(2) *Limitations or revocation of certain notification requirements.* The provisions of § 721.185 apply to this section.

[FR Doc. 2020–02892 Filed 2–21–20; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2019–0068; 4500090023]

RIN 1018–BE12

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Florida Bristle Fern

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for the Florida bristle fern (*Trichomanes punctatum* ssp. *floridanum*) under the Endangered Species Act of 1973 (Act), as amended. In total, approximately 1,624 hectares (4,014 acres) in Miami-Dade and Sumter Counties, Florida, fall within the boundaries of the proposed critical habitat designation. If we finalize this rule as proposed, it would extend the Act's protections to this subspecies' critical habitat. We also announce the availability of a draft economic analysis of the proposed designation of critical habitat.

DATES: We will accept comments on the proposed rule and draft economic analysis received or postmarked on or before April 24, 2020. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by April 9, 2020.

ADDRESSES: *Written comments:* You may submit comments on the proposed rule or draft economic analysis by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter FWS–R4–ES–2019–0068, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment Now!''

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R4–ES–2019–0068; U.S. Fish and Wildlife Service, MS: BPHC, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

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

Document availability: The draft economic analysis is available at *http://www.fws.gov/verobeach,* at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0068, and at the South Florida Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this proposed critical habitat designation and are available at *https://www.fws.gov/verobeach,* at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0068, and at the South Florida Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**). Any additional tools or supporting information that we may develop for the critical habitat designation will also be available at the Service website and Field Office set out above, and may also be included in the preamble of this proposed rule and/or at *http://www.regulations.gov.*

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

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. To the maximum extent prudent and determinable, we must designate critical habitat for any species that we determine to be an endangered or threatened species under the Act. Designations of critical habitat can only be completed by issuing a rule.

What this document does. This document proposes to designate critical habitat for the Florida bristle fern (*Trichomanes punctatum* ssp. *floridanum*), which was listed as endangered under the Act on November 5, 2015 (80 FR 60440).

The basis for our action. Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary) to designate critical habitat to the extent prudent and determinable. Section 4(b)(2) of the Act states that the Secretary shall designate critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, the impact on national security, and any other relevant impact of specifying any particular area as critical habitat. 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.

Economic analysis. In accordance with section 4(b)(2) of the Act, we prepared an analysis of the economic impacts of the proposed critical habitat designation. In this document, we announce the availability of the draft economic analysis for public review and comment.

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 will seek peer review of this proposed rule. We are seeking comments from independent specialists to ensure that our critical habitat proposal is based on scientifically sound data and analyses. We have invited these peer reviewers to comment on our specific assumptions and conclusions in this critical habitat proposal during the public comment period for this proposed rule (see **DATES**, above).

Because we will consider all comments and information received during the comment period, our final critical habitat designation may differ from this proposal. Based on the new information we receive (and any comments on that new information), we may conclude that some additional areas meet the definition of critical habitat, and some areas proposed as critical habitat may not meet the definition of critical habitat. In addition, we may find that the benefit of excluding some areas outweigh the benefits of including those areas

pursuant to 4(b)(2) of the Act, and may exclude them from the final designation unless we determine that exclusion would result in extinction of the Florida bristle fern. Such final decisions would be a logical outgrowth of this proposal, as long as we: (a) Base the decisions on the best scientific and commercial data available after considering all of the relevant factors; (2) do not rely on factors Congress has not intended us to consider; and (3) articulate a rational connection between the facts found and the conclusions made, including why we changed our conclusion.

Information Requested

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

(1) The reasons why we should or should not designate habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including information to inform the following factors that the regulations identify as reasons why designation of critical habitat may be not prudent:

(a) The subspecies is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the subspecies;

(b) The present or threatened destruction, modification, or curtailment of a subspecies' habitat or range is not a threat to the subspecies, or threats to the subspecies' habitat stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(c) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;

(d) No areas meet the definition of critical habitat.

(2) Specific information on:

(a) The amount and distribution of Florida bristle fern habitat;

(b) What may constitute physical or biological features essential to the conservation of the subspecies, specifically those related to canopy cover, hydrology, humidity and moisture levels, and minimum habitat amounts;

(c) Reproduction and dispersal methods of the subspecies, such as spore dispersal distance, the association between dispersal and hydrological conditions, and the reliance on vegetative dispersal for subspecies growth;

(d) What areas that were occupied at the time of listing and that contain the physical or biological features essential to the conservation of the subspecies should be included in the designation and why;

(e) Special management considerations or protection that may be needed in occupied critical habitat areas we are proposing, including managing for the potential effects of climate change;

(f) What areas not occupied at the time of listing are essential for the conservation of the subspecies. We particularly seek comments regarding:

(i) Whether occupied areas are inadequate for the conservation of the subspecies; and,

(ii) Specific information that supports the determination that unoccupied areas will, with reasonable certainty, contribute to the conservation of the subspecies and, contain at least one physical or biological feature essential to the conservation of the subspecies;

(g) The location and boundaries of hammock habitats and exposed limestone substrate within and surrounding the Jumper Creek Tract of the Withlacoochee State Forest in Sumter County, FL, that would support life-history processes essential for the conservation of the subspecies;

(h) The delineation of the substrate or substrate mapping through the subspecies' south Florida range;

(i) The methods we used to identify unoccupied critical habitat for each of the metapopulations; and,

(j) As to the following areas, their occupancy status and habitat suitability; whether physical or biological features essential to the conservation of the subspecies are present; and whether they should be included in the designation and why:

(i) Monkey Jungle (also known as Cox Hammock), Big and Little George Hammocks, Charles Deering, Bill Sadowski Park, Whispering Pines Hammock, Black Creek Forest, Hardin Hammock, Silver Palm Groves, Camp Owaissa Bauer, Lucille Hammock, Loveland Hammock, and Holiday Hammock in Miami-Dade County;

(ii) Rockland hammocks, other than Royal Palm Hammock, in Long Pine Key in Everglades National Park in Miami-Dade County;

(iii) Rockland hammocks in Big Cypress National Preserve in Collier and Monroe Counties;

(iv) Hammock habitats in the Jumper Creek Tract and Richloam Tract of the Withlacoochee State Forest in Sumter County;

(v) Hammock habitats in the vicinity of Lake Panasoffkee in Sumter County;

(vi) Hammock habitats on Flying Eagle Ranch and Pineola Grotto in Citrus County; and,

(vii) Hammock habitats in the vicinity of the Green Swamp in Pasco and Polk Counties.

(3) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat.

(4) Information on the projected and reasonably likely impacts of climate change on the Florida bristle fern and proposed critical habitat.

(5) Any probable economic, national security, or other relevant impacts of designating any area that may be included in the final designation, and the benefits of including or excluding areas that may be impacted.

(6) Information on the extent to which the description of probable economic impacts in the draft economic analysis is a reasonable estimate of those impacts.

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

(8) The likelihood of adverse social reactions to the designation of critical habitat, as discussed in the associated documents of the draft economic analysis, and how the consequences of such reactions, if likely to occur, would relate to the conservation and regulatory benefits of the proposed critical habitat designation.

(9) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

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

If you submit information via *http://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *http://www.regulations.gov.*

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

Public Hearings

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received by the date specified above in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if any are requested, and announce the dates, times, and places of the hearing, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

Previous Federal Actions

Please refer to the final listing rule for the Florida bristle fern, which published on October 6, 2015 (80 FR 60440), for a detailed description of previous Federal actions concerning this subspecies.

Critical Habitat

Background

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 does not allow the government or public to access private lands, nor does designation 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 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 and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features that occur in specific occupied areas, we focus on the specific features that are essential to support the life-history needs of the species, including but not limited to, water characteristics, soil type, geological features, 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.

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. When designating critical habitat, the Secretary will first evaluate areas occupied by the species. The Secretary will only consider unoccupied areas to be essential where a critical habitat designation limited to geographical areas occupied by the species would be inadequate to ensure the conservation of the species. In addition, for an unoccupied area to be considered essential, the Secretary must determine that there is a reasonable certainty both that the area will contribute to the conservation of the species and that the area contains one or more of those physical or biological features essential to 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) section 9 of the Act's prohibitions on taking any individual of the species, including taking caused by actions that affect habitat. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools 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, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Prudency Determination

Section 4(a)(3) of the Act, as amended, and its implementing regulations (50 CFR 424.12), require that the Secretary shall designate critical habitat at the time the species is determined to be an endangered or threatened species to the maximum extent prudent and determinable. Our regulations (50 CFR 424.12(a)(1)) state that the Secretary may, but is not required to, determine that a designation would not be prudent in the following circumstances:

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

(2) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat stems solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(3) Areas within jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;

(4) No areas meet the definition of critical habitat; or

(5) The Secretary otherwise determines that designation of critical habitat would not be prudent based on the best scientific data available.

No imminent threat of take attributed to collection or vandalism under Factor B was identified in the final listing rule for this subspecies, and identification and mapping of critical habitat is not expected to initiate any such threat. In our final listing rule, we determined that the present or threatened destruction, modification, or curtailment of a species' habitat or range (Factor A) is a threat to Florida bristle fern and that those threats in some way can be addressed by section 7(a)(2) consultation measures. The subspecies occurs wholly in the jurisdiction of the United States and we are able to identify areas that meet the definition of critical habitat. Therefore, because none of the circumstances enumerated in our regulations at 50 CFR 424.12(a)(1) have been met and because there are no other circumstances the Secretary has identified for which this designation of critical habitat would be not prudent, we have determined that the designation of critical habitat is prudent for the Florida bristle fern.

Critical Habitat Determinability

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

(i) Data sufficient to perform required analyses are lacking; or

(ii) The biological needs of the species are not sufficiently well known to identify any area that meets the definition of ''critical habitat.''

