exclusion of areas of critical habitat that overlap with FDOT rights-of-way in

all critical habitat units (Units 1–9). FDOT requested exclusion because they expect this critical habitat designation to significantly increase consultation actions for the regular and frequent activities for work FDOT conducts within its transportation rights-of-way, thus resulting in an undue economic hardship to FDOT. Because all critical habitat units are occupied, any inclusion of rights-of-way would be occupied areas. FDOT receives Federal agency funding and has assumed responsibility for environmental reviews from the Federal Highway Administration. It also receives authorization (U.S. Army Corps of Engineers) for many of their activities along their rights-of-way.

Benefits of Inclusion

The principal benefit of including an area in critical habitat designation is the requirement of Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, which is the regulatory standard of section 7(a)(2) of the Act under which consultation is completed. Federal agencies must also consult with the Service on actions that may affect a listed species and ensure their actions are not likely to jeopardize the continued existence of such species. The analysis of effects to critical habitat is a separate and different analysis from that of the effects to the species. Therefore, the difference in outcomes of these two analyses represents the regulatory benefit of critical habitat. In some cases, the outcome of these analyses will be similar, because effects to critical habitat will often result in effects to the species. This would generally be in cases where the species is considered present in the action area and may be affected by the proposed action and when any voluntary or required measures to avoid jeopardy are the same as those measures to avoid destruction or adverse modification of critical habitat; that is the case here. Additionally, there may be educational benefits associated with the designation of critical habitat. Thus, critical habitat designation may provide greater benefits to the recovery of a species than listing would alone.

Critical habitat designation is expected to provide some benefit (although likely less of a benefit than if the units were unoccupied) through the conservation measures associated with future section 7 consultations associated with FDOT actions that involve a Federal nexus. Another possible benefit of including lands in critical habitat is public and agency education regarding the potential conservation value of these areas. For FDOT actions without a Federal nexus, there is no requirement to consider effects to critical habitat, but there is still a requirement to consider potential effects to the species itself (e.g., take of a listed species). Designation of critical habitat would provide educational benefits by informing Federal agencies and the public about the presence of listed species within FDOT rights-of-way. Florida bonneted bats are typically associated with a diversity of ecological communities, including pine rocklands, cypress communities, hydric pine flatwoods, mesic pine flatwoods, and high pine, but they also occur in a variety of other habitats that provide adequate prey and space for foraging (e.g., freshwater edges and freshwater herbaceous wetlands, prairies, wetland and upland shrub communities, and wetland and upland forests), including habitat edges adjacent to roads and mowed areas (see **Physical or Biological Features Essential to the Conservation of the Species**, above). FDOT rights-of-way contain the physical or biological features essential to the conservation of the species, and these rights-of-way overlap designated critical habitat units, all of which are occupied by Florida bonneted bats.

Including FDOT rights-of-way in designated critical habitat provides an opportunity to highlight FDOT rights-of-way as important for the conservation of the species, thus increasing awareness of the species and its habitat use and needs. Therefore, we foresee educational value that a designation would be expected to provide to FDOT, Federal agencies, and the public. There is also the possible benefit that additional funding could be generated for habitat improvement by an area being designated as critical

habitat. Some funding sources may rank a project higher if the area is designated as critical habitat.

We also evaluated whether there were any conservation plans or other conservation measures that may reduce the benefits of including FDOT rights-of-way in this designation of critical habitat. However, there are no specific Florida bonneted bat management plans, habitat plans, or specific conservation measures that have been developed by FDOT that would provide a conservation benefit to the Florida bonneted bat in these areas.

Thus, we find that inclusion of areas that overlap with FDOT rights-of-way in designated critical habitat for the Florida bonneted bat would provide: (1) A regulatory benefit when there is a Federal nexus; and (2) significant educational benefits for the Florida bonneted bat and its habitat.

Benefits of Exclusion

When considering the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation or in the continuation, strengthening, or encouragement of partnerships. We expect to continue to work with FDOT on efforts to conserve the Florida bonneted bat and other co-occurring federally listed species. Working with our Federal partners or, in the case of FDOT, entities that have assumed some responsibility from a Federal partner, there are opportunities to develop section 7(a)(1) conservation strategies and programmatic section 7(a)(2) consultations to streamline regulatory procedures and benefit listed species. There are also opportunities to develop conservation plans for non-Federal actions to streamline regulatory compliance.

We also considered the potential economic impact of designating critical habitat. The total number of future section 7 consultations expected over the next 10 years are modest at approximately 4 formal consultations, 19 informal consultations, and 2

technical assistance actions (IEc 2021a, p. 2); however, it is anticipated that all FDOT projects would result in only informal consultation on Florida bonneted bat critical habitat, each of which is estimated to have a total cost of \$2,600 compared to estimated costs of \$5,300 for a formal consultation or \$9,800 for a programmatic consultation (IEc 2021a, pp. 10, 12–15, 18, 24). There is not expected to be any difference between a jeopardy analysis and a destruction or adverse modification analysis conducted as part of the consultation because threats to the Florida bonneted bat are largely habitat related. Because all areas of critical habitat are occupied, there would always be a consultation due to the presence of the species when there is a Federal nexus, and the designation of critical habitat would then result in only minor additional administrative economic costs due to the additional analysis required for the destruction or adverse modification analysis. The Service has developed a consultation area map (see Florida Bonneted Bat Consultation Guidelines under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>), which is routinely used by FDOT, that can help streamline consultation and reduce the administrative burden associated with consultation. The Florida Bonneted Bat Consultation Guidelines alert managing agencies about the location of the species and its habitat. Agencies can use the consultation guidelines to screen projects for potential impacts to the species; to determine whether additional consultation with the Service is required; and, where appropriate, to reach a determination that an action may affect, but is not likely to adversely affect, designated critical habitat. Prior to publication of this final rule, the Service updated the consultation guidelines to include critical habitat for the Florida bonneted bat, which increases the usefulness of this tool to FDOT for section 7 consultations involving Florida bonneted bat critical habitat. Therefore, we anticipate that this will help streamline consultation for FDOT and reduce the administrative burden associated with consultation, thus reducing the overall cost of consultation to FDOT associated with this critical habitat designation.

The total estimated cost of considering destruction or adverse modification of Florida bonneted bat critical habitat during all section 7 consultations will result in incremental costs of approximately \$70,800 per year, of which approximately \$50,800 are the incremental costs associated with all informal consultations (IEc 2021a, p. 25). Incremental costs for FDOT are expected to only comprise a portion of the annual estimated incremental costs, although FDOT is one of several agencies most likely to consult with the Service with regard to the Florida bonneted bat over the next 10 years. It is estimated that approximately 62 FDOT projects may intersect with critical habitat in Units 1 through 6; there are no planned FDOT projects in or near Units 7 through 9 (IEc 2021a, p. 8). Thus, excluding the rights-of-way could moderately reduce costs for FDOT.

Benefits of Inclusion Outweigh the Benefits of Exclusion

In weighing the benefits of including versus the benefits of excluding FDOT rights-of-way in our critical habitat designation, we find that the benefits of inclusion of these lands outweigh the benefits of exclusion of these lands in the designation. The benefits of exclusion are small and are primarily the avoidance of potential future costs due to section 7 consultation. Because the entire critical habitat designation is occupied by the Florida bonneted bat, any consultation would result from the presence of a listed species; there would be an additional minor administrative cost for the destruction or adverse modification analysis. Any project modifications to avoid destruction or adverse modification would likely be the same as those modifications already undertaken to avoid jeopardy; thus, we anticipate that conducting a destruction or adverse modification analysis would have only a minor administrative cost beyond the cost of the analysis that would already be conducted to avoid jeopardy.

In contrast, the benefits of inclusion are higher than those of exclusion because of educational opportunities and the regulatory benefit of potential section 7 consultations. Because critical habitat is one conservation tool that can contribute to the recovery of the

species, the recovery of the Florida bonneted bat is best served by the inclusion of FDOT rights-of-way in critical habitat units. Further, there are no specific Florida bonneted bat management plans, habitat plans, or specific conservation measures that have been developed by FDOT that would provide a conservation benefit to the Florida bonneted bat in these areas. Therefore, we conclude that the benefits of inclusion are greater than the benefits of exclusion, and we are including FDOT rights-of-way in the designation of critical habitat for the Florida bonneted bat.

Florida Power and Light (FPL) Power Line Easements and Rights-of-Way

Based on a request for exclusion from FPL, we are examining the benefits of inclusion or exclusion of areas of critical habitat in Units 2, 3, 5, 6, 8, and 9 that overlap with FPL power line easements and rights-of-way. FPL requested exclusion because they expect this critical habitat designation to significantly increase costs and time to conduct activities associated with existing and potential future facilities within its power line easements and rights-of-way, thus resulting in an undue economic hardship to FPL. Because all critical habitat units are occupied, any inclusion of power line easements and rights-of-way would be occupied areas. In total, FPL has approximately 73 mi (118 km) of transmission lines and 46 mi (74 km) of distribution lines within power line easements and rights-of-way that overlap with critical habitat, with 21 mi (33 km) of transmission lines and 2.5 mi (4 km) of distribution lines in Unit 2, 40 mi (64 km) of transmission lines and 12 mi (20 km) of distribution lines in Unit 3, 10 mi (16 km) of transmission lines and 3 mi (5 km) of distribution lines in Unit 5, 15 mi (24 km) of distribution lines in Unit 6, 0.05 mi (0.07 km) of distribution lines in Unit 8, and 2 mi (4 km) of transmission lines and 13 mi (21 km) of distribution lines in Unit 9. FPL maintains existing facilities on Federal lands and receives Federal agency funding (e.g., U.S. Department of Energy) or authorization (e.g., U.S. Army Corps of Engineers) for many of their activities within their power line easements and rights-of-way.

Benefits of Inclusion

The principal benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, which is the regulatory standard of section 7(a)(2) of the Act under which consultation is completed. Federal agencies must also consult with the Service on actions that may affect a listed species and ensure their actions are not likely to jeopardize the continued existence of such species. The analysis of effects to critical habitat is a separate and different analysis from that of the effects to the species. Therefore, the difference in outcomes of these two analyses represents the regulatory benefit of critical habitat. In some cases, the outcome of these analyses will be similar, because effects to critical habitat will often result in effects to the species. This would generally be in cases where the species is considered present in the action area and may be affected by the proposed action and when any voluntary or required measures to avoid jeopardy are the same as those measures to avoid destruction or adverse modification of critical habitat; that is the case here. Additionally, there may be educational benefits associated with the designation of critical habitat. Thus, critical habitat designation may provide greater benefits to the recovery of a species than listing would alone.

Critical habitat designation is expected to provide some benefit (although likely less of a benefit than if the units were unoccupied) through the conservation measures associated with future section 7 consultations associated with FPL actions that involve a Federal nexus. Another possible benefit of including lands in critical habitat is public and agency education regarding the potential conservation value of these areas. For FPL actions without a Federal nexus, there is no requirement to consider effects to critical habitat, but there is still a requirement to consider potential effects to the species itself (e.g., take of a listed species). Designation of critical habitat would provide educational

benefits by informing Federal agencies and the public about the presence of listed species within FPL power line easements and rights-of-way. Florida bonneted bats are typically associated with a diversity of ecological communities, including pine rocklands, cypress communities, hydric pine flatwoods, mesic pine flatwoods, and high pine, but they also occur in a variety of other habitats that provide adequate prey and space for foraging (e.g., freshwater edges and freshwater herbaceous wetlands, prairies, wetland and upland shrub communities, and wetland and upland forests) (see **Physical or Biological Features Essential to the Conservation of the Species**, above). FPL power line easements and rights-of-way are within these ecological communities and habitats occupied by Florida bonneted bat; contain the physical or biological features essential to the conservation of the species; and overlap designated critical habitat units, all of which are occupied by Florida bonneted bats.

Including FPL power line easements and rights-of-way in designated critical habitat provides an opportunity to highlight these areas as important for the conservation of the species, thus increasing awareness of the species and its habitat use and needs. Since the publication of the June 10, 2020, proposed rule, communication between the Service and FPL has increased, and designating critical habitat may continue to encourage communication that provides an educational value. Therefore, we anticipate that a critical habitat designation including FPL power line easements and rights-of-way would provide continued educational value to FPL, Federal agencies, and the public. There is also the possible benefit that additional funding could be generated for habitat improvement by an area being designated as critical habitat. Some funding sources may rank a project higher if the area is designated as critical habitat.

We also evaluated whether there were any conservation plans or other conservation measures that may reduce the benefits of including FPL power line easements and rights-of-way in this designation of critical habitat. Before initiating work

at a utility pole location, FPL follows a well-established process for managing and protecting migratory bird nests, including inspecting poles for migratory bird nests, such as active woodpecker cavities. FPL plans to continue this best practice and expand it to include determining the presence or absence of any Florida bonneted bat or Florida bonneted bat active roost. If a Florida bonneted bat or Florida bonneted bat roost is confirmed within an FPL pole or on any FPL equipment during pre-removal inspection, FPL will promptly notify and coordinate with the Service. However, there are no specific Florida bonneted bat management plans, habitat plans, or formalized conservation measures that have been developed by FPL that would provide a conservation benefit to the Florida bonneted bat or its habitat in these areas. Thus, we find that inclusion of areas that overlap with FPL power line easements and rights-of-way in the critical habitat designation for the Florida bonneted bat would provide: (1) A regulatory benefit when there is a Federal nexus; and (2) significant educational benefits for the Florida bonneted bat and its habitat.

Benefits of Exclusion

When considering the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation or in the continuation, strengthening, or encouragement of partnerships. We expect to continue to work with FPL on efforts to conserve the Florida bonneted bat and other co-occurring federally listed species. Working with our Federal partners, there are opportunities to develop section 7(a)(1) conservation strategies and programmatic section 7(a)(2) consultations to streamline regulatory procedures and benefit listed species. There are also opportunities to develop conservation plans for non-Federal actions to streamline regulatory compliance.

We also considered the potential economic impact of designating critical habitat. The total number of future section 7 consultations expected over the next 10 years are

modest at approximately 4 formal consultations, 19 informal consultations, and 2 technical assistance actions (IEc 2021a, p. 2). However, we estimate only approximately one future FPL utility project-related action would require informal consultation in each critical habitat unit annually over the next 10 years in addition to consultations forecast from their consultation history for Florida bonneted bat in or near proposed critical habitat areas (IEc 2021a, pp. 10–13, 15, 18–22). There is not expected to be any difference between a jeopardy analysis and a destruction or adverse modification analysis conducted as part of the consultation because threats to the Florida bonneted bat are habitat-related. Because of this, there would always be a consultation due to the presence of the species when there is a Federal nexus, and the designation of critical habitat would then result in only minor additional administrative economic costs due to the additional analysis required for the destruction or adverse modification analysis. The Service has developed a consultation area map (see the Florida Bonneted Bat Consultation Guidelines under Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>), which is routinely used by FPL, that can help streamline consultation and reduce the administrative burden associated with consultation. The Florida Bonneted Bat Consultation Guidelines alert managing agencies about the location of the species and its habitat. Agencies can use the consultation guidelines to screen projects for potential impacts to the species; to determine whether additional consultation with the Service is required; and, where appropriate, to reach a determination that an action may affect, but is not likely to adversely affect, designated critical habitat. Prior to publication of this final rule, the Service updated the consultation guidelines to include critical habitat for the Florida bonneted bat, which further increases the usefulness of this tool to FPL for section 7 consultations involving Florida bonneted bat critical habitat. Therefore, we anticipate that this will help streamline consultation for FPL and reduce the

administrative burden associated with consultation, thus reducing the overall cost of consultation to FPL associated with this critical habitat designation.

The total estimated cost of considering destruction or adverse modification of Florida bonneted bat critical habitat during section 7 consultation will result in incremental costs of approximately \$70,800 per year throughout the entirety of designated critical habitat (IEc 2021a, p. 25); however, incremental costs for FPL are expected to only comprise a portion of these annual estimated incremental costs. Thus, excluding FPL's power line easements and rights-of-way could moderately reduce costs for FPL.

Benefits of Inclusion Outweigh the Benefits of Exclusion

In weighing the benefits of including versus the benefits of excluding FPL power line easements and rights-of-way in our critical habitat designation, we find that the benefits of inclusion of these lands outweigh the benefits of exclusion of these lands in the designation. The benefits of exclusion are small and are primarily the avoidance of potential future costs due to section 7 consultation. Because the entire critical habitat designation is occupied by the Florida bonneted bat, any consultation would result from the presence of a listed species; there would be an additional minor administrative cost for the destruction or adverse modification analysis. Any project modifications to avoid destruction or adverse modification would likely be the same as those modifications already undertaken to avoid jeopardy; thus, we anticipate that conducting a destruction or adverse modification analysis would have only a minor administrative cost beyond the cost of the analysis that would already be conducted to avoid jeopardy.

In contrast, the benefits of inclusion are greater than those of exclusion. This is primarily because of the regulatory benefit associated with future section 7 consultations when FPL undertakes actions with a Federal nexus. In addition, as discussed above under Benefits of Inclusion, in this instance we also expect significant educational benefits from

designating critical habitat along FPL power line easements and rights-of-way. The clear mapping of critical habitat provides helpful information to FPL to better understand where additional management actions may be appropriate (with or without a Federal nexus). FPL has no current Florida bonneted bat habitat conservation plans or other management plans or agreements with the Service in place to rely upon at this time. Therefore, coordination with the Service would be expected to provide education about critical habitat that would help FPL understand how to accomplish their needs while supporting conservation of the Florida bonneted bat and its habitat. This education would also be expected to result in better regulatory coordination with the Service both when there is a Federal nexus and when there is not a Federal nexus. The recovery of the Florida bonneted bat is best served by the inclusion of FPL power line easements and rights-of-way in designated critical habitat. Therefore, we conclude that the benefits of inclusion are greater than the benefits of exclusion, and we are including FPL power line easements and rights-of-way in the designation of critical habitat for the Florida bonneted bat.

As discussed above, we considered the economic impacts of the critical habitat designation, and the Secretary is not exercising her discretion to exclude any areas from this designation of critical habitat for the Florida bonneted bat based on economic impacts.

Exclusions Based on Impacts on National Security and Homeland Security

Section 4(a)(3)(B)(i) of the Act may not cover all DoD lands or areas that pose potential national-security concerns (e.g., a DoD installation that is in the process of revising its INRMP for a newly listed species or a species previously not covered). If a particular area is not covered under section 4(a)(3)(B)(i), national-security or homeland-security concerns are not a factor in the process of determining what areas meet the definition of “critical habitat.” Nevertheless, when designating critical habitat under

section 4(b)(2) of the Act, we must consider impacts on national security, including homeland security, on lands or areas not covered by section 4(a)(3)(B)(i). Accordingly, we will always consider for exclusion from the designation areas for which DoD, Department of Homeland Security (DHS), or another Federal agency has requested exclusion based on an assertion of national-security or homeland-security concerns.

We consulted with DoD and DHS on this designation. Neither agency identified any potential national-security impact nor requested an exclusion from critical habitat based on potential national-security impacts. Additionally, we did not receive any new information or public comments regarding our intended determination to not exclude DHS and DoD lands in Subunit 9O identified in the November 22, 2022, revised proposed rule (87 FR 71466). Consequently, the Secretary is not exercising her discretion to exclude any areas from this 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. To identify other relevant impacts that may affect the exclusion analysis, we consider a number of factors, including whether there are permitted conservation plans covering the species in the area such as HCPs, safe harbor agreements, or candidate conservation agreements with assurances (CCAAs), or whether there are non-permitted conservation agreements and partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at whether Tribal conservation plans or partnerships, Tribal resources, or government-to-government relationships of the United States with Tribal entities may be affected by the designation. We also consider any State, local, social, or other impacts that might occur because of the designation.

When identifying the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive due to the protection from destruction or

adverse modification as a result of actions with a Federal nexus, the educational benefits of mapping essential habitat for recovery of the listed species, and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat. In the case of the Florida bonneted bat, the benefits of critical habitat include public awareness of the presence of the Florida bonneted bat and the importance of habitat protection and, where a Federal nexus exists, increased habitat protection for the Florida bonneted bat due to protection from destruction or adverse modification of critical habitat.

When identifying the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation, or in the continuation, strengthening, or encouragement of partnerships. Additionally, continued implementation of an ongoing management plan that provides equal to or more conservation than a critical habitat designation would reduce the benefits of including that specific area in the critical habitat designation.

We evaluate the existence of a conservation plan when considering the benefits of inclusion. We consider a variety of factors, including, but not limited to, whether the plan is finalized; how it provides for the conservation of the essential physical or biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to evaluate whether the benefits of exclusion outweigh those of inclusion. If our analysis indicates that the benefits of exclusion outweigh the

benefits of inclusion, we then determine whether exclusion would result in extinction of the species. If exclusion of an area from critical habitat will result in extinction, we will not exclude it from the designation.

Based on the information provided to us by entities seeking exclusion, as well as additional public comments we received, and the best scientific data available, we evaluated whether certain lands in all final critical habitat units (i.e., Units 1–9) are appropriate for exclusion from this final designation under section 4(b)(2) of the Act. If our analysis indicates that the benefits of excluding lands from the final designation outweigh the benefits of designating those lands as critical habitat, then the Secretary may exercise her discretion to exclude the lands from the final designation. In the paragraphs below, we provide a detailed balancing analysis of the areas we are excluding from the designation under section 4(b)(2) of the Act.

Private or Other Non-Federal Conservation Plans Related to Permits Under Section 10 of the Act

HCPs for incidental take permits under section 10(a)(1)(B) of the Act provide for partnerships with non-Federal entities to minimize and mitigate impacts to listed species and their habitats. In some cases, HCP permittees agree to do more for the conservation of the species and their habitats on private lands than designation of critical habitat would provide alone. We place great value on the partnerships that are developed during the preparation and implementation of HCPs.

CCAAs and SHAs are voluntary agreements designed to conserve candidate and listed species, respectively, on non-Federal lands. In exchange for actions that contribute to the conservation of species on non-Federal lands, participating property owners are covered by an “enhancement of survival” permit under section 10(a)(1)(A) of the Act, which authorizes incidental take of the covered species that may result from implementation of conservation actions, specific land uses, and, in the case of SHAs, the

option to return to a baseline condition under the agreements. We also provide enrollees assurances that we will not impose further land-, water-, or resource-use restrictions, or require additional commitments of land, water, or finances, beyond those agreed to in the agreements.

When we undertake a discretionary section 4(b)(2) exclusion analysis, we will always consider areas covered by an approved CCAA/SHA/HCP, and we anticipate consistently excluding such areas if incidental take caused by the activities in those areas is covered by the permit under section 10 of the Act and the CCAA/SHA/HCP meets all of the following three factors (see the 2016 section 4(b)(2) policy for additional details):

a. The permittee is properly implementing the CCAA/SHA/HCP and is expected to continue to do so for the term of the agreement. A CCAA/SHA/HCP is properly implemented if the permittee is, and has been, fully implementing the commitments and provisions in the CCAA/SHA/HCP, implementing agreement, and permit.

b. The species for which critical habitat is being designated is a covered species in the CCAA/SHA/HCP, or very similar in its habitat requirements to a covered species. The recognition that we extend to such an agreement depends on the degree to which the conservation measures undertaken in the CCAA/SHA/HCP would also protect the habitat features of the similar species.

c. The CCAA/SHA/HCP specifically addresses the habitat of the species for which critical habitat is being designated and meets the conservation needs of the species in the planning area.

Coral Reef Commons (CRC) Habitat Conservation Plan

CRC is a mixed-use community, which consists of 900 apartments, retail stores, restaurants, and parking. In 2017, an HCP and associated permit under section 10 of the Act were developed and issued, respectively, for the CRC development. We have determined that lands associated with the CRC HCP were included within the boundaries

of our November 22, 2022, revised proposed critical habitat rule for the Florida bonneted bat. These lands include an on-site preserve and an off-site mitigation area, both of which overlap with proposed Subunit 9O (composing approximately 6 percent of the subunit and approximately 3 percent of the unit as a whole).

Specifically, as part of the HCP and permit, the on-site preserve was established under a conservation encumbrance that will be managed in perpetuity for pine rockland habitat and sensitive and listed species, including the Florida bonneted bat. An additional area within the University of Miami's Center for Southeastern Tropical Advanced Remote Sensing facility site comprises the off-site mitigation area for CRC. Portions of both the on-site preserve and the off-site mitigation area (approximately 48 ac (19 ha) and 56 ac (23 ha), respectively) are included in the area for proposed critical habitat designation and are being managed to maintain healthy pine rockland habitat using invasive, nonnative plant management; mechanical treatment; and prescribed fire. This management addresses both the habitat and conservation needs of the Florida bonneted bat.

Within the HCP, biological goals, objectives, and success criteria of the HCP have been identified that apply to the on-site preserve and the off-site mitigation area. For the on-site preserve, success criteria that focus on restoration and conservation of pine rockland habitat have been established, with initial targets set for 5 years after initiation. For both the on-site preserve and the off-site mitigation area, the CRC HCP also includes a plan for implementing a long-term conservation program with mitigation measures to support specific listed species, including the Florida bonneted bat. Within the on-site preserve area, mitigation measures, some of which are designed to offset impacts to the Florida bonneted bat (e.g., implementing wildlife-friendly lighting, installing bat houses), are to be implemented during construction and within the resulting development.

Since initiating the CRC HCP, pine rockland restoration efforts have been conducted within all of the management units in both the on-site preserve and the off-site mitigation area. Currently, the on-site preserve meets or exceeds the success criteria described for restoration and conservation of pine rockland habitat within the HCP. However, partially because the site is still under construction, mitigation measures associated with implementation of the conservation program within the on-site preserve, such as incorporation of wildlife-friendly lighting, have not been reported on or fully implemented. The Service and CRC partnership is strong and working well; we are currently communicating through the partnership to ensure full implementation of the HCP and permit and considering whether slight modifications to the conservation program would be possible under the adaptive management strategy described within the HCP.

Benefits of Inclusion

The principal benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, which is the regulatory standard of section 7(a)(2) of the Act under which consultation is completed. Federal agencies must also consult with the Service on actions that may affect a listed species and ensure their actions are not likely to jeopardize the continued existence of such species. Therefore, the primary benefit of including the on-site preserve and off-site mitigation area associated with the CRC HCP is the potential additional regulatory oversight due to section 7 consultations associated with future Federal actions. However, because the Florida bonneted bat is a covered species under the HCP and the pine rockland habitat management provisions in the HCP are being implemented, and because we do not expect any future actions in this area to be authorized, funded, or carried out by a Federal agency, the additional benefits of the

inclusion of these areas in designated critical habitat may be limited. Therefore, the benefit of the inclusion of these parcels in critical habitat is expected to be minimal.

A secondary benefit to the inclusion of the on-site preserve and off-site mitigation area in the critical habitat designation for the Florida bonneted bat is an educational benefit through ensuring public awareness regarding the importance of these specific parcels to the Florida bonneted bat and its long-term conservation. Due to the high potential of human-wildlife interaction with this species in the area and the reliance of this species on the remaining pine rockland habitat, the relative importance of these parcels to the species is high; however, the added benefits of education from the designation of critical habitat are likely minimal as the public was previously aware of the area's importance due to the CRC HCP.