We reviewed the available information pertaining to the biological needs of the subspecies and habitat characteristics where this subspecies is located. We find that this information is sufficient for us to conduct both the biological and economic analyses required for the critical habitat determination. This and other information represent the best scientific data available and lead us to conclude that the designation of critical habitat is now determinable for the Florida bristle fern.

Physical or Biological Features

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 that 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. These include, but are 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, alkali 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 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, the Service 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; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic needed to support the life history of the species. In considering whether features are essential to the conservation of the species, the Service 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.

Space for Individual and Population Growth and for Normal Behavior

Florida bristle fern occurs exclusively in closed canopy, upland hardwood forest hammock habitats, which support the climate (stable humidity and temperature), hydrology, canopy cover, and limestone substrates necessary for the subspecies to persist, grow, and reproduce. Upland hardwood forests consist of a mosaic of natural hammock and hardwood communities primarily characterized as mesic, hydric, and rockland hammocks, or intermixed hammock strands, with associated transitional wetland matrix/hydric and upland communities (Florida Natural Areas Inventory [Inventory] 2010, pp. 16–28). The hammock habitats occurs within and as part of larger matrices of hydric or pine rockland communities (Inventory 2010, pp.16–28). Detailed descriptions of these natural communities can be found in Natural Communities of Florida (Inventory 2010, pp. 16–28) and in the final listing rule for Florida bristle fern (80 FR 60440, October 6, 2015). Natural communities include both wetland and upland communities having intact vegetation (*i.e.,* not cleared).

The current range of Florida bristle fern includes two metapopulations, one in south Florida (Miami-Dade County) and one in central Florida (Sumter County). The south Florida metapopulation is currently composed of four known populations, and the central Florida metapopulation is composed of two known populations. The south Florida populations of Florida bristle fern occur in communities characterized by primarily rockland hammock or closed tropical hardwood hammocks occurring within a larger matrix of pine rockland on the Miami Rock Ridge. In central Florida, the populations of the subspecies occur in predominantly mesic hammocks situated in a mosaic of hydric hammock and mixed wetland hardwoods. These internal or inter-mixed strands of hammock within the forested communities are characterized by fairly dense to extremely dense canopy cover, which prevents drastic changes in temperature and humidity and the desiccation of the fern from direct sunlight and drying winds.

The matrix of landscapes associated with the hammocks or the intermixed strands of these communities support the suitable conditions necessary for the growth and reproduction of Florida bristle fern. Suitable habitat quality and size are necessary to ensure the maintenance of the microclimate conditions (stable temperature, high humidity, moisture, canopy shade, and shelter) essential to the subspecies' survival and conservation. These combined factors establish the fern's microclimate: (a) The level of protection/exposure the fern experiences given its location in a solution hole (a limestone solution feature; in the Miami Rock Ridge, they consist of steep-sided pits, varying in size, formed by dissolution of subsurface limestone followed by a collapse above (Snyder et al. 1990, p. 236)) or on an exposed boulder, (b) the quality of the solution hole or exposed boulder substrate, and (c) the amount of canopy cover. The surrounding vegetation is a key component in producing and supporting this microclimate. There are differences in vegetation and substrate characteristics between the two geographically distant metapopulations that can account for differences in the amount of habitat needed to support the fern. For example, Florida bristle fern in south Florida occurs in a tropical climate and attaches to the interior walls of well-protected and insulated solution holes. By comparison, in central Florida, Florida bristle fern occurs in a more temperate climate and is found more exposed by attaching to a substrate that is above the surface. The size and quality of the intact habitat surrounding the exposed substrate can play a greater role in providing and supporting the stable, shaded, and wind-protected microclimate conditions the fern needs. Therefore, the microclimate conditions (stable temperature, high humidity, canopy shade, and shelter) have the potential to be maintained (and the plant is able to persist) within smaller areas in south Florida than those needed to support the microclimate conditions in central Florida. For both metapopulations, intact upland hardwood forest and associated hammock habitat is an essential feature to the conservation of this subspecies, and sufficient habitat is needed to ensure the maintenance of the fern's microclimate and life processes (growth, dispersal).

Therefore, we identify upland hardwood forest hammock habitats of sufficient quality and size to sustain the necessary microclimate and life processes for Florida bristle fern to be a physical or biological feature essential to the conservation for this subspecies.

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

Substrate and Soils—Florida bristle fern is generally epipetric (grows on rocks) or epiphytic (grows non-parasitically upon another plant). In combination with the habitat characteristics discussed above, the subspecies requires exposed limestone substrate to provide suitable growing conditions for anchoring, nutrients, pH, and proper drainage (van der Heiden 2016, p. 1). Florida bristle fern prefers substrate having exposed oolitic (composed of minute rounded concretions resembling fish eggs) limestone or limestone solution features (solution holes) filled with a thin layer of highly organic soil and standing water for part or all of the year. The limestone substrate occurs primarily as solution holes in south Florida and exposed limestone boulders in central Florida.

In south Florida, Florida bristle fern is currently found growing in rocky

outcrops of rockland hammocks, in oolitic limestone solution holes, and occasionally, on tree roots in limestone-surrounded areas (Nauman 1986, p. 181; Possley 2013a, pers. comm.). These rockland habitats are outcrops primarily composed of marine limestone representing the distinct geological formation of the Miami Rock Ridge, a feature that encompasses a broad area from Miami to Homestead, Florida, and narrows, westward through the Long Pine Key area of Everglades National Park (Snyder et al. 1990, pp. 233–234). The limestone solution holes are considered specialized habitat within these hammock areas that host Florida bristle fern (Snyder et al.1990, p. 247). The solution-hole features that dominate the rock surface in the Miami Rock Ridge are steep-sided pits formed by dissolution of subsurface limestone followed by the eventual collapse of the surface above (Snyder et al. 1990, p. 236). The limestone solution holes often have complex internal topography and vary in size and depth, from shallow holes a few centimeters deep to those that are several meters in size and up to several meters deep (Snyder et al. 1990, p. 238; Kobza et al. 2004, p. 154). The bottoms of most solution holes are filled with organic soils, while deeper solution holes penetrate the water table and have (at least historically) standing water for part of the year (Snyder et al. 1990, pp. 236–237; Rehage et al. 2014, pp. S160–S161). A direct relationship has been found between the length of time a solution hole contains water (hydroperiod length) and the habitat quality (vegetative cover) of the solution hole (Rehage et al. 2014, p. S161).

Oolitic limestone occurs in south Florida (and other locations in the world), but it does not occur in central Florida. In central Florida, Florida bristle fern resides on limestone substrate in high-humidity hammocks (van der Heiden 2016, p. 1; van der Heiden 2013a, pers. comm.). In the mesic hammocks on the Jumper Creek Tract of the Withlacoochee State Forest, the subspecies has been observed growing on exposed limestone rocks as small as 0.1 meters (m) (0.3 feet (ft)) tall as well as larger boulders with tall, horizontal faces, and occurs alongside numerous other plant species, including rare State-listed species (*e.g.,* hemlock spleenwort (*Asplenium cristatum*) and widespread polypody (*Pecluma dispersa*)) (van der Heiden 2013b, pers. comm.; van der Heiden and Johnson 2014, pp. 7–8). Rock outcrops may also provide suitable substrate where the underlying Ocala limestone (a geologic formation of exposed limestone near Ocala, Florida) is near the surface.

Therefore, based on the information above, we identify exposed substrate derived from oolitic limestone, Ocala limestone, or exposed limestone boulders, which provide anchoring and nutritional requirements, to be a physical or biological feature essential to the conservation of Florida bristle fern.

Climate and Hydrology—Florida bristle fern is considered strongly hygrophilous (*i.e.,* growing or adapted to damp or wet conditions) and is generally perceived as restricted to constantly humid microhabitat (Krömer and Kessler 2006, p. 57; Proctor 2012, pp. 1024–1025). Features that allow for proper ecosystem functionality and a suitable microhabitat required for the growth and reproduction of the subspecies include a canopy cover of suitable density (*i.e.,* average canopy closure more than 75 percent) and humidity and moisture of sufficient levels and stability (on average, above approximately 90 percent relative humidity) (van der Heiden and Johnson 2014, p. 8; van der Heiden 2016, p. 18; Possley and Hazelton 2015, entire; Possley 2015, pers. comm.; Possley 2015, unpublished data).

The relationship between moist habitats and the *Hymenophyllaceae* Family of ferns (filmy ferns), to which the *Trichomanes* species belongs, has been long observed and documented (Shreve 1911, pp. 187, 189; Proctor 2003, entire; Proctor 2012, p. 1024). In a tropical rain forest system, the diversity and number of filmy fern species is shown to have a direct relation to the air moisture (relative humidity) (Gehrig-Downie et al. 2012; pp. 40–42). While not in the same fern Family as the Florida bristle fern, a study of the rare temperate woodland fern, Braun's hollyfern (*Polystichum braunii*), found air humidity to be a key factor in species health, with stronger plant productivity occurring in higher humidity levels (Schwerbrock and Leuschner 2016, p. 5). Although a minimum suitable humidity level, or threshold, for Florida bristle fern has not been quantified for either metapopulation of the subspecies, information from field studies indicates conditions of high and stable relative humidity are essential to the subspecies. Minor drops in ambient humidity may limit reproduction of the subspecies and can negatively impact overall health of the existing metapopulations, as well as inhibit the growth of new plants, impacting long-term viability (Possley 2013b, pers. comm.; van der Heiden 2013a, pers. comm.). This relationship was observed in Sumter County, where small drops (approximately 1–2 percent) in relative humidity associated with colder weather resulted in observed declines in the health of some clusters of Florida bristle fern within the local population (van der Heiden and Johnson 2014, p. 9).