Benefits of Exclusion

The Florida bonneted bat is a species included in the CRC HCP. As part of the HCP, the on-site preserve and off-site mitigation area were established to protect and conserve the species and its habitat. While some mitigation measures in the HCP that are important to Florida bonneted bat habitat have not been implemented, the primary goals for pine rockland habitat management and restoration established for these parcels as part of the HCP and section 10 permit are being fully implemented. The conservation partnership with the CRC development advocate is well-established and could be significantly harmed by the failure to acknowledge the conservation value of the HCP and the considerable efforts that have been made to implement many of the measures of the HCP and section 10 permit. Additionally, failure to acknowledge these agreements would most likely send a chilling effect to other potential conservation partners, which could render conservation efforts in south Florida for the Florida bonneted bat and other listed and at-risk species more difficult and potentially harm species and sensitive habitats.

Benefits of Exclusion Outweigh the Benefits of Inclusion

We have found that, on balance, the benefits of excluding the on-site preserve and off-site mitigation area associated with the CRC HCP outweigh the benefits of including the specific parcels in designated critical habitat for the Florida bonneted bat. We have determined that benefits of preserving the conservation partnership with CRC and the continued habitat management implemented on these parcels, including the ability to modify or amend the HCP to incorporate appropriate additional or improved mitigation measures for the Florida bonneted bat, outweigh the potential additional regulatory benefits associated with the inclusion of these parcels in the critical habitat designation. Additionally, the acknowledgement of the productive cooperative partnership is important for not only this species and situation, but for other existing and future conservation efforts, and to not exclude these lands given that there is a signed HCP that covers the species would have a detrimental effect on existing and future conservation partnerships. Further, while we find that the educational benefits associated with including the parcels in the final designation are valuable, we have determined that the public was educated about the importance of these parcels to pine rockland habitat in our detailed discussion of these areas and the HCP in our November 22, 2022, revised proposed critical habitat rule (see “Private or Other Non-Federal Conservation Plans Related to Permits Under Section 10 of the Act” and the **Summary of Exclusions Considered Under 4(b)(2) of the Act** at 87 FR 71466, November 22, 2022, pp. 71484–71486). Moreover, the public was highly engaged during the development of this HCP and, as such, is already aware of the areas’ importance for multiple species because of the CRC HCP. Therefore, the existence of the HCP and the educational benefits it has already provided reduce the educational benefit of inclusion of these areas in designated critical habitat. We anticipate minimal further benefit if the areas were to be included in this final designation. Therefore, we are excluding those specific lands associated with

the CRC HCP that are in the on-site preserve and off-site mitigation area from this final designation of critical habitat for the Florida bonneted bat because we find that the benefit of excluding them from designated critical habitat outweighs the benefit of their inclusion.

Exclusion Will Not Result in Extinction of the Species

As discussed above, the habitat management provisions set forth in the CRC HCP to manage the on-site preserve and off-site mitigation area for the Florida bonneted bat and pine rockland habitat are being fully implemented. Mitigation measures important to the species have not been reported and have not been fully implemented; however, there is a record that the project proponent is a cooperating partner in the conservation of the Florida bonneted bat, and adaptive management strategies that are built into the HCP provide the flexibility to incorporate additional conservation measures. As a result, we do not find that the exclusion of these specific areas from designated critical habitat is a threat to the viability of the Florida bonneted bat. Further, because the Florida bonneted bat is listed as an endangered species and these areas are occupied, if at any time the parcels are no longer being managed appropriately, the species continues to be protected by the provisions of the Act and the permit for the HCP can be revisited. We conclude that the exclusion of these specific parcels from designated critical habitat will not result in the extinction of the Florida bonneted bat.

We have further determined that there are no additional HCPs or other management plans for the Florida bonneted bat within the critical habitat designation.

Tribal Lands

Several Executive Orders, Secretary's Orders, and policies concern working with Tribes. These guidance documents generally confirm our trust responsibilities to Tribes, recognize that Tribes have sovereign authority to control Tribal lands, emphasize the importance of developing partnerships with Tribal governments, and direct the Service to

consult with Tribes on a government-to-government basis.

A joint Secretary's Order that applies to both the Service and NMFS—Secretary's Order 3206, *American Indian Tribal Rights, Federal–Tribal Trust Responsibilities, and the Endangered Species Act* (June 5, 1997) (S.O. 3206)—is the most comprehensive of the various guidance documents related to Tribal relationships and Act implementation, and it provides the most detail directly relevant to the designation of critical habitat. In addition to the general direction discussed above, the appendix to S.O. 3206 explicitly recognizes the right of Tribes to participate fully in any listing process that may affect Tribal rights or Tribal trust resources; this includes the designation of critical habitat. Section 3(B)(4) of the appendix requires us to consult with affected Tribes when considering the designation of critical habitat in an area that may impact Tribal trust resources, Tribally-owned fee lands, or the exercise of Tribal rights. That provision also instructs us to avoid including Tribal lands within a critical habitat designation unless the area is essential to conserve a listed species, and it requires us to evaluate and document the extent to which the conservation needs of the listed species can be achieved by limiting the designation to other lands.

Our implementing regulations at 50 CFR 424.19 and the 2016 section 4(b)(2) policy are consistent with S.O. 3206. When we undertake a discretionary exclusion analysis, in accordance with S.O. 3206, we consult with any Tribe whose Tribal trust resources, Tribally-owned fee lands, or Tribal rights may be affected by including any particular areas in the designation, and we evaluate the extent to which the conservation needs of the species can be achieved by limiting the designation to other areas. When we undertake a discretionary 4(b)(2) exclusion analysis, we always consider exclusion of Tribal lands, and give great weight to Tribal concerns in analyzing the benefits of exclusion.

However, S.O. 3206 does not override the Act's statutory requirement of

designation of critical habitat. As stated above, we must consult with any Tribe when a designation of critical habitat may affect Tribal lands or resources. The Act requires us to identify areas that meet the definition of “critical habitat” (i.e., areas occupied at the time of listing that contain the essential physical or biological features that may require special management or protection and unoccupied areas that are essential to the conservation of a species), without regard to land ownership. While S.O. 3206 provides important direction, it expressly states that it does not modify the Secretary’s statutory authority under the Act or other statutes.

Unit 6 (Big Cypress)—Seminole Tribe of Florida

We proposed 14,455 ac (5,850 ha) of critical habitat in Unit 6 that occur on Seminole Tribe of Florida Trust lands. This area is considered occupied at the time of listing and meets the definition of critical habitat. However, the Seminole Tribe of Florida is recognized as a sovereign nation and as such is the appropriate entity to manage natural resources on Seminole Tribal land. Further, the Seminole Tribe Wildlife Conservation Plan (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>) covers these lands for the protection of listed and endangered species, including the Florida bonneted bat. The Service reviewed this plan, together with the Seminole Tribe Fire Management Plan and Forest Management Plan, and issued a non-jeopardy programmatic biological opinion on December 19, 2014, to the Bureau of Indian Affairs, which we amended on June 9, 2017 (see Supporting and Related Material in Docket No. FWS-R4-ES-2019-0106 on <https://www.regulations.gov>). This biological opinion considered projects in development, land management, temporary construction, and maintenance categories, as described by the Tribe. The Wildlife Conservation Plan includes conservation measures in place that support the Florida bonneted bat and its habitat (e.g., limit impacts to potential roost trees during prescribed burns and home site/access road construction, maintain bonneted bat habitat through

prescribed burning and construction of bat houses). The conservation measures specifically address conservation of roosting and foraging habitat (i.e., the first four identified essential physical or biological features for the species; see *Summary of Essential Physical or Biological Features*, above) and maintenance of that habitat through active management; therefore, the measures appear to meet the conservation needs of the Florida bonneted bat within the area covered by the plan. We have a productive working relationship with the Seminole Tribe of Florida and coordinated with them during the critical habitat designation process.

Benefits of Inclusion

The principal benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, which is the regulatory standard of section 7(a)(2) of the Act under which consultation is completed. Federal agencies must also consult with the Service on actions that may affect a listed species and ensure their actions are not likely to jeopardize the continued existence of such species. The difference in the outcomes of the jeopardy analysis and the destruction or adverse modification analysis represents the regulatory benefit and costs of critical habitat. Because the species occurs in the area, the regulatory benefits of a critical habitat designation are limited to the difference in consultation outcomes between avoidance of jeopardy and destruction or adverse modification of critical habitat.

Designation of critical habitat on the Seminole Tribe of Florida Trust lands of proposed Unit 6 could potentially benefit the Florida bonneted bat because that area provides habitat for the species, encompasses features essential to conservation of the species, and is occupied by the species. However, section 7 consultations within the proposed critical habitat area are anticipated to be rare, due to a general lack of Federal

actions requiring consultations in this area beyond the actions already covered in the programmatic biological opinion, and we do not expect this trend to change in the future (IEc 2021a, p. 15). With few section 7 consultations anticipated, we anticipate limited regulatory benefits for the designation of critical habitat for the Florida bonneted bat in this portion of proposed Unit 6. Therefore, the effect of a critical habitat designation on these lands is minimized.

In addition to the few anticipated Federal actions within the area, there is another regulatory process that applies to the proposed critical habitat area that overlaps Seminole Tribe of Florida Trust lands. The Seminole Tribe of Florida has created and implemented a regulatory process that mirrors that of the Service's section 7 processes, but that has a greater level of review because they review all proposed projects, even those lacking a Federal nexus. Similar to the Service's section 7 process, they review projects to ensure that a project is not likely to jeopardize the continued existence of any federally endangered or threatened species or to result in the destruction or adverse modification of designated critical habitat of such species. They also examine conservation measures associated with the project for their value in the conservation of these listed species. The existence of this Tribal regulatory process reduces the benefits of including their lands in critical habitat, and, because this Tribal regulatory process is duplicative of ours, it makes our process redundant.

A possible benefit is that the designation of critical habitat can serve to educate the landowner and public regarding the potential conservation value of an area, and this may focus and contribute to conservation efforts by other parties by clearly delineating areas of high conservation value for certain species. Any information about the Florida bonneted bat and its habitat that reaches a wide audience, including other parties engaged in conservation activities, would be considered valuable. The Seminole Tribe of Florida is fully aware of the importance of Florida bonneted bat habitat and conservation, and

their natural resource staff frequently provide education on these topics. Given that regulatory actions have already informed the public about the value of these areas and helped to focus potential conservation actions and that the Tribe is already providing education on these topics, the educational benefits from designating critical habitat would be small.

Finally, there is the possible benefit that additional funding could be generated for habitat improvement by an area being designated as critical habitat. Some funding sources may rank a project higher if the area is designated as critical habitat. Tribes often seek additional sources of funding in order to conduct wildlife-related conservation activities. Therefore, having an area designated as critical habitat could improve the chances of receiving funding for Florida bonneted bat habitat-related projects.

Benefits of Exclusion

The benefits of excluding these Tribal lands from designated critical habitat are significant. We have determined that the primary benefits that would be realized by foregoing the designation of critical habitat on this area include: (1) Our deference to the Tribe as a sovereign nation to develop and implement conservation and natural resource management plans for their lands and resources, which may include benefits to the Florida bonneted bat and its habitat that might not otherwise occur; and (2) the continuance and strengthening of our effective working relationships with the Tribe to promote conservation of the Florida bonneted bat and its habitat, as well as other federally listed species.

We have found that fish, wildlife, and other natural resources on Tribal lands are better managed under Tribal authorities, policies, and programs than through Federal regulations wherever possible and practicable. As stated above, the Seminole Tribe of Florida has developed their Wildlife Conservation Plan with a primary goal to provide for sustainable use and protection of wildlife and other natural resources for the benefit of the

Seminole Tribe of Florida and its members. The plan strives to balance management objectives so that conformity with the policy of the Act is achieved without the Tribe being faced with a disproportionate burden. The plan offers resource management protocols and measures for listed species and addresses: (1) Present conditions and practices on the reservations and Tribal land; (2) alternatives that allow the Tribe to continue growing while still protecting listed species; (3) alternatives for mitigation of effects to listed species for the continued growth of the Tribe; and (4) maintenance of the existing level of scientific knowledge regarding the reservation and its wildlife resources. The plan discusses the Florida bonneted bat and proposes conservation measures related to prescribed burning and home site/access road construction in the Big Cypress area. These conservation measures are generally expected to be compatible with, and benefit, conservation of the Florida bonneted bat. Overall, the commitments toward management of Florida bonneted bat habitat by the Seminole Tribe of Florida likely accomplish greater conservation than would be available through a designation of critical habitat.

During this rulemaking process, we have communicated with the Seminole Tribe of Florida to discuss how they might be affected by the designation of critical habitat for the Florida bonneted bat. As such, we have strengthened our existing beneficial relationship to support Florida bonneted bat conservation. As part of our relationship, we have provided technical assistance to the Seminole Tribe of Florida to refine measures to conserve the Florida bonneted bat and its habitat on their lands. These measures are contained within the Wildlife Conservation Plan developed by the Tribe. Therefore, consistent with our 2016 section 4(b)(2) policy, we place great weight on our working relationship with the Seminole Tribe of Florida and determine that it would be better maintained if these lands are excluded from the designation of critical habitat for the Florida bonneted bat. We view maintaining our partnership as a substantial benefit of exclusion.

Benefits of Exclusion Outweigh the Benefits of Inclusion

The benefits of excluding this area from critical habitat include deference to the Tribe as a sovereign nation to manage its own lands, continuing and strengthening our effective working relationship with the Tribe, and working in collaboration and cooperation with the Tribe to promote conservation of the Florida bonneted bat and its habitat.

The benefits of including Seminole Tribe of Florida lands in the critical habitat designation are limited to the incremental benefits gained through the regulatory requirement to consult under section 7 and consideration of the need to avoid destruction or adverse modification of critical habitat, agency and educational awareness, potential additional grant funding, and the implementation of other law and regulations. However, due to the rarity of Federal actions resulting in section 7 consultations within the proposed critical habitat area, the benefits of a critical habitat designation are minimal. The benefits of including these lands in this critical habitat designation are further reduced by the Tribe's regulatory process that mirrors the Service's section 7, as described above. In addition, the benefits of consultation are further minimized because any conservation measures that may have resulted from consultation are already provided through the conservation benefits to the Florida bonneted bat and its habitat from implementation of the Seminole Tribe Wildlife Conservation Plan. Additionally, through the already beneficial working relationship between the Service and the Tribe, the Service can provide technical assistance and easily communicate as needed to benefit the conservation of listed species, including the Florida bonneted bat. The Service's working relationship with the Tribe will be better maintained if this area located on Seminole Tribe of Florida lands in proposed Unit 6 is excluded from the designation. We view this as a substantial benefit since we are committed to cooperative relationships with Tribes for the mutual benefit of endangered and threatened species, including the Florida

bonneted bat. For these reasons, we have determined that designation of critical habitat in this area would have few, if any, additional benefits beyond those that will result from the presence of the species.

In summary, the benefits of including Seminole Tribe of Florida lands in critical habitat are low and are limited to insignificant educational benefits as well as the potential for additional funding for habitat improvement projects. Educational opportunities would predominately benefit members of the Tribe rather than the general public, and even this benefit would be minimal because the Tribe is already aware of the importance of Florida bonneted bat habitat and conservation. However, the ability of the Tribe to manage natural resources on their land without the perception of Federal Government intrusion is a significant benefit. This philosophy is also consistent with our published policies on Native American natural resource management. In this particular case, exclusion from critical habitat is consistent with Secretary's Order 3206, Executive Order 13175, and the relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2). The exclusion of this area will likely also provide additional benefits to the species that would not otherwise be available, such as ensuring continued cooperative working relationships with the Seminole Tribe of Florida. We find that the benefits of excluding this area from critical habitat designation outweigh the benefits of including this area and that these areas are not essential to the conservation of the Florida bonneted bat.

Exclusion Will Not Result in Extinction of the Species

We have determined that exclusion of Seminole Tribe of Florida lands will not result in extinction of the species. As discussed above under *Section 7 Consultation* in the **Effects of Critical Habitat Designation** discussion, if a Federal action or permitting occurs, the known presence of Florida bonneted bat would require evaluation under the jeopardy standard of section 7 of the Act, even absent the designation of critical habitat,

and thus will protect the species against extinction. Furthermore, the Seminole Tribe of Florida has a long-term record of conserving species and habitat and is committed to protecting and managing their Tribal lands and species found on those lands according to their Tribal and cultural management plans and natural resource management objectives. In short, the Seminole Tribe of Florida is committed to greater conservation measures on their land than would be available through the designation of critical habitat.

Additionally, the area we are excluding (14,455 ac (5,850 ha)) would have accounted for approximately 1 percent of areas we are designating as critical habitat. Accordingly, we have determined that all 14,455 ac (5,850 ha) of Seminole Tribe of Florida Trust lands within Unit 6 of the proposed critical habitat designation are excluded under section 4(b)(2) of the Act because the benefits of exclusion outweigh the benefits of inclusion and will not cause the extinction of the species.

Unit 1 (Kissimmee)—Miccosukee Tribe of Florida

We proposed 1.25 ac (0.5 ha) of critical habitat in Unit 1 that occurs on Miccosukee Tribe of Florida fee lands. This area is considered occupied at the time of listing and meets the definition of critical habitat. However, the Miccosukee Tribe of Florida is recognized as a sovereign nation and as such is the appropriate entity to manage natural resources on Miccosukee Tribal lands.

Benefits of Inclusion

The principal benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure that actions that they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, which is the regulatory standard of section 7(a)(2) of the Act under which consultation is completed. Federal agencies must also consult with the Service on actions that may affect a listed species, and ensure their actions are not likely to jeopardize the continued existence of such species. The difference in the outcomes of the jeopardy

analysis and the destruction or adverse modification analysis represents the regulatory benefit and costs of critical habitat. Because the species occurs in the area, the regulatory benefits of a critical habitat designation are limited to the difference in consultation outcomes between avoidance of jeopardy and destruction or adverse modification of critical habitat.

Designation of critical habitat on the Miccosukee Tribe of Florida fee lands of proposed Unit 1 could potentially benefit the Florida bonneted bat because that area provides habitat for the species, encompasses features essential to conservation of the species, and is occupied by the species. However, section 7 consultations within the proposed critical habitat area are anticipated to be rare, due to a general lack of Federal actions requiring consultations in this area, and we do not expect this trend to change in the future (IEc 2021a, p. 10). With few section 7 consultations anticipated, we anticipate limited regulatory benefits for the designation of critical habitat for the Florida bonneted bat in this portion of proposed Unit 1. Therefore, we would similarly expect limited additional conservation benefits through the section 7 process from the inclusion of Miccosukee Tribe of Florida fee lands in the final critical habitat designation.

A possible benefit is that the designation of critical habitat can serve to educate the landowner and public regarding the potential conservation value of an area, and this may focus and contribute to conservation efforts by other parties by clearly delineating areas of high conservation value for certain species. Any information about the Florida bonneted bat and its habitat that reaches a wide audience, including other parties engaged in conservation activities, would be considered valuable.

Finally, there is the possible benefit that additional funding could be generated for habitat improvement by an area being designated as critical habitat. Some funding sources may rank a project higher if the area is designated as critical habitat. Tribes often seek additional sources of funding in order to conduct wildlife-related conservation

activities. Therefore, having an area designated as critical habitat could improve the chances of receiving funding for Florida bonneted bat habitat-related projects.

Benefits of Exclusion

The benefits of excluding these Tribal lands from designated critical habitat are significant. We have determined that the primary benefits that would be realized by foregoing the designation of critical habitat on this area include: (1) Our deference to the Tribe as a sovereign nation to develop and implement conservation and natural resource management plans for their lands and resources, which may include benefits to the Florida bonneted bat and its habitat that might not otherwise occur; and (2) the continuance and strengthening of our effective working relationship with the Tribe to promote conservation of the Florida bonneted bat and its habitat, as well as other federally listed species. We have found that fish, wildlife, and other natural resources on Tribal lands are better managed under Tribal authorities, policies, and programs than through Federal regulations wherever possible and practicable. Additionally, this critical habitat designation may compromise our working relationship with the Tribe, which is essential to achieving our mutual goals of managing for healthy ecosystems upon which the viability of populations of endangered and threatened species depend. Therefore, consistent with our 2016 section 4(b)(2) policy, we place great weight on our working relationship with the Miccosukee Tribe of Florida and determine that it would be better maintained if the Tribe's lands are excluded from the designation of critical habitat for the Florida bonneted bat. We view maintaining our partnership as a substantial benefit of exclusion.

Benefits of Exclusion Outweigh the Benefits of Inclusion

The benefits of excluding this area from critical habitat include deference to the Tribe as a sovereign nation to manage its own lands, continuing and strengthening our effective working relationships with the Tribe, and working in collaboration and

cooperation with the Tribe to promote conservation of the Florida bonneted bat and its habitat.

The benefits of including the Miccosukee Tribe of Florida in the critical habitat designation are limited to the incremental benefits gained through the regulatory requirement to consult under section 7 and consideration of the need to avoid destruction or adverse modification of critical habitat, agency and educational awareness, potential additional grant funding, and the implementation of other law and regulations. However, due to the rarity of Federal actions resulting in section 7 consultations within the proposed critical habitat area, the benefits of a critical habitat designation are minimal. The Service's working relationship with the Tribe will be better maintained if this area in proposed Unit 1 located on Miccosukee Tribe of Florida lands is excluded from the designation. We view this as a substantial benefit since we are committed to cooperative relationships with Tribes for the mutual benefit of endangered and threatened species, including the Florida bonneted bat. For these reasons, we have determined that designation of critical habitat at this site would have minimal additional benefits beyond those that will result from the presence of the species.

In summary, the benefits of including Miccosukee Tribe of Florida lands in critical habitat are low and are limited to insignificant educational benefits and the potential for additional funding for habitat improvements projects. Educational opportunities would predominately benefit members of the Tribe rather than the general public. However, the ability of the Tribe to manage natural resources on their land without the perception of Federal Government intrusion is a significant benefit. This philosophy is also consistent with our published policies on Native American natural resource management. In this particular case, exclusion from critical habitat is consistent with Secretary's Order 3206, Executive Order 13175, and the relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2). The exclusion of

this area will likely also provide additional benefits to the species that would not otherwise be available, such as ensuring continued cooperative working relationships with the Miccosukee Tribe of Florida. We find that the benefits of excluding this area from critical habitat designation outweigh the benefits of including this area.

Exclusion Will Not Result in Extinction of the Species

We have determined that exclusion of Miccosukee Tribe of Florida lands will not result in extinction of the species. As discussed above under *Section 7 Consultation* in the **Effects of Critical Habitat Designation** discussion, if a Federal action or permitting occurs, the known presence of Florida bonneted bat would require evaluation under the jeopardy standard of section 7 of the Act, even absent the designation of critical habitat, and thus will protect the species against extinction. Furthermore, the Miccosukee Tribe of Florida has a long-term record of conserving species and habitat and is committed to protecting and managing their Tribal lands and species found on those lands according to their Tribal and cultural management plans and natural resource management objectives. In short, the Miccosukee Tribe of Florida is committed to greater conservation measures on their land than would be available through the designation of critical habitat. Additionally, the areas we are excluding (1.25 ac (0.5 ha)) would have accounted for an infinitesimal portion of the total area we are designating as critical habitat. Accordingly, we have determined that all 1.25 ac (0.5 ha) of Miccosukee Tribe of Florida lands in Unit 1 of the proposed critical habitat designation are excluded under section 4(b)(2) of the Act because the benefits of exclusion outweigh the benefits of inclusion and will not cause the extinction of the species.

Summary of Exclusions

As discussed above, based on the information provided by entities seeking exclusion, as well as any additional public comments we received, we evaluated whether certain lands in the proposed critical habitat designation for the Florida bonneted bat were

appropriate for exclusion from this final designation pursuant to section 4(b)(2) of the Act. We are excluding the following areas from critical habitat designation for the Florida bonneted bat: A total of 104 ac (42 ha) within the Coral Reef Commons HCP on-site preserve and off-site mitigation area in proposed Unit 9; a total of 14,455 ac (5,850 ha) of Tribal lands of the Seminole Tribe of Florida in proposed Unit 6; and a total of 1.25 ac (0.5 ha) of Tribal lands of the Miccosukee Tribe of Florida land in proposed Unit 1.

TABLE 2. Areas excluded from critical habitat designation by critical habitat unit for the Florida bonneted bat.

Unit	Specific Area	Areas Meeting the Definition of Critical Habitat, in Acres (Hectares)	Areas Excluded, in Acres (Hectares)
Unit 1: Kissimmee	Miccosukee Tribe of Florida	1.25 (0.5)	1.25 (0.5)
Unit 6: Big Cypress	Seminole Tribe of Florida	14,455 (5,850)	14,455 (5,850)
Unit 9: Miami Rocklands	Coral Reef Commons	104 (42)	104 (42)

Required Determinations

Regulatory Planning and Review (Executive Orders 12866, 13563, and 14094)

Executive Order 14094 reaffirms the principles of E.O. 12866 and E.O. 13563 and states that regulatory analysis should facilitate agency efforts to develop regulations that serve the public interest, advance statutory objectives, and are consistent with E.O. 12866, E.O. 13563, and the Presidential Memorandum of January 20, 2021 (Modernizing Regulatory Review). Regulatory analysis, as practicable and appropriate, shall recognize distributive impacts and equity, to the extent permitted by law. E.O. 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.

E.O. 12866, as reaffirmed by E.O. 13563 and E.O. 14094, provides that the Office

of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB) will review all significant rules. OIRA in OMB waived E.O. 12866 review of this rule.

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 (i.e., 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 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 agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we considered 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.

Under the RFA, as amended, and following recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself; in other words, the RFA does not require agencies to evaluate the potential impacts to indirectly regulated 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 out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies will be directly regulated by this designation. The RFA does not require evaluation of the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities will be directly regulated by this rulemaking, we certify that this critical habitat designation will not have a significant economic impact on a substantial number of small entities.

During the development of this final rule, we reviewed and evaluated all information submitted during the comment periods on the June 10, 2020, proposed critical habitat rule (85 FR 35510) and the November 22, 2022, revised proposed rule (87 FR 71466) that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Based on this information, we affirm our certification that this critical habitat designation will not have a significant economic

impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

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. In our economic analysis, we did not find that this critical habitat designation will significantly affect energy supplies, distribution, or use. As most of the area included in this final critical habitat designation occurs on conservation lands (approximately 91 percent), the likelihood of energy development within critical habitat is low. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

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 finding:

(1) This rule will 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 are not likely to 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 do not believe that this rule will significantly or uniquely affect small governments because it will not produce a Federal mandate of \$100 million or more (adjusted annually for inflation) in any year; that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments. By definition, Federal agencies are

not considered small entities, although the activities they fund or permit may be proposed or carried out by small entities. Additionally, 91 percent of the areas within critical habitat units for the Florida bonneted bat are already managed for natural resource conservation. Further, 9 percent of the designated critical habitat for the Florida bonneted bat overlaps with designated critical habitat for co-occurring federally listed species, which means that any actions with a Federal nexus proposed in those areas are already subject to the requirements of section 7 of the Act. Consequently, we do not believe that this critical habitat designation will significantly or uniquely affect small government entities. Therefore, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for Florida bonneted bat in a takings implications assessment. The Act does not authorize us to regulate private actions on private lands or confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures, or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat 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. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed and concludes that this designation of critical habitat for the Florida bonneted bat does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this critical habitat designation with, appropriate State resource agencies. 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, this final 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 or biological features of the habitat necessary for 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 State and local governments in long-range planning because they 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) of the Act will 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 will not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this final rule identifies the 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 information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) is not required. We may not conduct or sponsor, and you are 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.)