The average relative humidity for hammocks in Sumter County remained near 95 percent for the duration of a September–November 2013 study (van der Heiden and Johnson 2014, pp. 8–9). Further, the minimum and maximum monthly average relative humidity from September 2013 to March 2015 for the two central Florida hammocks supporting Florida bristle fern were 88 and 99 percent and 89 and 100 percent, respectively (van der Heiden 2016, p. 18). The lowest monthly average relative humidity in each of the hammocks was 65 and 69 percent. In comparison, the minimum and maximum monthly average relative humidity documented outside of the hammock (from June 2014 to March 2015) was 68 and 93 percent with a low monthly relative humidity of 51 percent. In summary, similar and consistently high average humidity values occurred between and within the two hammocks supporting the subspecies, and consistently higher relative humidity values were recorded in the hammocks compared to outside the hammocks.

Likewise, in south Florida, 8 years of data-log monitoring of Deering's Cutler Slough (the location of a known extirpated population, Deering-Snapper Creek, of Florida bristle fern) recorded an average of 90 percent relative humidity occurring within a solution hole compared to the 84 percent average relative humidity documented in the slough outside of the solution hole during the same time period (Possley and Hazelton 2015, entire).

The hammock environments are high or slightly elevated grounds that do not regularly flood, but are dependent on a high water table to keep humidity levels high (Inventory 2010, pp. 19–28). The subspecies is affected by humidity at two spatial scales: the larger hammock community-scale and the smaller substrate (boulder/solution hole) microclimate-scale (van der Heiden and Johnson 2014, pp. 9–10). Moisture (precipitation and low evaporation) and humidity levels are likely factors limiting the occurrence of Florida bristle fern (Proctor 2003, p. 726; Gehrig-Downie et al. 2012, p. 40; Shreve 1911, p. 189). The high humidity levels discussed above and stable temperatures, moisture, and shading (cover) are all features considered

essential to the subspecies and produced by the combination of:

(1) Solution hole or boulder microclimate;

(2) Organic, moisture-retaining soils (high soil moisture conditions);

(3) Hydrology of the surrounding or adjacent wetlands; and

(4) Protective shelter of the surrounding habitat minimizing effects from drying winds and/solar radiation.

Solution holes provide the limestone substrate and produce the necessary humid and moist microclimate needed by the subspecies in south Florida. In central Florida, the fern occurs in the more northerly portion of the hammocks and northern aspect of the limestone boulders, obtaining greater shading and moist conditions compared to the sunnier and drier south-facing portions of the hammocks and sides of boulders (van der Heiden and Johnson 2014, pp. 7, 31). Variances within hammocks, such as slight structural differences or proximity to water, also play an important part in where suitable microhabitat occurs in the hammock habitats. Intact hydrology and the connectivity of substrates to surface water and streams may play a role in spore and vegetative fragment dispersal for the subspecies (more detail in following section, ''Sites for Reproduction, Growth, Spore Production and Dispersal''). Soils associated with the hammock ecosystems consist of sands mixed with organic matter, which produce better drained soils than soils of surrounding or adjacent wetland communities. Soils in habitats of extant Florida bristle fern populations in south Florida consist of an uneven layer of highly organic soil and moderately well-drained, sandy, and very shallow soils (classified as Matecumbe muck). Soils in habitats of the central Florida metapopulation are predominantly sand and Okeelanta muck (80 FR 60440, October 6 2015). For both metapopulations, a relatively high soil-moisture content and high humidity are maintained by dense litter accumulation, ground cover, and heavy shade produced by the dense canopy (Service 1999, pp. 3–99).

In addition, the protected hammock habitats are slightly higher in elevation than the surrounding habitat, which combined with the limestone substrate, leaf litter and sandy soils create a hydrology that differs from lower elevation habitats. It is this combination of hammock ecosystem characteristics (*i.e.,* closed canopy, limestone substrate, humid climate, higher elevation) occurring in hardwood forested upland communities as described earlier that are essential to the conservation for the subspecies.

Therefore, based on the information above, we identify a constantly humid microhabitat climate consisting of dense canopy cover, moisture, stable high temperature, and stable monthly average relative humidity of 90 percent or higher, with intact hydrology within hammocks and the surrounding and adjacent wetland communities, to be a physical or biological feature essential to the conservation of Florida bristle fern.

Cover and Shelter—Florida bristle fern occurs exclusively in hardwood hammock habitats having dense canopy, which provides shade necessary to support suitable microhabitat for the subspecies to persist, grow, and reproduce. In south Florida (Miami-Dade County), the extant populations of Florida bristle fern occur in communities classified as rockland hammocks on the Miami Rock Ridge. In central Florida (Sumter County), the extant populations of the subspecies occur in mesic hammocks, often situated in a mosaic of natural communities including hydric hammock and mixed wetland hardwoods.

The dense canopies of the hammock systems (including rockland and mesic hammocks) contribute to maintaining suitable temperature and humidity levels within this microclimate. The dense canopies found in these habitats minimize temperature fluctuations by reducing soil warming during the day and heat loss at night, thereby helping to prevent frost damage to hammock interiors (Inventory 2010, p. 25). In areas with greater temperature variations, as in central Florida, these benefits afforded by the dense canopy of both the mesic hammock and surrounding habitat combined are important to maintaining suitable conditions for Florida bristle fern. The rounded canopy profile of hammocks help maintain mesic (moist) conditions by deflecting winds, thereby limiting desiccation (extreme dryness) during dry periods and reducing interior storm damage (Inventory 2010, p. 25). Changes in the canopy can impact humidity and evaporation rates, as well as the amount of light available to the understory. Both known extant metapopulations of Florida bristle fern live in dense canopy habitat, with shady conditions, which may be obligatory due to the poikilohydric (*i.e.,* possess no mechanism to prevent desiccation) nature of some fern species including the Florida bristle fern (Krömer and Kessler 2006, p. 57).

While the proper amount of canopy is critical to the persistence of Florida bristle fern, the lower limit of acceptable canopy density has yet to be quantified for either metapopulation. Field observations in south Florida have found clusters of Florida bristle fern desiccated when the immediate canopy above plants was destroyed or substantially reduced, allowing high amounts of light into the understory (Possley 2019, entire; Possley 2013c, entire); however, over the course of many months, these clusters eventually recovered. In addition, this dense, closed canopy may serve as a shield for Florida bristle fern to inhibit the growth of other plant species on the same part of an inhabited rock area (van der Heiden and Johnson 2014, p. 9). In central Florida, the average canopy closure where Florida bristle fern occurs has been estimated to be more than 75 percent (van der Heiden and Johnson 2014, p. 9). Although there are several occurrences in these mesic hammocks where sunlight can be observed through the canopy, generally the habitat is shaded throughout the year, with the lowest canopy cover recorded at 64 percent in December (van der Heiden and Johnson 2014, pp. 8, 20). This information was obtained from a study of short duration (September–December 2013), and it is likely that percent canopy cover and consequently shading would be greater in summer months when foliage is densest (van der Heiden and Johnson 2014, p. 8).

Surrounding habitat that minimizes the effects from drying winds and solar radiation and provides a stable and protective shelter is necessary for this fern to survive. A suitable habitat size and quality is necessary to provide a functioning canopy cover that maintains the microclimate conditions (humidity, moisture, temperature, and shade) essential to the conservation of the subspecies.

Therefore, based on the information above, we identify dense canopy cover of surrounding native vegetation that consists of the upland hardwood forest hammock habitats to be a physical or biological feature essential to the conservation of Florida bristle fern.

Sites for Reproduction, Germination, and Spore Production and Dispersal

Growth and reproduction of Florida bristle fern can occur through spore dispersal, rhizome (underground stem) growth, and clonal vegetative fragments (80 FR 60440). The habitats identified above provide plant communities, which require a self-maintaining closed canopy and climate-controlled interior, an adequate space for the rhizomal

growth, dispersal of seeds, sporophyte and gametophyte survival, and recruitment of plant fragments.

While specific information on spore dispersal distances is largely unknown for this subspecies, the microclimate is found to be essential for spore germination and survival. Dispersal of spores, gametophytes, and vegetative fragments may take place via water-based methods, animals, and to a lesser extent, wind-driven opportunities. In the *Hymenophyllaceae* family of ferns, spores lack the capacity to withstand desiccation, are not known to be dispersed long distance through the wind, and depend upon the moist microclimate for growth and survival (Nural Hafiza 2014, p. 21).

In terms of protecting the subspecies' genetic components, a recent study of Florida bristle fern chloroplast DNA found little genetic differentiation between the two metapopulations, which can indicate that both metapopulations are recently established from a single source or that there is a favoring of a genetic sequence (Hughs 2015, pp. 1–2). Lower genetic variation in a population produces a lower effective population (the number of individuals that can undergo cross-fertilization). In such small populations, such as with Florida bristle fern, any loss of individuals may also be a loss of genetic information and a reduction of subspecies fitness (Fernando *et al.* 2015, pp. 32–34). Therefore, ensuring space for reproduction, germination, spore production, and dispersal of the subspecies helps ensure the conservation of genetic information and subspecies fitness.

Adequate space and the maintenance of the stable microclimate habitat support clonal growth as well as the reproductive stages of Florida bristle fern. The rare American hart's tongue fern is a species like the Florida bristle fern that relies on the specific microclimate conditions of high humidity, moisture, and shelter. In a study of the American hart's tongue fern, the presence of these microclimate habitat conditions determined the success of the fern's life-history processes (growth, reproduction, and spore production) (Fernando *et al.* 2015, p. 33).