Regulations adopted pursuant to section 4(a) of the Act are exempt from NEPA (42 U.S.C. 4321 et seq.) and do not require an environmental analysis under NEPA. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244). This includes listing, delisting, and reclassification rules, as well as critical habitat designations. In a line of cases starting with *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), the courts have upheld this position.

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 federally recognized Tribes on a government-to-government basis. In accordance with Secretary's 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.

The Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida are the main Tribes whose lands and trust resources may be affected by this rule. There may be some other Tribes with trust resources in the area, but we have no specific documentation of this and have not received information with respect to other potential Tribes within the designation area. We briefed both Tribes on the development of the proposed critical habitat designation in October 2019. We provided notice of the publication of the June 10, 2020, proposed rule and the availability of the DEA to both Tribes in June 2020, and we provided notice of the publication of the November 22, 2022, revised proposed rule and the availability of the revised DEA to both Tribes in November 2022, to allow for the maximum time to submit comments. In these notifications, we also described the exclusion process under section 4(b)(2) of the Act and offered to engage in further conversation. We offered both the Seminole Tribe and the Miccosukee Tribe opportunities for further conversation about the proposed and revised proposed critical habitat designations. We met with the Miccosukee Tribe to discuss the June 10, 2020, proposed critical habitat designation, but they did not request further conversation on the November 22, 2022, revised proposed critical habitat designation. We met with the Seminole Tribe in July 2020 and July 2021 to discuss the proposed critical habitat designation, and then again in December 2022 to discuss the revised proposed critical habitat designation. Neither Tribe requested Government-to-

Government consultations. We considered these Tribal lands for exclusion from this final critical habitat designation to the extent consistent with the requirements of section 4(b)(2) of the Act and, subsequently, excluded the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida lands from this final designation. After considering impacts of the critical habitat designation under section 4(b)(2) of the Act, we are excluding approximately 14,457 ac (5,850 ha) of Tribal land from the final critical habitat designation (14,455 ac (5,850 ha) of Seminole Tribe of Florida lands and 1.25 ac (0.5 ha) of Miccosukee Tribe of Indians of Florida lands; see *Tribal Lands* under *Exclusions Based on Other Relevant Impacts*, above).

References Cited

A complete list of references cited in this rulemaking is available on the internet at <https://www.regulations.gov> and upon request from the Florida Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**, above).

Authors

The primary authors of this final rule are the staff members of the Fish and Wildlife Service's Species Assessment Team and the Florida Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

Accordingly, we 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; and 4201–4245, unless otherwise noted.

2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife by revising the entry for “Bat, Florida bonneted” under MAMMALS to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
MAMMALS				
* * * * *				
Bat, Florida bonneted	<i>Eumops floridanus</i>	Wherever found	E	78 FR 61004, 10/2/2013; 50 CFR 17.95(a). ^{CH}
* * * * *				

3. In § 17.95, amend paragraph (a) by adding an entry for “Florida Bonneted Bat (*Eumops floridanus*)” before the entry for “Indiana Bat (*Myotis sodalis*)” to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

(a) *Mammals.*

FLORIDA BONNETED BAT (*EUMOPS FLORIDANUS*)

(1) Critical habitat units are depicted for Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Miami-Dade, Monroe, Okeechobee, Osceola, and Polk Counties, Florida, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of Florida bonneted bat consist of the following components:

(i) Habitats with sufficient darkness that provide for roosting and rearing of offspring. Such habitat provides structural features for rest, digestion of food, social interaction, mating, rearing of young, protection from sunlight and adverse weather conditions, and cover to reduce predation risks for adults and young, and is generally characterized by:

(A) Live or dead trees and tree snags, especially longleaf pine, slash pine, bald cypress, and royal palm, that are sufficiently large (in diameter) and tall and have cavities of a sufficient size for roosts; and

(B) Live or dead trees and tree snags with sufficient cavity height, spacing from adjacent trees, and relative canopy height to provide unobstructed space for Florida bonneted bats to emerge from roost trees; this may include open or semi-open canopy and canopy gaps.

(ii) Habitats that provide adequate prey and space for foraging, which may vary widely across the Florida bonneted bat's range, in accordance with ecological conditions, seasons, and disturbance regimes that influence vegetation structure and prey species' distributions. Foraging habitat may be separate and relatively far from roosting habitat. Essential foraging habitat consists of sufficiently dark open areas in or near areas of high insect production or congregation, commonly including, but not limited to:

(A) Freshwater edges, and freshwater herbaceous wetlands (permanent or seasonal);

(B) Prairies;

(C) Wetland and upland shrub; and/or

(D) Wetland and upland forests.

(iii) A dynamic disturbance regime (e.g., fire, hurricanes, forest management) that maintains and regenerates forested habitat, including plant communities, open habitat structure, and temporary gaps, which is conducive to promoting a continual supply of roosting sites, prey items, and suitable foraging conditions.

(iv) A sufficient quantity and diversity of habitats to enable the species to be resilient to short-term impacts associated with disturbance over time (e.g., drought, forest disease). The ecological communities the Florida bonneted bat inhabits differ in

hydrology, fire frequency/intensity, climate, prey species, roosting sites, and threats, and include, but are not limited to:

(A) Pine rocklands;

(B) Cypress communities (cypress swamps, strand swamps, domes, sloughs, ponds);

(C) Hydric pine flatwoods (wet flatwoods);

(D) Mesic pine flatwoods; and

(E) High pine.

(v) Habitats that provide structural connectivity where needed to allow for dispersal, gene flow, and natural and adaptive movements, including those that may be necessitated by climate change. These connections may include linear corridors such as vegetated, riverine, or open-water habitat with opportunities for roosting and/or foraging, or patches (i.e., stepping stones) such as tree islands or other isolated natural areas within a matrix of otherwise low-quality habitat.

(vi) A subtropical climate that provides tolerable conditions for the species such that normal behavior, successful reproduction, and rearing of offspring are possible.

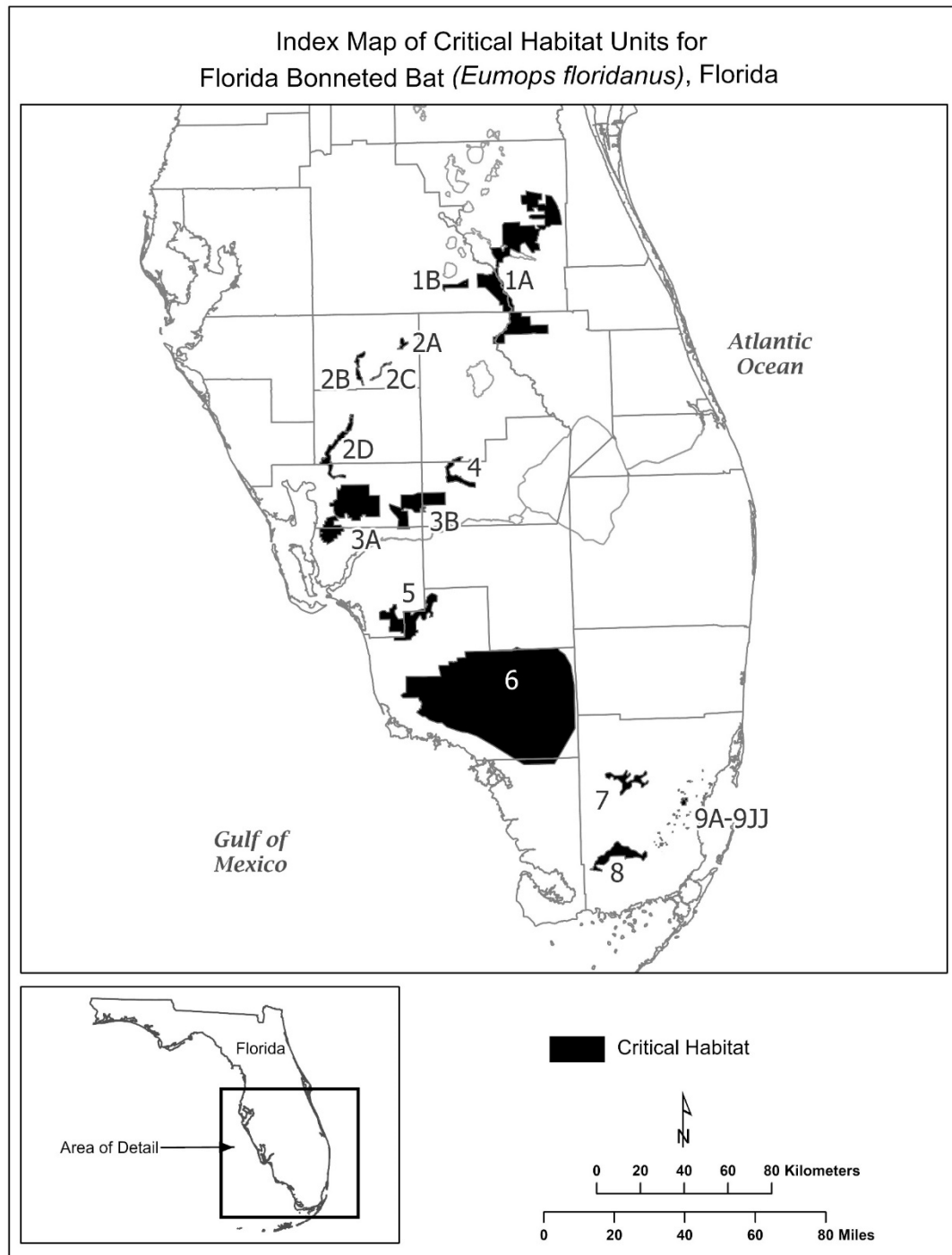
(3) Critical habitat does not include human-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(4) Data layers defining map units were created 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 World Geodetic System 1984, Universal Transverse Mercator Zone 17 North. 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 <https://www.regulations.gov> at Docket No. FWS-R4-ES-2019-0106, the Florida bonneted bat species webpage at <https://www.fws.gov/species/florida-bonneted-bat-eumops-floridanus>, 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) Index map follows:

Figure 1 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (5)



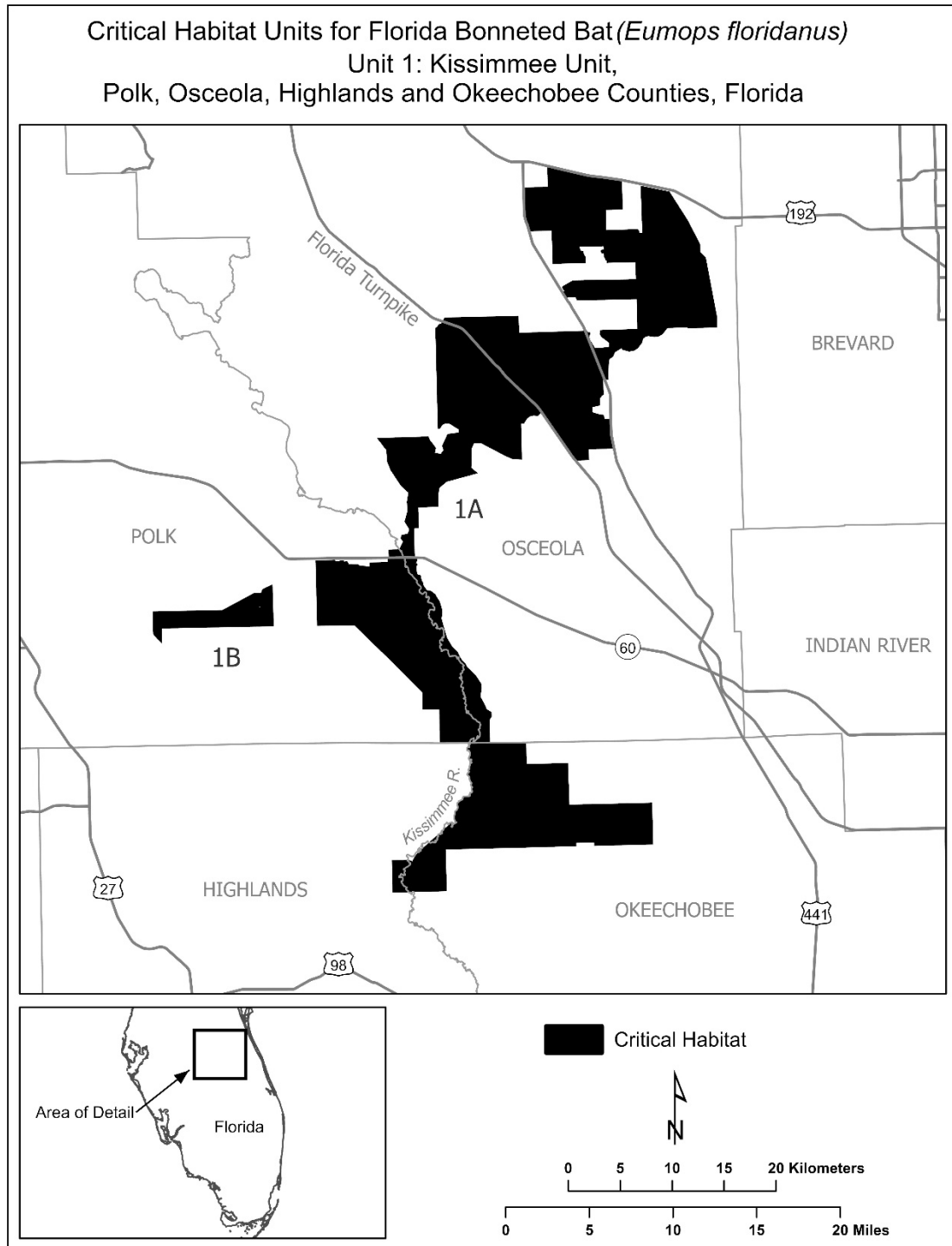
(6) Unit 1: Kissimmee Unit; Polk, Osceola, Highlands, and Okeechobee Counties, Florida.

(i) Unit 1 encompasses 175,735 acres (ac) (71,118 hectares (ha)) of lands in Polk, Osceola, Highlands, and Okeechobee Counties, Florida. This unit consists of two

subunits generally located along the eastern bank of Lake Kissimmee northeast to SR-192, north of SR-60; and along portions of the Kissimmee River, south of SR-60.

(ii) Map of Unit 1 follows:

Figure 2 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (6)(ii)

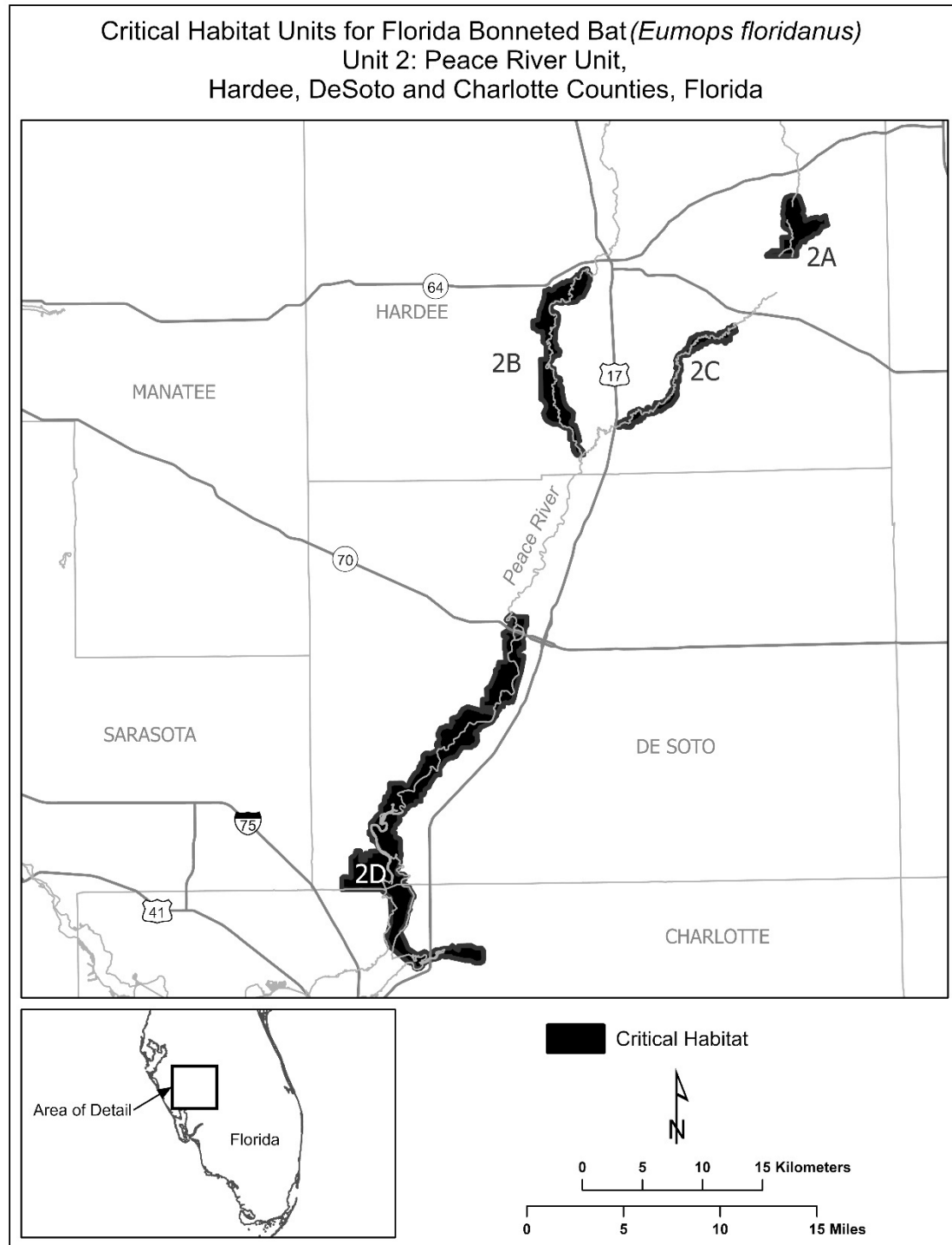


(7) Unit 2: Peace River Unit; Hardee, DeSoto, and Charlotte Counties, Florida.

(i) Unit 2 encompasses 28,046 ac (11,350 ha) of lands in Hardee, DeSoto, and Charlotte Counties, Florida. This unit consists of four subunits located along portions of the Peace River and its tributaries (e.g., Shell Creek, Charlie Creek), south of CR-64 with the majority west of U.S.-17.

(ii) Map of Unit 2 follows:

Figure 3 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (7)(ii)



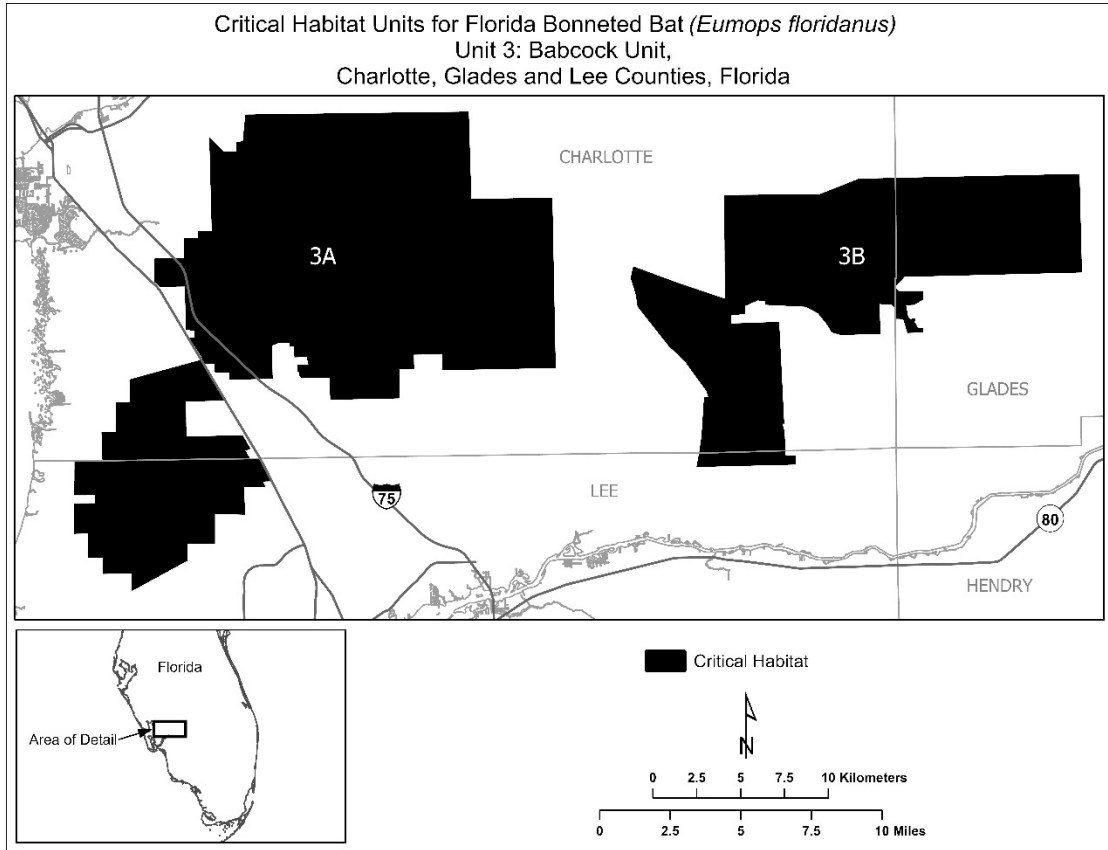
(8) Unit 3: Babcock Unit; Charlotte, Lee, and Glades Counties, Florida.

(i) Unit 3 encompasses 134,677 ac (54,502 ha) of lands in Charlotte, Lee, and Glades Counties, Florida. This unit consists of two subunits, with the majority of Unit 3

located in Charlotte County, east of I-75; other portions are in northern Lee and western Glades Counties.

(ii) Map of Unit 3 follows:

Figure 4 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (8)(ii)

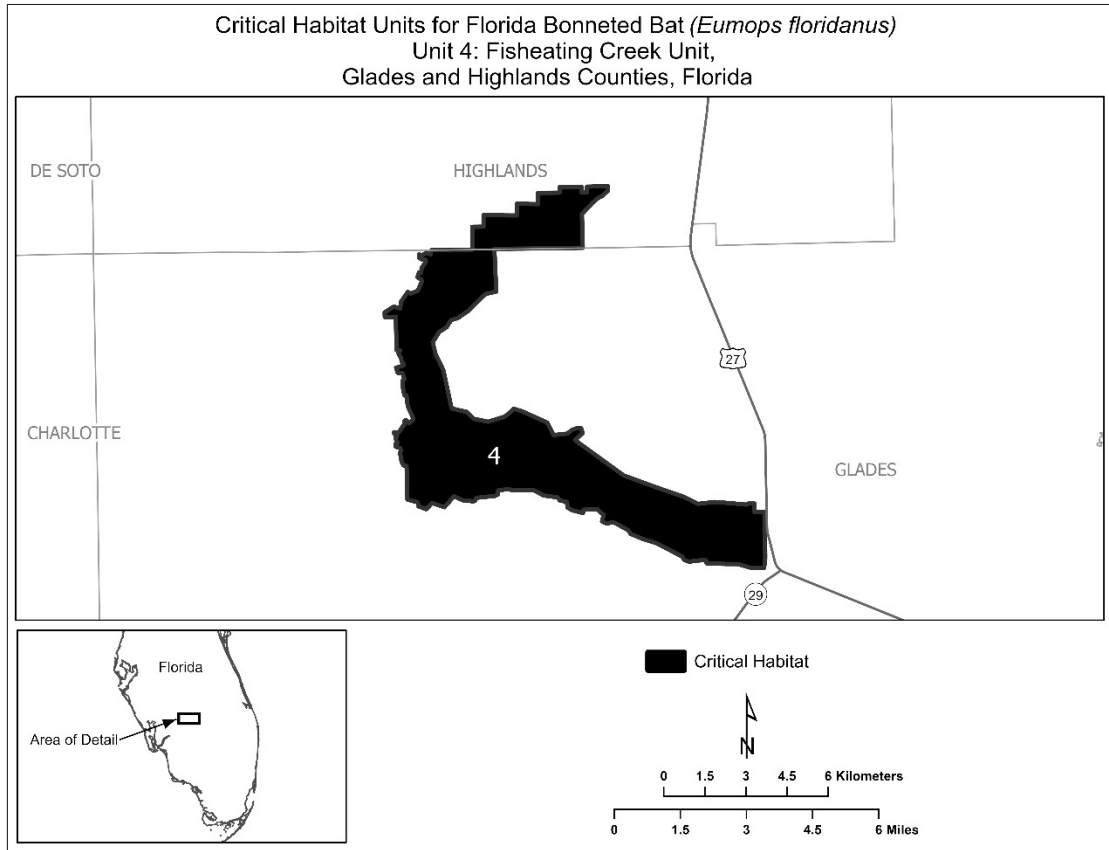


(9) Unit 4: Fisheating Creek Unit; Glades and Highlands Counties, Florida.

(i) Unit 4 encompasses 12,995 ac (5,259 ha) of lands in Glades and Highlands Counties, Florida. The majority of Unit 4 is located in Glades County, west of U.S.-27; the remainder of the unit extends north into southern Highlands County.