Interior condition of the hammock microclimate (*e.g.,* humidity, temperature) are influenced by the hammock's own canopy and hydrology and the vegetative structure and hydrology of the surrounding habitat. For example, in south Florida, the pre-settlement landscape of the rockland hammocks on the Miami Rock Ridge occurred as ''small islands'' in a sea of pine rockland and seasonally flooded prairies, or transverse glades (shallow channels through the Miami Rock Ridge that had wet prairie vegetation and moved water out of the Everglades Basin toward the coast). It has been estimated that originally more than 500 hammocks occurred in this area, ranging in size from 0.1 hectares (ha) (0.2 acres (ac)) to over 40 ha (100 ac) (Craighead 1972, p. 153). The vast majority of these hammocks have been destroyed, and those that remain are significantly reduced in size. In addition, the habitats surrounding the remaining rockland hammocks have been drastically altered or destroyed, primarily through urban and agricultural development, and in many cases, no longer function as effective or efficient buffers to protect rockland hammocks from the impacts of changes in temperature and humidity, or extreme weather or natural stochastic events (*e.g.,* frost, high winds, and hurricanes/tropical storms). This fragmentation and distance between hammocks can hinder water-based dispersal and the recruitment of new plants and gametophytes. Fragmentation may reduce the stable, protected microclimate conditions and the survivability of spores within that microclimate. Thus, the hammock microhabitat supporting the subspecies must be of a suitable minimum size with sufficiently dense canopy, substrate, and understory vegetation within a hammock's interior, and there must also be intact surrounding habitat of sufficient amount, distribution, and space to support appropriate growing conditions for Florida bristle fern across its range.

The central Florida metapopulation of Florida bristle fern occurs in two mesic hammocks, which exist as part of a wetland matrix of hydric hammock, mixed wetland hardwoods, cypress/tupelo floodplain swamp, and freshwater marsh. The surrounding existing suitable habitat and substrate are essential to providing space for growth, reproduction and dispersal of the existing populations.

Therefore, we identify the habitats described as physical or biological features above that also provide suitable microhabitat conditions, hydrology, and connectivity that can support the subspecies growth, distribution, and population expansion (including rhizomal growth, spore dispersal, and sporophyte and gametophyte growth and survival) to be a physical or biological feature essential to the conservation of Florida bristle fern.

Habitats Protected From Disturbance

Florida bristle fern can be outcompeted by other native, as well as nonnative, invasive species. Nonnative and native invasive plants, including a few of the most common invasive plants such as Love vine (*Cassytha filiformis*), Brazilian pepper (*Schinus terebinthifolius*), and Burma reed (*Neyraudia reynaudiana*), compete with the subspecies for space, light, water, and nutrients; limit growth and abundance; and can make habitat conditions unsuitable. Nonnative plant species have affected hammock habitats where Florida bristle fern occurs, and as identified in the final listing rule (80 FR 60440, October 6, 2015), are considered one of the threats to the subspecies (Snyder *et al.* 1990, p. 273; Gann *et al.* 2002, pp. 552–554; Inventory 2010, pp. 22, 26). Nonnative plants can outcompete and displace the subspecies in solution holes, and can blanket existing occurrences, blocking out all light and smothering the fern (Possley 2013d, pers. comm.). In addition to the negative impacts of nonnative and native invasive plants, feral hogs can impact substrate and vegetation (directly) and habitat suitability (indirectly). Rooting from hogs can destroy existing habitat by displacing smaller rocks where the subspecies grows and potentially damage or eliminate a cluster of the fern (Werner 2013, pers. comm.). In Withlacoochee State Forest, damaged areas from feral hogs are also more susceptible to invasion from nonnative plant species (Werner 2013, pers. comm.).

Therefore, based on the information above, we identify a plant community of predominantly native vegetation that is minimally disturbed or free from human-related disturbance with either no competitive nonnative, invasive plant species, or such species in quantities low enough to have minimal effect on Florida bristle fern to be a physical or biological feature essential to the conservation of Florida bristle fern.

Summary of Essential Physical or Biological Features

We have determined that the following physical or biological features are essential to the conservation of Florida bristle fern:

(1) Upland hardwood forest hammock habitats of sufficient quality and size to sustain the necessary microclimate and life processes for Florida bristle fern.

(2) Exposed substrate derived from oolitic limestone, Ocala limestone, or exposed limestone boulders, which

provide anchoring and nutritional requirements.

(3) Constantly humid microhabitat consisting of dense canopy cover, moisture, stable high temperature, and stable monthly average humidity of 90 percent or higher, with intact hydrology within hammocks and the surrounding and adjacent wetland communities.

(4) Dense canopy cover of surrounding native vegetation that consists of the upland hardwood forest hammock habitats and provides shade, shelter, and moisture.

(5) Suitable microhabitat conditions, hydrology, and connectivity that can support the Florida bristle fern growth, distribution, and population expansion (including rhizomal growth, spore dispersal, and sporophyte and gametophyte growth and survival).

(6) Plant community of predominantly native vegetation that is minimally disturbed, free from human-related disturbance with either no competitive nonnative, invasive plant species, or such species in quantities low enough to have minimal effect on Florida bristle fern.

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 that are essential to the conservation of the species and that may require special management considerations or protection. The features essential to the conservation of Florida bristle fern may require special management considerations or protections to reduce threats related to habitat modification and destruction primarily due to development, agricultural conversion, hydrologic alteration, nonnative invasive species, and sea level rise. For more information on threats to Florida bristle fern, please refer to the final listing rule (80 FR 60440, October 6, 2015).

The four known populations of the south Florida metapopulation occur on County-managed conservation lands at Castellow Hammock, Hattie Bauer Hammock, Fuchs Hammock, and Meissner Hammock. However, these areas are still vulnerable to the effects of activities in the surrounding areas, including agricultural clearing and hydrologic alterations. In addition, these areas are vulnerable to threats from nonnative invasive species, especially if current control efforts are discontinued or decreased. The small amount of rockland hammock or mixed rockland/mesic hammock is vulnerable to impacts related to urban and agricultural development, including hydrologic alterations, and threats by nonnative invasive species (especially as such areas are often not actively managed for nonnative species). We expect these hammock communities in south Florida to be further degraded due to sea level rise and the increase in the number of flood events, which would fully or partially inundate some rockland hammocks along the coast and in the southern portion of Miami-Dade County and in Everglades National Park. Sea level rise is also expected to increase the salinity of the water table and soils, resulting in vegetation shifts across the Miami Rock Ridge.

The two known populations of the central Florida metapopulation both occur on State-owned land in the Jumper Creek Tract of the Withlacoochee State Forest. Land clearing and hydrological alterations on private lands adjacent to the Jumper Creek Tract continue to be threats to the subspecies' populations and habitat. In addition, while the Withlacoochee State Forest is generally considered public conservation land, it is managed by the Florida Forest Service and is subject to logging in certain areas. Logging is less likely to occur on the Jumper Creek Tract due to the existing matrix of hammocks and pinelands (versus a predominantly pineland community). This area is also subject to impacts from nonnative invasive species, although forest management on the Jumper Creek Tract currently includes nonnative plant control. Moisture and humidity levels of the fern habitat are also dependent upon the hydrology of the surrounding or adjacent wetlands. Alterations in the natural hydrologic regime within the hammock and these adjacent habitats affect these physical or biological features. Draining, ditching, and excessive pumping of groundwater can lower the water table in hammocks, causing reduced moisture and humidity levels. In such cases, mesic hammocks, for example, may undergo shifts in species composition toward xeric hammock composition. These impacts to hammock systems may ultimately reduce or eliminate suitable habitat for the subspecies. A lowered water table or dewatering of hammocks can also render the habitat vulnerable to catastrophic fire.

Special management considerations and protections that will address these threats include increased coordination and conservation of the subspecies and its habitat (including preventing impacts to hammock hydrology, canopy cover, and substrate) on Federal lands and with State, County, and private landowners of non-Federal lands. Habitat restoration and management efforts (including nonnative plant treatments) of high-priority sites will be emphasized. At this time, the subspecies does not occur on Federal lands for either metapopulation, but reintroduction is being explored for Royal Palm Hammock in Everglades National Park in south Florida.

Criteria Used To Identify Critical Habitat

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.

The current distribution of Florida bristle fern is reduced from its historical distribution to a level where it is danger of extinction. We anticipate that recovery will require continued protection of existing populations and habitat, as well as establishing sites that more closely approximate its historical distribution, in order to ensure there are adequate numbers of Florida bristle fern in stable populations and that these populations occur over a wide geographic area within both metapopulations. This strategy will help to ensure that catastrophic events, such as fire, cannot simultaneously affect all known populations. Rangewide recovery considerations, such as maintaining existing genetic diversity and striving for representation of all major portions of the subspecies' historical range, were considered in formulating this proposed critical habitat designation.

The amount and distribution of the proposed critical habitat are designed to provide:

(1) The processes that maintain the physical or biological features that are essential to the conservation of the subspecies;

(2) Sufficient quality and size of habitat to support the persistence of the physical or biological features for the subspecies (hammock microclimate, humidity, temperature, substrate, canopy cover, native plant community);

(3) Habitat to expand the distribution of Florida bristle fern into historically occupied areas;

(4) Space to increase the size of each population to a level where the threats of genetic, demographic, and normal

environmental uncertainties are diminished; and

(5) Additional space to improve the ability of the subspecies to withstand local or regional-level environmental fluctuations or catastrophes.