(ii) Map of Unit 4 follows:

Figure 5 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (9)(ii)

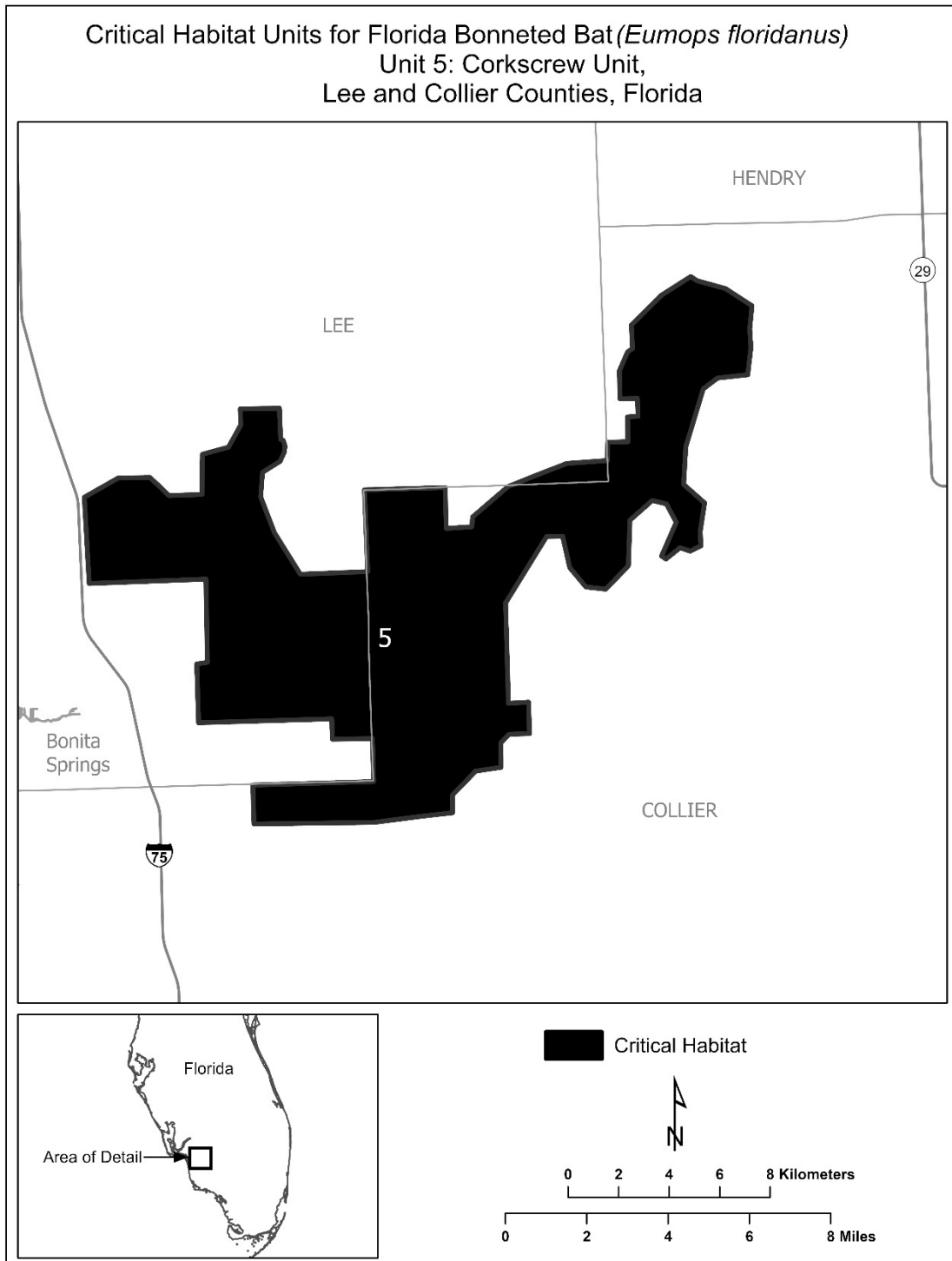


(10) Unit 5: Corkscrew Unit; Lee and Collier Counties, Florida.

(i) Unit 5 encompasses 48,865 ac (19,775 ha) of lands in Lee and Collier Counties, Florida. This unit straddles the Lee/Collier county line, east of I-75.

(ii) Map of Unit 5 follows:

Figure 6 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (10)(ii)

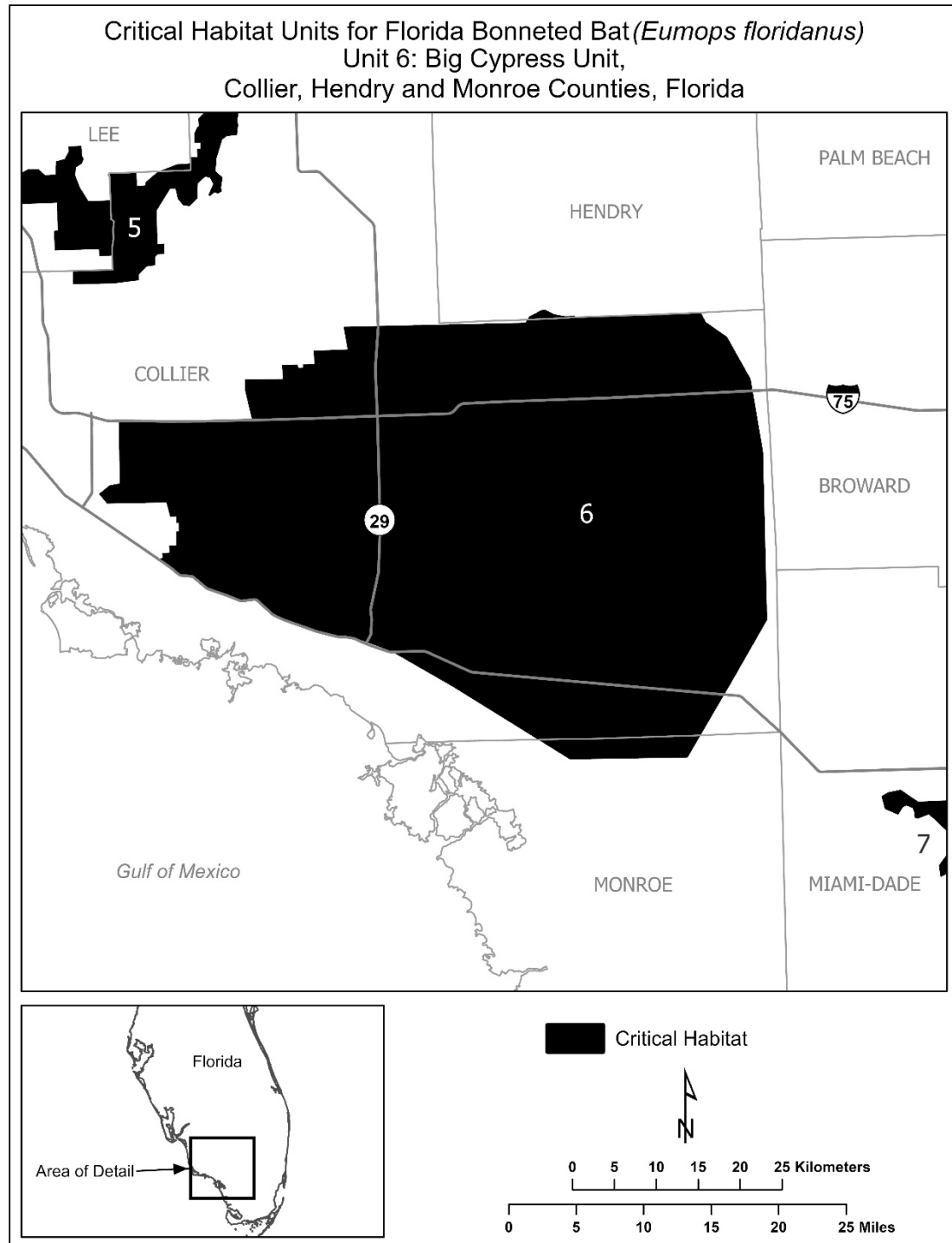


(11) Unit 6: Big Cypress Unit; Collier, Hendry, and Monroe Counties, Florida.

(i) Unit 6 encompasses 714,085 ac (288,980 ha) of lands in Collier, Hendry, and Monroe Counties, Florida. The majority of Unit 6 is located in Collier County, south of I-75; the remainder of the unit occurs in southern Hendry County and mainland portions of Monroe County.

(ii) Map of Unit 6 follows:

Figure 7 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (11)(ii)

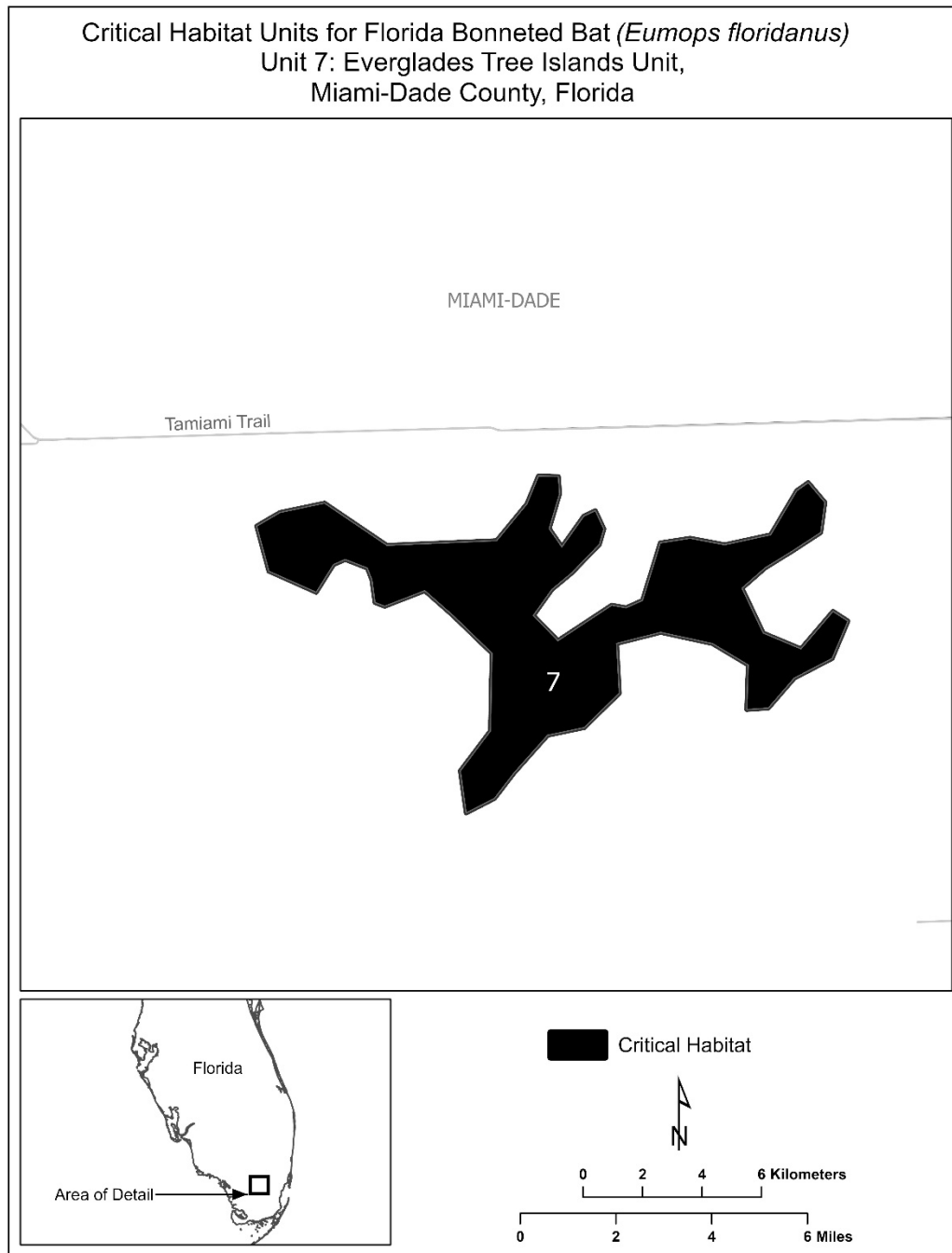


(12) Unit 7: Everglades Tree Islands Unit; Miami-Dade County, Florida.

(i) Unit 7 encompasses 16,604 ac (6,719 ha) of lands in Miami-Dade County, Florida, south of Tamiami Trail and west of Krome Avenue.

(ii) Map of Unit 7 follows:

Figure 8 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (12)(ii)

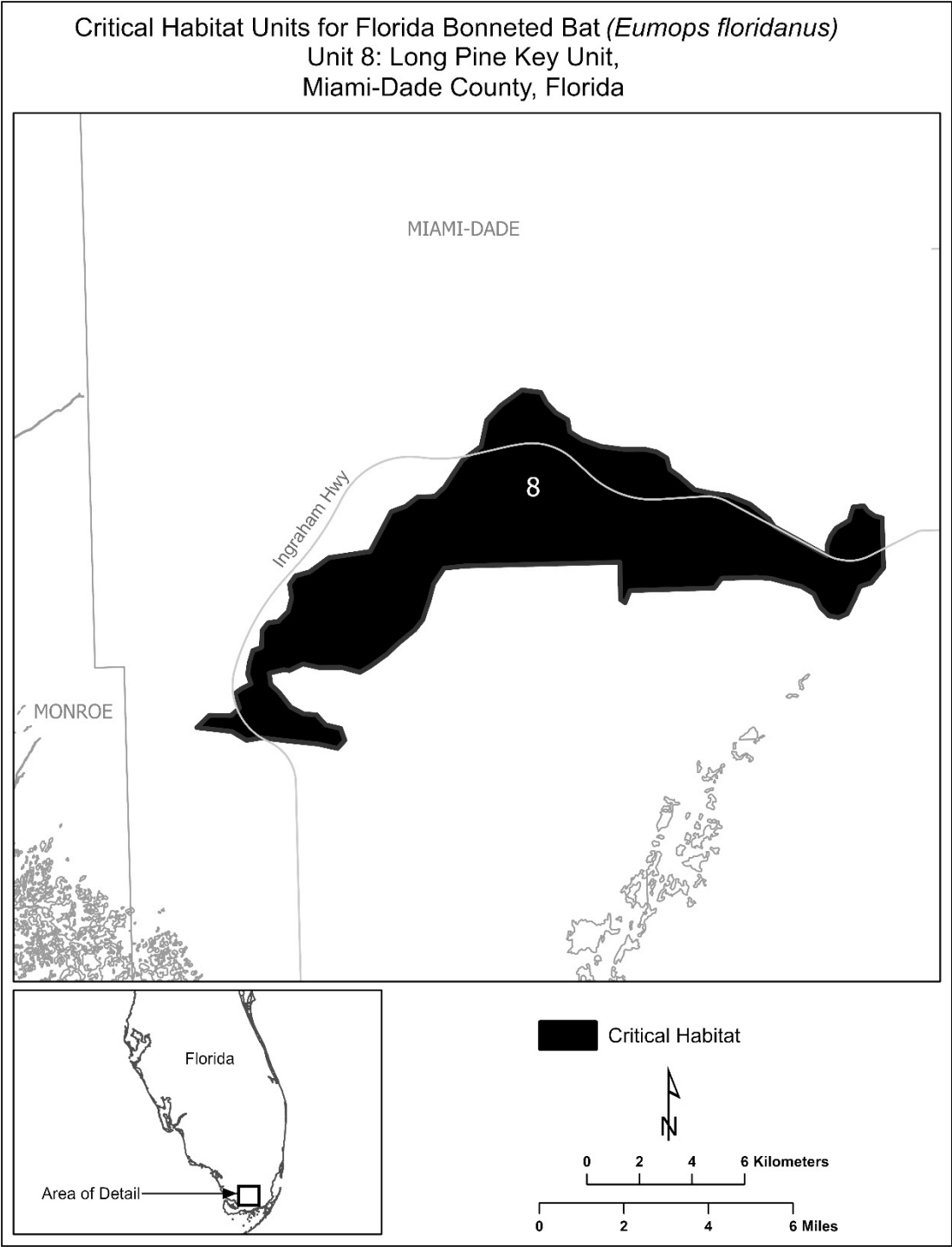


(13) Unit 8: Long Pine Key Unit; Miami-Dade County, Florida.