For Florida bristle fern, we are proposing to designate critical habitat in areas within the geographical area occupied by the subspecies at the time of listing. For those areas, we determined that they were of suitable habitat within the known historical range, with current occurrence records, and could support the physical or biological features identified earlier, such as through restoration. We are also proposing to designate specific areas outside the geographical area occupied by the subspecies at the time of listing because we have determined that a designation limited to occupied areas would be inadequate to ensure the conservation of the subspecies. For those unoccupied areas, we have determined that it is reasonably certain that the unoccupied areas will contribute to the conservation of the subspecies and contain one or more of the physical or biological features that are essential to the conservation of the subspecies.

Sources of Data To Identify Critical Habitat Boundaries

To determine the general extent, location, and boundaries of the proposed critical habitat, we used the following sources of information:

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

(2) Florida Fish and Wildlife Commission (Commission), Inventory, Institute for Regional Conservation (Institute), and Fairchild Tropical Botanic Garden (Fairchild) geographic information system (GIS) data showing the location and extent of documented occurrences of Florida bristle fern;

(3) Reports and databases prepared by the Institute and Fairchild;

(4) ESRI ArcGIS online basemap aerial imagery (December 2010) and historical aerial imagery (1938 for Miami-Dade County; 1941 for Sumter County); and

(5) GIS data depicting land cover (Commission and Inventory Cooperative Land Cover Map, version 3.1) within Miami-Dade and Sumter Counties, and the location and habitat boundaries of rockland hammocks in Miami-Dade County (Florida Geographic Data Library 2017; Commission and Inventory 2018; Institute 2009; Miami-Dade County Information Technology Department 2015; Sumter County, Florida 2019).

The presence of the physical or biological features was determined using the above sources of information as well as site visits by biologists and botanists (Possley 2019, entire), and through field surveys, habitat mapping, and substrate mapping by the Institute (Possley and Hazelton 2015, entire; van der Heiden 2016, entire; van der Heiden and Johnson 2014, entire).

Areas Occupied at the Time of Listing

The proposed occupied critical habitat units were delineated around the documented extant populations and the existing physical or biological features that require special management and protection. We have determined that all currently known occupied habitat for Florida bristle fern was also occupied by the subspecies at the time of listing, and that these areas contain the physical or biological features essential to the conservation of the subspecies and which may require special management considerations or protection. We are proposing to designate these areas as occupied habitat.

Occupied Habitat—South Florida Metapopulation (Miami-Dade County)

Occupied habitat, which for the south Florida metapopulation occurs in rockland hammock habitat, was identified based on available occurrence data for Florida bristle fern. Rockland hammock boundaries were delineated using the Institute's 2009 rockland hammock GIS layer. Based on our assessment of rockland hammocks on the Miami Rock Ridge (see *Sites for Reproduction, Germination, or Spore Production and Dispersal*), we included in the assessment all of the remaining rockland hammocks within the proposed critical habitat boundaries. Next, we grouped rockland hammocks, where appropriate, to form units. Rockland hammocks in close proximity to one another provide connectivity and allow spore dispersal (water-based, animal, or wind-driven dispersal) from occupied to adjacent habitat, which is important for establishing new clusters of plants to increase population resiliency and subspecies redundancy. In addition, based on the Act's implementing regulations (50 CFR 424.12 (d)), when habitats are in close proximity to one another, an inclusive area may be designated. Although the population historically observed in Ross Hammock has been reported as extirpated, we combined Ross Hammock with Castellow Hammock into a single occupied unit (unit South Florida 9 [SF 9]) because: (1) The subspecies is exceedingly hard to find even by species experts and, therefore, may be present even though it has been reported as extirpated; (2) there is the likelihood that spores could travel between occupied and adjacent habitat, particularly during high-water events; and (3) habitat directly adjacent to known occurrences (*e.g.,* separated only by a road) can also be occupied if habitat conditions are suitable. Three occupied units (Castellow/Ross, Hattie Bauer, and Fuchs and Meissner hammocks) totaling 52 ha (129 ac) are proposed as critical habitat for the south Florida metapopulation.

Occupied Critical Habitat—Central Florida Metapopulation (Sumter County)

For the central Florida populations, habitat was defined as the intersection of mesic, hydric, and elevated hydric hammocks and a boulder layer shapefile (van der Heiden 2016, p. 3).

On the Jumper Creek Tract, known extant populations of Florida bristle fern occur in two small mesic hammocks located within and supported by a matrix of hydric hammock and mixed wetland hardwood communities. The mesic hammocks are approximately 0.18 ha (0.44 ac) and 0.11 ha (0.28 ac) in size and difficult to differentiate from the surrounding forested vegetation. Our evaluation of occurrence data for this metapopulation also included historical observations of the Florida bristle fern south of the Jumper Creek Tract where the subspecies was formerly known to occur near Battle Slough (near the existing town of Wahoo) and located in close proximity to the extant populations. In this area, habitat types include mixed wetland hardwoods surrounded by freshwater marsh, cypress/tupelo, and mixed hardwood-coniferous forest. Using the information mentioned above on current and historical occurrences and habitat type and applying the data for suitable substrate (boulders), we delineated a contiguous unit of occupied habitat for Florida bristle fern.

As discussed earlier, suitable hammock micro-conditions in this landscape (specifically the high humidity, stable temperatures, moisture, and shade) required by Florida bristle fern are supported by the surrounding vegetation, which minimizes drastic changes in temperature or humidity at the microclimate scale. Generally, forest edges receive more light, are prone to greater desiccation, and have a reduced biodiversity compared to the forest interiors. Pronounced edge effects from adjacent land clearing and fragmentation, such as with agricultural

lands, reduce the quality of forested habitat and detrimentally affect the interior microclimate.

Field observations of Florida bristle fern in central Florida found more robust and healthy ferns in an interior hammock with approximately 300 m (985 ft) of surrounding habitat between it and cleared pasture land. This was compared to ferns in a hammock that had only 100 m (328 ft) of surrounding habitat separating it from the edge of cleared pasture. The ferns located nearer the edge (approximately 100 m) of the adjacent cleared pasture had visible signs of stress, and these ferns appeared desiccated and had fewer reproductive bristles than the ferns in the hammock and with 300 m of surrounding vegetation (van der Heiden 2016, p. 3). These observations are consistent with findings that documented edge effects on ferns up to 200 m into the forest (Hylander et al. 2013, pp. 559–560). Edge effects included loss of individual plants, loss of percent canopy cover, and increased temperature, sunlight, and wind on the microclimate (Hylander et al. 2013, pp. 559–560; Leão da Silva and Schmitt 2015, pp. 227–228).

To most accurately represent suitable habitat for Florida bristle fern within these central Florida communities and ensure the persistence of the necessary microclimate, we consider natural communities within 300 m (985 ft) as measured from the edge of and surrounding the boulder substrate (equivalent to 9.3 ha (23 ac)) to be habitat essential to the conservation of the subspecies (van der Heiden 2014, pers. comm.; van der Heiden 2016, p. 3) in protecting the habitat from edge effects. The suitable habitat communities and the distribution of exposed limestone substrate (boulder) in these communities were delineated with the use of ground survey and satellite imagery data (van der Heiden and Johnson 2014, pp. 6–7; van der Heiden 2016, p. 3). Site-level data of vegetative communities produced from aerial photography (Commission and Inventory 2018) and feedback from species experts and local biologists on habitat and substrate occurrence in this area were also used.

Thus, using the best available data, one occupied unit totaling 742 ha (1,834 ac) is proposed as critical habitat for the central Florida metapopulation. This proposed critical habitat designation consists of a contiguous unit within and adjacent to Jumper Creek Tract of intact vegetation (*i.e.,* not cleared) in mesic or hydric hammocks and mixed wetland hardwood communities having exposed limestone substrate (boulders), which have, at minimum, a 300-m radius of surrounding intact vegetation.

Areas Outside the Geographic Area Occupied at the Time of Listing

To consider for designation areas not occupied by the subspecies at the time of listing, we must demonstrate that these areas are essential for the conservation of Florida bristle fern. In south Florida, proposed occupied critical habitat for the subspecies is within a relatively small amount of highly fragmented habitat and occupied patches are generally isolated from one another within the landscape. In addition, the extent of the geographic area in south Florida (Miami-Dade County) that is currently occupied by the plant is substantially (nearly 80 percent) smaller than its historical range. In central Florida, the two known existing populations are in very close proximity and also in a much smaller area than the known historical range. Because of this fragmentation and loss of range, both metapopulations have lower resiliency under these current conditions compared to historical occurrences, and therefore, the subspecies' adaptive capacity (representation) and redundancy has been reduced.

Based on these factors in relation to the threats to Florida bristle fern, we have determined we cannot recover the subspecies with only the occupied habitat; thus, additional habitat is essential to provide a sufficient amount of habitat (total area and number of patches) and connectivity for the long-term conservation of the plant. Therefore, because we have determined occupied areas alone are not adequate for the conservation of the subspecies, we have identified and are proposing for designation as critical habitat specific areas outside the geographical area occupied by the subspecies at the time of listing that are essential to the conservation of the subspecies. This will ensure enough sites and individuals exist for each metapopulation of Florida bristle fern. We used habitat and historical occurrence data and the physical or biological features described earlier to identify unoccupied habitat essential for the conservation of the Florida bristle fern. As discussed in more detail below, the unoccupied areas we selected are essential for the conservation of the subspecies because they:

(1) Consist of a documented historical, but now extirpated, occurrence of the subspecies;

(2) Provide areas of sufficient size to support ecosystem processes;

(3) Provide suitable habitat (that contain some or all of the physical or biological features) that allow for growth and expansion; and

(4) Occur in the known historical range of the subspecies.

These unoccupied areas provide sufficient space for growth and reproduction for the subspecies within the historical range and will provide ecological diversity so that the subspecies has the ability to evolve and adapt over time (representation) and ensure that the subspecies has an adequate level of redundancy to guard against future catastrophic events. These areas also represent the areas within the historical range with the best potential for recovery of the subspecies due to their current conditions, provide habitat and space to support spore dispersal and new growth, and are likely suitable for reintroductions.

Unoccupied Habitat—South Florida Metapopulation (Miami-Dade County)

The existing suitable habitat for the south Florida metapopulation consists of a patchwork of small parcels. Therefore, we must ensure the integrity of the solution hole and canopy cover, which is responsible for maintaining the stable damp, humid, and shaded microclimate identified as a physical or biological feature for the subspecies.

Using the Institute's 2009 rockland hammock GIS layer and Commission and Inventory's Cooperative Land Cover site-level data for rockland hammocks and site visit information from Service staff biologists and botanists from Fairchild, Miami, we evaluated all unoccupied sites within rockland hammock habitats, including mixed rockland/mesic hammock and rockland hammock with connecting mixed wetland hardwood habitat, in Miami-Dade County. Specifically, we reviewed available historical aerial photography of 20 rockland hammocks historically occupied, but now unoccupied, by the subspecies. Ten additional potential sites were visited by Service staff. Also, specific information provided by Miami-Dade County and Fairchild on four additional areas was reviewed. A site was considered in the evaluation for proposed unoccupied critical habitat if it is within the historical range of the subspecies and:

(1) Holds a documented historical occurrence;

(2) Contains one or more of the physical or biological features essential to the conservation of the subspecies;

(3) Provides viable habitat for introductions or could be restored to support Florida bristle fern;

(4) Occurs at the edge of the range and provided areas that would allow for growth and expansion; or

(5) Occurs near an occupied site (for potential recruitment).

Each site would, in conjunction with occupied areas of proposed critical habitat, support the conservation of the subspecies. Based on our review, we identified three unoccupied rockland hammock units on the Miami Rock Ridge outside of Everglades National Park (see table 1). These three proposed units represent the units with documented, but now extirpated, historical occurrences with intact rockland hammock within the historical range of the subspecies outside of the Everglades National Park. Within the Everglades National Park, we identified a fourth unit, the Royal Palm Hammock, for inclusion in the proposed critical habitat. This hammock was also historically occupied by the subspecies but was not occupied at the time of listing. The resulting four unoccupied proposed units consist of 83 ha (205 ac) and are considered essential for the conservation of Florida bristle fern because they protect habitat needed to recover the subspecies and reestablish wild populations within the known historical range of the subspecies in Miami-Dade County. The unoccupied units each contain one or more of the physical or biological features and are likely to provide for the conservation of the subspecies. Three of the unoccupied units are on lands managed by Miami-Dade County and the fourth unoccupied unit is on land managed by Everglades National Park.

Unoccupied Habitat—Central Florida Metapopulation (Sumter County)

For the central Florida metapopulation, criteria for determining unoccupied critical habitat included units that:

(1) Holds a documented historical occurrence;

(2) Contains one or more of the physical or biological features essential to the conservation of the subspecies;

(3) Provides space for growth and recovery (to add resiliency to a small population);

(4) Provides viable habitat for introductions; and

(5) Provides connectivity across the range of the subspecies.

Unoccupied habitat was delineated based on documented historical occurrences, existing suitable habitat (as defined by the physical or biological features), and evaluation of the habitat and substrate delineation mapping (van der Heiden 2016, pp. 5–7) with data obtained through field surveys and satellite mapping. The one unoccupied unit proposed for critical habitat designation consists of approximately 747 ha (1,846 ac) (table 1). It consists of documented historically occupied (now extirpated) habitat with suitable wetland and upland communities having intact vegetation (not cleared) and hammocks and exposed limestone boulders with at least a 300-m radius (984 ft) or greater of surrounding native vegetation (van der Heiden 2014, pers. comm.; van der Heiden 2016, p. 3). Its size was based on the conditions necessary to maintain the physical or biological features. It is considered essential for the conservation of Florida bristle fern because it protects habitat needed to recover the subspecies and reestablish wild populations within the known historical range of the subspecies in Sumter County. The unoccupied unit contains one or more of the physical or biological features and is likely to provide for the conservation of the subspecies.

General Information on the Maps of the Proposed Critical Habitat Designation

The proposed 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 Proposed Regulation Promulgation. We include more detailed information on the boundaries of the critical habitat designation in the discussion of individual units below. We will make the coordinates or plot points or both on which each map is based available to the public at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0068, at *http://www.fws.gov/verobeach,* and at the South Florida Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**, above).

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for Florida bristle fern. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation under the Act 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.

Proposed Critical Habitat Designation

We are proposing to designate as critical habitat for Florida bristle fern approximately 1,624 ha (4,014 ac) in nine units in Miami-Dade and Sumter Counties, Florida. The proposed critical habitat consists of units identified for the south and central Florida metapopulations and are delineated in (1) south Florida by rockland/tropical hammocks of Miami-Dade County (135 ha (334 ac)); and (2) central Florida by Withlacoochee State Forest, Jumper Creek Tract, and adjacent lands in Sumter County (1,489 ha (3680 ac)). Four of the units are currently occupied by the subspecies and contains those physical or biological features essential to the conservation of the subspecies but may require special management considerations. Five of the units are currently unoccupied by the subspecies but are essential to the conservation of the subspecies. Table 1 shows the name, occupancy, area, and land ownership of each unit within the proposed critical habitat designation for Florida bristle fern. Land ownership within the entire proposed critical habitat consists of Federal (4 percent), State (92 percent), County (3 percent), and private (1 percent).

TABLE 1—NAME, OCCUPANCY (O = OCCUPIED, U = UNOCCUPIED), AREA, AND LAND OWNERSHIP OF PROPOSED CRITICAL HABITAT UNITS FOR FLORIDA BRISTLE FERN (*Trichomanes punctatum* ssp. *floridanum*)

[Area estimates reflect all land within critical habitat unit boundaries. All areas are rounded to the nearest whole hectare (ha) and acre (ac). Ownership information is based on Miami-Dade County data (2017) and Sumter County data (2019).]

Unit	Occupancy	Federal ha (ac)	State ha (ac)	County ha (ac)	Private/other ha (ac)	Total ha (ac)
Rockland/Tropical Hammocks of South Florida, Miami-Dade County						
Matheson Hammock* (SF 1)	U	0	0	16 (39)	0	16 (39)
Snapper Creek* (SF 2)	U	0	3 (8)	0	0	3 (8)
Castellow and Ross* Hammocks (SF 3)	O	0	13 (32)	25 (61)	0	38 (93)
Silver Palm Hammock* (SF 4)	U	0	4 (10)	0	0	4 (10)
Hattie Bauer Hammock (SF 5)	O	0	0	3 (8)	0	3 (8)
Fuchs and Meissner Hammocks (SF 6)	O	0	2 (5)	9 (23)	0	11 (28)
Royal Palm Hammock* (SF 7)	U	60 (148)	0	0	0	60 (148)
South Florida Total		60 (148)	22 (55)	53 (131)	0	135 (334)
Withlacoochee State Forest, Jumper Creek Tract, and adjacent lands of Central Florida, Sumter County						
CF 1	O	0	726 (1,795)	0	16 (39)	742 (1,834)
CF 2*	U	0	747 (1,846)	0	0	747 (1,846)
Central Florida Total		0	1,473 (3,641)	0	16 (39)	1,489 (3,680)
Total South and Central Florida		60 (148)	1,495 (3,696)	53 (131)	16 (39)	1,624 (4,014)

*Historically occupied.
Note: Area sizes may not sum due to rounding.

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

Rockland/Tropical Hammocks of South Florida, Miami-Dade County, Florida

The proposed critical habitat for the south Florida metapopulation is composed of seven units (SF 1–SF 7) consisting of approximately 135 ha (334 ac) located between South Miami and eastern Everglades National Park in central and southern Miami-Dade County, Florida.

SF 1—Matheson Hammock

Because we have determined occupied areas are not adequate for the conservation of the subspecies, we have evaluated whether any unoccupied areas are essential for the conservation of the subspecies and identified this area as essential for the conservation of the Florida bristle fern. SF 1 consists of approximately 16 ha (39 ac) of habitat in Matheson Hammock in Matheson Hammock Park in Miami-Dade County, Florida. This unit is composed of County-owned land that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands (EEL) program and the Natural Areas Management division. Matheson Hammock is within the historical range of Florida bristle fern but is not within the geographical range currently occupied by the subspecies at the time of listing.

Although it is currently considered unoccupied, this unit contains some or all of the physical or biological features necessary for the conservation of the subspecies. Unit SF1 possesses those characteristics as described by physical or biological feature 1 (upland hardwood forest hammock habitats of sufficient quality and size to sustain the necessary microclimate and life processes for Florida bristle fern) and physical or biological feature 2 (exposed substrate derived from oolitic limestone, Ocala limestone, or exposed limestone boulders, which provide anchoring and nutritional requirements). Physical or biological features 3–6 are degraded in this unit, and with appropriate management and restoration actions such as prescribed burns and removal of invasive plant species, these physical or biological features can be restored.

This unit would serve to protect habitat needed to recover the subspecies and reestablish wild populations within the historical range in Miami-Dade County. Re-establishing a population in this unit would increase redundancy in the South Florida metapopulation. It would also provide habitat for recolonization in the case of stochastic events (such as hurricanes), should other areas of suitable habitat be destroyed or Florida bristle fern be extirpated from one of its currently occupied locations. This unit is essential for the conservation of the subspecies because it will provide habitat for range expansion in known historical habitat that is necessary to increase viability of the subspecies by increasing its resiliency, redundancy, and representation.