(i) Unit 8 encompasses 25,337 ac (10,253 ha) of lands in Miami-Dade County, Florida, along Main Park Road (SR-9336) between Mahogany Hammock and SW 237th Avenue.

(ii) Map of Unit 8 follows:

Figure 9 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (13)(ii)



(14) Unit 9: Miami Rocklands Unit; Miami-Dade County, Florida.

(i) Unit 9 encompasses 4,281 ac (1,732 ha) of lands in Miami-Dade County, Florida. This unit consists of 36 subunits located between Tamiami Trail to the north and SR-9336 to the south, and is surrounded by a dense urban matrix typical of the Miami metropolitan area.

(ii) Maps of Unit 9 follow:

Figure 10 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (14)(ii)

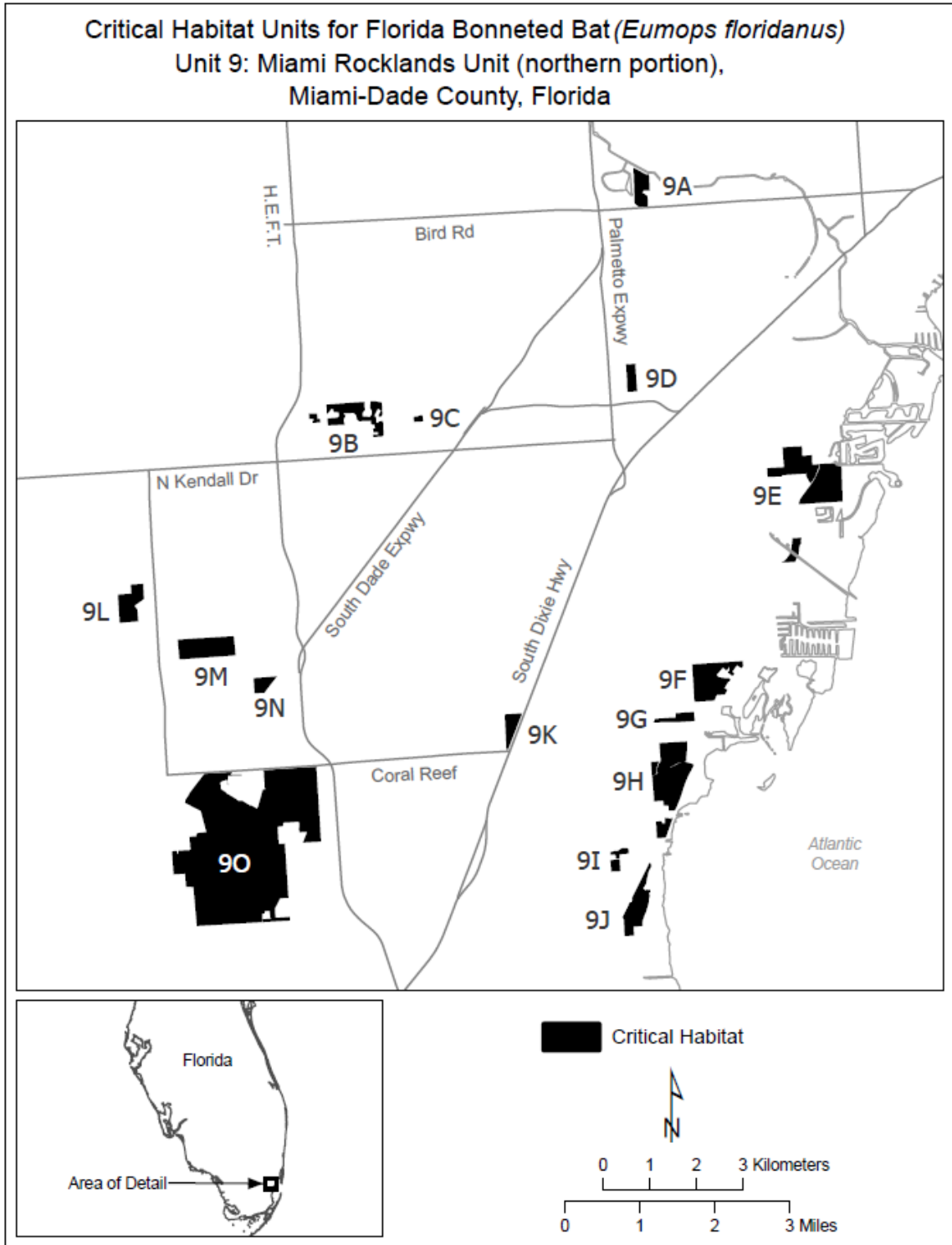
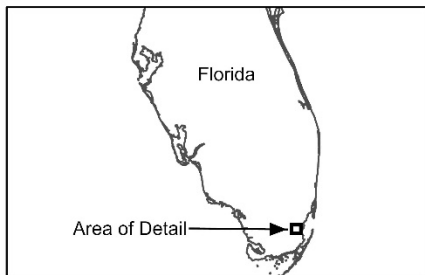
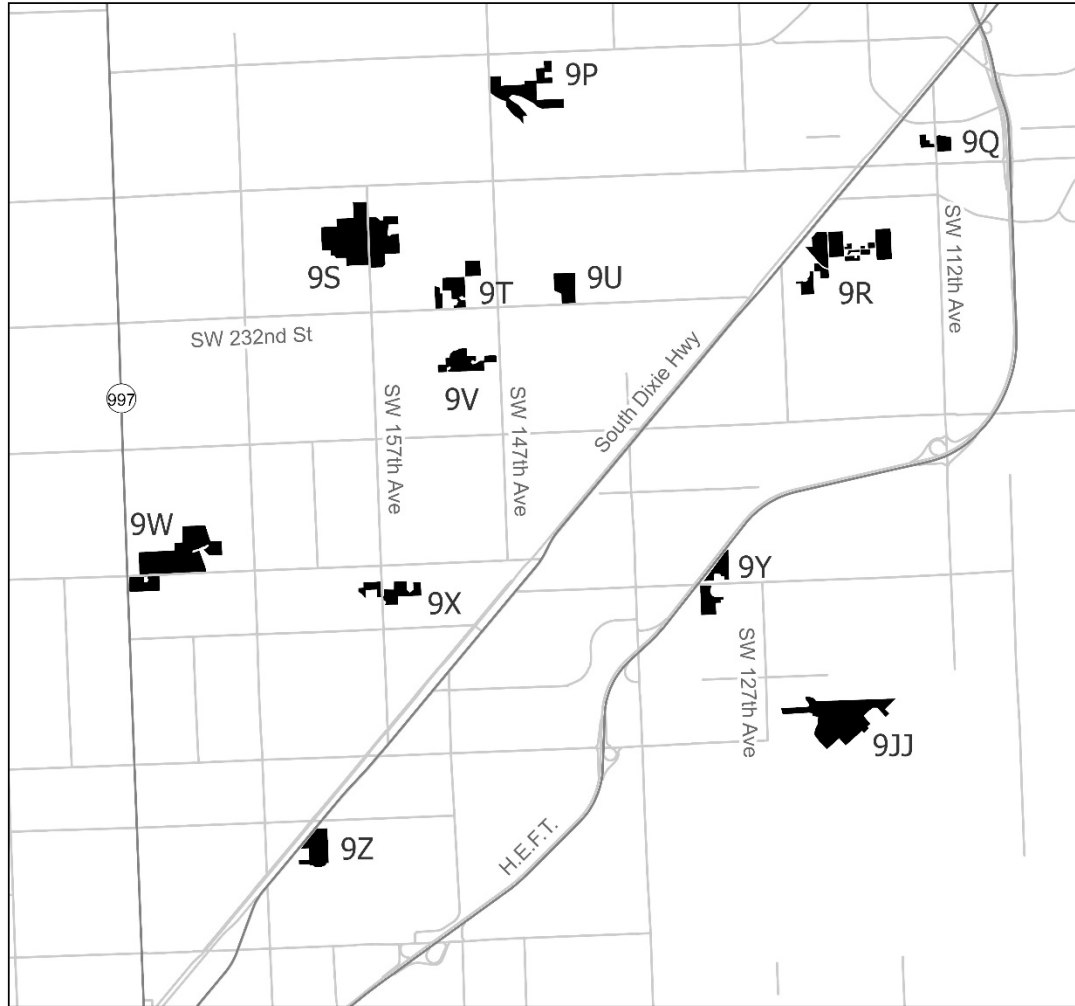


Figure 11 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (14)(ii)

Critical Habitat Units for Florida Bonneted Bat (*Eumops floridanus*)
Unit 9: Miami Rocklands Unit (central portion),
Miami-Dade County, Florida



 Critical Habitat

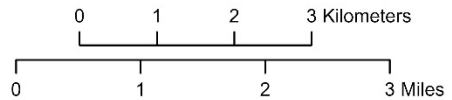
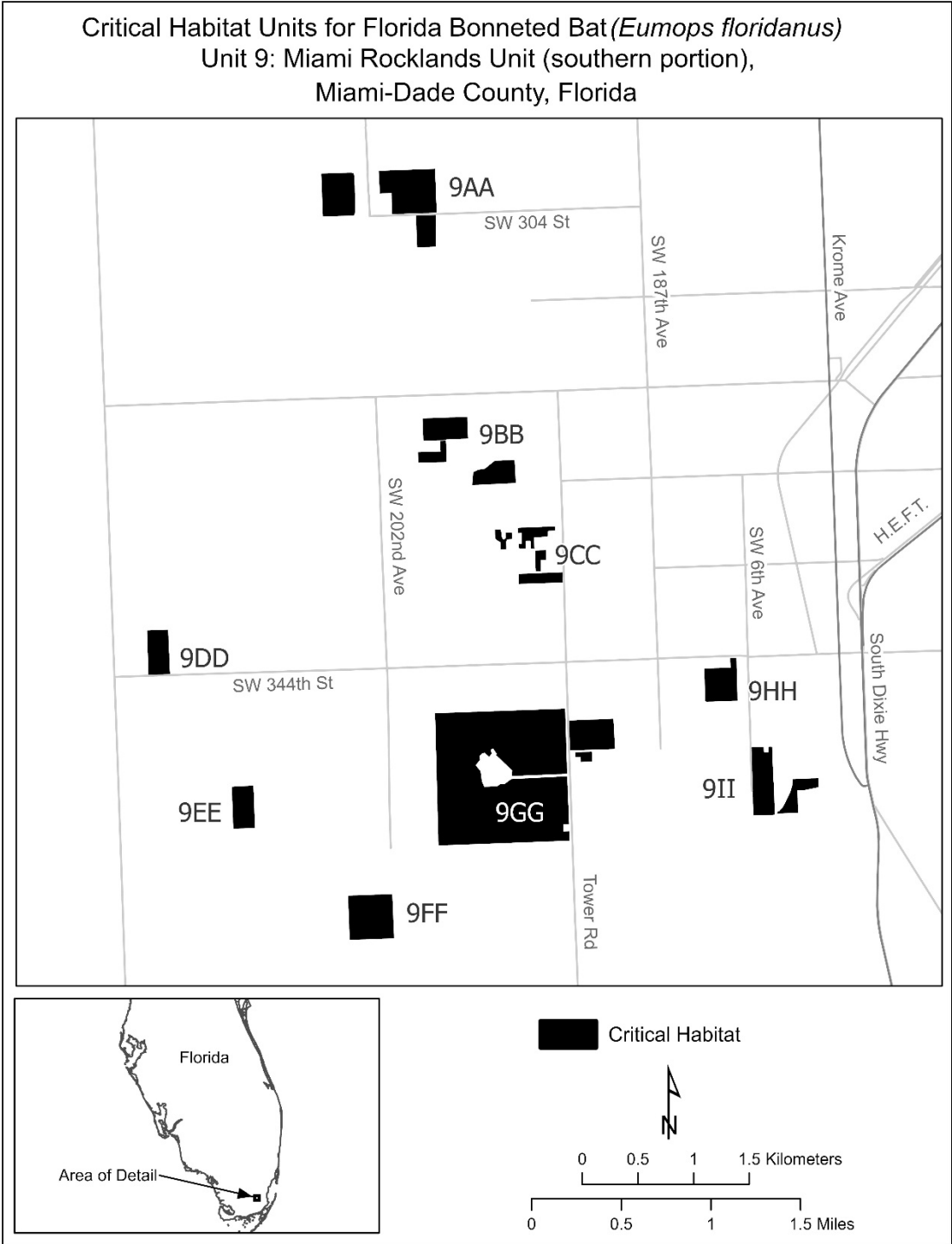


Figure 12 to Florida Bonneted Bat (*Eumops floridanus*) paragraph (14)(ii)



* * * * *

Stephen Guertin,
Acting Director,
U.S. Fish and Wildlife Service.
[FR Doc. 2024-04053 Filed: 3/6/2024 8:45 am; Publication Date: 3/7/2024]