We are reasonably certain that this unit will contribute to the conservation of the subspecies, because the need for conservation efforts is recognized and is being discussed by our conservation partners, and methods for restoring and reintroducing the subspecies are being developed. As stated previously, this unit is entirely composed of County-owned land and primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands (EEL) program and the Natural Areas Management division. The EEL program's focus is on the ''protection and conservation of endangered lands,'' and these EEL areas are managed for restoration and conservation through actions such as prescribed burns and invasive plant removal. In addition, State and County partners have shown interest in reintroduction efforts for the Florida bristle fern in this area.

SF 2—Snapper Creek

Because we have determined occupied areas are not adequate for the conservation of the subspecies, we have evaluated whether any unoccupied areas are essential for the conservation of the subspecies and identified this area as essential for the conservation of the subspecies. SF 2 consists of approximately 3 ha (8 ac) of habitat in Deering-Snapper Creek Hammock

adjacent to R. Hardy Matheson Preserve in Miami-Dade County, Florida. This unit consists of State-owned land that is primarily managed cooperatively by the Miami-Dade County EEL program and the Natural Areas Management Division. Snapper Creek is within the historical range of Florida bristle fern but was not occupied by the subspecies at the time of listing.

Although it is currently considered unoccupied, this unit contains some or all of the physical or biological features necessary for the conservation of the subspecies. Unit SF2 possesses those characteristics as described by physical or biological feature 1 (upland hardwood forest hammock habitats of sufficient quality and size to sustain the necessary microclimate and life processes for Florida bristle fern) and physical or biological feature 2 (exposed substrate derived from oolitic limestone, Ocala limestone, or exposed limestone boulders, which provide anchoring and nutritional requirements). Physical or biological features 3–6 are degraded in this unit, and with appropriate management and restoration actions such as prescribed burns and removal of invasive plant species, these physical or biological features can be restored.

This unit would serve to protect habitat needed to recover the subspecies and reestablish wild populations within the historical range in Miami-Dade County. Re-establishing a population in this unit would an increase the subspecies redundancy in the South Florida metapopulation. It would also provide habitat for recolonization in the case of stochastic events (such as hurricanes), should other areas of suitable habitat be destroyed or Florida bristle fern be extirpated from one of its currently occupied locations. This unit is essential for the conservation of the subspecies because it will provide habitat for range expansion in known historical habitat that is necessary to increase viability of the subspecies by increasing its resiliency, redundancy, and representation.

We are reasonably certain that this unit will contribute to the conservation of the subspecies, because the need for conservation efforts is recognized and is being discussed by our conservation partners, and methods for restoring and reintroducing the subspecies are being developed. As stated previously, this unit is entirely composed of State-owned land and is primarily managed cooperatively by the Miami-Dade County EEL program and the Natural Areas Management Division. The EEL program's focus is on the ''protection and conservation of endangered lands,'' and these EEL areas are managed for restoration and conservation through actions such as prescribed burns and invasive plant removal. In addition, State and County partners have shown interest in reintroduction efforts for the Florida bristle fern in this area.

SF 3—Castellow and Ross Hammocks

SF 3 consists of approximately 38 ha (93 ac) of habitat in Castellow and Ross Hammocks in Miami-Dade County, Florida. This unit consists of 13 ha (32 ac) of State-owned and 25 ha (61 ac) of County-owned lands that are primarily managed cooperatively by the Miami-Dade County EEL program and Natural Areas Management Division. This unit is occupied by the subspecies and contains some or all of the physical or biological features essential to its conservation.

Special management considerations or protection may be required to address threats of commercial, residential, or agricultural development; hydrological alterations; competition with nonnative species; human use and recreation; and sea level rise. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such actions include removal of invasive species, review of County development plans, and review of projects considering land use changes.

SF 4—Silver Palm Hammock

Because we have determined occupied areas are not adequate for the conservation of the subspecies, we have evaluated whether any unoccupied areas are essential for the conservation of the subspecies and identified this area as essential for the conservation of the subspecies. SF 4 consists of approximately 4 ha (10 ac) of habitat in Silver Palm Hammock in Miami-Dade County, Florida. This unit consists of State-owned land that is primarily managed cooperatively by the Miami-Dade County EEL program and Natural Areas Management Division. Silver Palm Hammock is within the historical range of Florida bristle fern but was not occupied by the subspecies at the time of listing.

Although it is currently considered unoccupied, this unit contains some or all of the physical or biological features necessary for the conservation of the subspecies. Unit SF4 possesses those characteristics as describe by physical or biological feature 1 (upland hardwood forest hammock habitats of sufficient quality and size to sustain the necessary microclimate and life processes for Florida bristle fern); physical or biological feature 2 (exposed substrate derived from oolitic limestone, Ocala limestone, or exposed limestone boulders, which provide anchoring and nutritional requirements); physical or biological feature 3 (constantly humid microhabitat consisting of dense canopy cover, moisture, stable high temperature, and stable monthly average humidity of 90 percent or higher, with intact hydrology within hammocks and the surrounding and adjacent wetland communities); physical or biological feature 4 (dense canopy cover of surrounding native vegetation that consists of the upland hardwood forest hammock habitats and provides shade, shelter, and moisture); and physical or biological feature 5 (suitable microhabitat conditions, hydrology, and connectivity that can support the Florida bristle fern growth, distribution, and population expansion (including rhizomal growth, spore dispersal, and sporophyte and gametophyte growth and survival)). Physical or biological feature 6 is degraded in this unit, and with appropriate management and restoration actions such as prescribed burns and removal of invasive plant species, this feature can be restored.

This unit would serve to protect habitat needed to recover the subspecies and reestablish wild populations within the historical range in Miami-Dade County. Re-establishing a population in this unit would increase the subspecies redundancy in the South Florida metapopulation. It would also provide habitat for recolonization in the case of stochastic events (such as hurricanes), should other areas of suitable habitat be destroyed or Florida bristle fern be extirpated from one of its currently occupied locations. This unit is essential for the conservation of the subspecies because it will provide habitat for range expansion in known historical habitat that is necessary to increase viability of the subspecies by increasing its resiliency, redundancy, and representation.

We are reasonably certain that this unit will contribute to the conservation of the subspecies because the need for conservation efforts is recognized and is being discussed by our conservation partners, and methods for restoring and reintroducing the subspecies are being developed. As stated previously, this unit is entirely composed of State-owned land and is primarily managed cooperatively by the Miami-Dade County EEL program and the Natural Areas Management Division. The EEL program's focus is on the ''protection and conservation of endangered lands,'' and these EEL areas are managed for restoration and conservation through actions such as prescribed burns and invasive plant removal. In addition,

State and County partners have shown interest in reintroduction efforts for the Florida bristle fern in this area.

SF 5—Hattie Bauer Hammock

SF 5 consists of approximately 3 ha (8 ac) of habitat in Hattie Bauer Hammock in Miami-Dade County, Florida. This unit consists of County-owned land that is primarily managed cooperatively by the Miami-Dade County EEL program and Natural Areas Management Division. This unit is occupied by the subspecies and contains some or all of the physical or biological features essential to its conservation.

Special management considerations or protection may be required to address threats of commercial, residential, or agricultural development; hydrological alterations; competition with nonnative species; human use and recreation; and sea level rise. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such actions include removal of invasive species, review of County development plans, and review of projects considering land use changes.

SF 6—Fuchs and Meissner Hammocks

SF 6 consists of approximately 11 ha (28 ac) of habitat in Fuchs Hammock on Fuchs Hammock Preserve and Meissner Hammock in Miami-Dade County, Florida. This unit consists of 2 ha (5 ac) of State-owned and 9 ha (23 ac) of County-owned lands that are primarily managed cooperatively by the Miami-Dade County EEL program and Natural Areas Management Division. This unit is occupied by the subspecies and contains some or all of the physical or biological features essential to its conservation.

Special management considerations or protection may be required to address threats of commercial, residential, or agricultural development; hydrological alterations; competition with nonnative species; human use and recreation; and sea level rise. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such actions include removal of invasive species, review of County development plans, and review of projects considering land use changes.

SF 7—Royal Palm Hammock

Because we have determined occupied areas are not adequate for the conservation of the subspecies, we have evaluated whether any unoccupied areas are essential for the conservation of the subspecies and identified this area as essential for the conservation of the subspecies. SF 7 consists of approximately 60 ha (148 ac) of habitat in Royal Palm Hammock in Everglades National Park, which is Federally owned land, in Miami-Dade County, Florida. Royal Palm Hammock is within the historical range of Florida bristle fern but was not occupied by the subspecies at the time of listing.

Although it is currently considered unoccupied, this unit contains all of the physical or biological features necessary for the conservation of the subspecies. Unit SF7 possesses those characteristics as described by physical or biological features 1 through 6.

This unit would serves to protect habitat needed to recover the subspecies and reestablish wild populations within the historical range in Miami-Dade County. Re-establishing a population in this unit would increase the subspecies redundancy in the South Florida metapopulation. It would also provide habitat for recolonization in the case of stochastic events (such as hurricanes), should other areas of suitable habitat be destroyed or Florida bristle fern be extirpated from one of its currently occupied locations. This unit is essential for the conservation of the subspecies because it will provide habitat for range expansion in known historical habitat that is necessary to increase viability of the subspecies by increasing its resiliency, redundancy, and representation.

We are reasonably certain that this unit will contribute to the conservation of the subspecies because the need for conservation efforts is recognized and is being discussed by our conservation partners, and methods for restoring and reintroducing the subspecies are being developed. This unit is entirely composed of Everglades National Park, which is Federally owned land with section 7(a)(1) responsibilities to carry out programs for the conservation of federally listed threatened and endangered species. The Everglades National Park General Management Plan (Plan), approved in 2015 prior to the published final listing rule for Florida bristle fern, guides the National Park Service's management of Everglades National Park, including conservation of threatened and endangered species. The 2015 Plan identifies the Florida bristle fern as extirpated from Everglades National Park (Royal Palm Hammock), and therefore, specific conservation measures were not discussed for the subspecies. However, Everglades National Park continues to conduct nonnative plant species control in Royal Palm Hammock, which helps maintain the physical or biological essential to the conservation of the Florida bristle fern.

Withlacoochee State Forest, Jumper Creek Tract, and Adjacent Lands of Central Florida, Sumter County

The proposed critical habitat for the central Florida metapopulation is composed of two units (CF 1 and CF 2) consisting of approximately 1,489 ha (3,680 ac) located within and adjacent to the Jumper Creek Tract of the Withlacoochee State Forest in Sumter County, Florida.

CF 1

CF 1 consists of approximately 742 ha (1,834 ac) of habitat in Sumter County, Florida. This unit consists of 726 ha (1,795 ac) of State-owned land within the Jumper Creek Tract of the Withlacoochee State Forest and 16 ha (39 ac) of privately owned land directly adjacent to the two locations where Florida bristle fern is currently observed. The State-owned land is managed by the Florida Forest Service. This unit is occupied by the subspecies and contains all of the physical or biological features essential to its conservation.

Special management considerations or protection may be required to address threats of residential and agricultural development, land clearing, logging, cattle grazing, hydrological alteration, competition with nonnative species, human use and recreation, and impacts related to climate change. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions.

CF 2

Because we have determined occupied areas are not adequate for the conservation of the subspecies, we have evaluated whether any unoccupied areas are essential for the conservation of the subspecies and identified this area as essential for the conservation of the subspecies. CF 2 consists of approximately 747 ha (1,846 ac) of habitat on State-owned land within the Jumper Creek Tract of the Withlacoochee State Forest, Sumter County, Florida. This unit has a documented historical population of Florida bristle fern but was not occupied by the subspecies at the time of listing.

Although it is currently considered unoccupied, this unit contains all of the physical or biological features necessary for the conservation of the subspecies. Unit CF2 possesses those characteristics as described by physical or biological features 1 through 6.

This unit would ensure maintenance of the microclimate and contains suitable habitat in association with documented presence of substrate and all of the physical or biological features that can support the subspecies. This unit would provide for an increase in range and connectivity of the subspecies through the natural processes of growth, spore dispersal, and fragmentation, and is considered suitable habitat for introductions to reestablish wild populations within the historical range in Sumter County. Re-establishing at least one historical population in this unit would increase the subspecies redundancy in the Central Florida metapopulation. It also provides habitat for recolonization in the case of stochastic events (such as hurricanes), should other areas of suitable habitat be destroyed or Florida bristle fern be extirpated from one of its currently occupied locations. This unit is essential for the conservation of the subspecies because it will provide habitat for range expansion in known historical habitat that is necessary to increase viability of the subspecies by increasing its resiliency, redundancy, and representation.

We are reasonably certain that this unit will contribute to the conservation of the subspecies because the need for conservation efforts is recognized and is being discussed by our conservation partners, and methods for restoring and reintroducing the subspecies are being developed. This unit is entirely composed of State-owned land that is part of the Withlacoochee State Forest. The Ten-Year Resource Management Plan for the Withlacoochee State Forest (Management Plan), approved in 2015 prior to the published final listing rule for Florida bristle fern, guides the Florida Forest Service's management, including protection of threatened and endangered species found on the Withlacoochee State Forest. The Management Plan does not specifically mention Florida bristle fern; therefore, specific conservation measures are not discussed for the subspecies. However, the Withlacoochee State Forest conducts nonnative species control, which helps maintain the physical or biological features essential to the conservation of the Florida bristle fern. The Forest has shown interest in reintroduction efforts for the Florida bristle fern in this area.

Effects of Critical Habitat Designation

Section 7 Consultation

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

We published a final regulation with a revised 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 agency actions within the subspecies' habitat that may require conference or consultation or both include management and any other landscape-altering activities on Federal lands administered by the Service, U.S. Forest Service, and National Park Service; issuance of section 404 Clean Water Act permits by the U.S. Army Corps of Engineers; and construction and maintenance of roads or highways by the Federal Highway Administration. 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 the 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 reinitiate formal 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, we have listed a new species or designated critical habitat that may be affected by the Federal action, or the action has been modified in a manner that affects the species or critical habitat in a way not considered in the previous consultation. In such situations, Federal agencies sometimes may need to request reinitiation of consultation with us, but the regulations also specify some exceptions to the requirement to reinitiate consultation on specific land management plans after subsequently listing a new species or designation critical habitat. See the regulations for descriptions of those exceptions.

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 7(a)(2) of the Act by destroying or adversely modifying such designation.

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

(1) Actions that would significantly alter native vegetation structure or composition within the upland hardwood forest hammock habitat consisting of rockland or closed tropical hardwood hammock (south Florida) or mesic, hydric, or intermixed hammock strands ecosystems (central Florida) as defined as a physical or biological feature in the proposed critical habitat. Such activities could include, but are not limited to, land conversion or clearing related to residential, commercial, agricultural, or recreational development, including associated infrastructure; logging; introduction of nonnative plant species; or improper fire management. These activities could result in loss, modification, and fragmentation of rockland/mesic hammock habitat, thereby eliminating or reducing the habitat necessary for the growth and reproduction of the subspecies.

(2) Actions that would significantly alter microhabitat for Florida bristle fern within the rockland or closed tropical hardwood hammock (in south Florida) or mesic, hydric, or intermixed hammock strands (in central Florida) ecosystems, including significant alterations to the substrate within the rockland/mesic-hydric hammocks or to the canopy or hydrology within the rockland/mesic-hydric hammocks or surrounding upland hardwood forest vegetation as identified as a physical or biological feature in the proposed critical habitat. Such activities could include, but are not limited to, residential, commercial, agricultural, or recreational development, including associated infrastructure; land conversion or clearing; logging; introduction of nonnative species including invasive plants or feral hogs; ground or surface water withdrawals; and ditching. These activities could result in changes to temperature, humidity, light, and existing water levels, thereby eliminating or reducing the microhabitat necessary for the growth and reproduction of the subspecies.

(3) Actions that would significantly alter the hydrology of the upland forested hammock ecosystems as defined as a physical or biological feature in the proposed critical habitat, including significant alterations to the hydrology of surrounding wetland habitat and the underlying water table. Such activities could include, but are not limited to, regional drainage efforts; ground or surface water withdrawals; and ditching. These activities could result in changes to existing water levels and humidity levels within the hammocks, thereby eliminating or reducing the habitat necessary for the growth and reproduction of the subspecies.

Exemptions

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

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: ''The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.'' There are no Department of Defense lands with a completed INRMP within the proposed critical habitat designation.

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 if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination 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.

As discussed below, we are not proposing to exclude any areas from critical habitat. However, the final decision on whether to exclude any areas will be based on the best scientific data available at the time of the final designation, including information obtained during the comment period and information about the economic impact of designation.

Consideration of 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. To assess the probable economic impacts of a designation, we must first evaluate specific land uses or activities and projects that may occur in the area of the critical habitat. We then must evaluate the impacts that a specific critical habitat designation may have on restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the areas proposed. We then identify which conservation efforts may be the result of the species being listed under the Act versus those attributed solely to the designation of critical habitat for this particular species. The probable economic impact of a proposed critical habitat designation is analyzed by comparing scenarios both ''with critical habitat'' and ''without critical habitat.'' The ''without critical habitat'' scenario represents the baseline for the analysis, which includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat (*e.g.,* under the Federal listing as well as other Federal, State, and local regulations). The baseline, therefore, represents the costs of all efforts attributable to the listing of the species under the Act (*i.e.,* conservation of the species and its habitat incurred regardless of whether critical habitat is designated). The ''with critical habitat'' scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts would not be expected without the designation of critical habitat for the species. In other words, the incremental costs are

those attributable solely to the designation of critical habitat, above and beyond the baseline costs. These are the costs we use when evaluating the benefits of inclusion and exclusion of particular areas from the final designation of critical habitat should we choose to conduct a discretionary 4(b)(2) exclusion analysis.

For this proposed designation, we developed an incremental effects memorandum (IEM) considering the probable incremental economic impacts that may result from this proposed designation of critical habitat. The information contained in our IEM was then used to develop a screening analysis of the probable effects of the designation of critical habitat for Florida bristle fern (IEc 2020, entire). The purpose of the screening analysis is to filter out the geographic areas in which the critical habitat designation is unlikely to result in probable incremental economic impacts. In particular, the screening analysis considers baseline costs (*i.e.,* absent critical habitat designation) and includes probable economic impacts where land and water use may be subject to conservation plans, land management plans, best management practices, or regulations that protect the habitat area as a result of the Federal listing status of the subspecies. The screening analysis filters out particular areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. Ultimately, the screening analysis allows us to focus our analysis on the specific areas or sectors that may incur probable incremental economic impacts as a result of the designation. The screening analysis also assesses whether units unoccupied by the subspecies may require additional management or conservation efforts as a result of the designation and which may incur incremental economic impacts. This screening analysis, combined with the information contained in our IEM, constitutes our draft economic analysis (DEA) of the proposed critical habitat designation for Florida bristle fern and is summarized in the narrative below.

Executive Orders (E.O.s) 12866 and 13563 direct Federal agencies to assess the costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Consistent with the E.O. regulatory analysis requirements, our effects analysis under the Act may take into consideration impacts to both directly and indirectly affected entities, where practicable and reasonable. If sufficient data are available, we assess to the extent practicable the probable impacts to both directly and indirectly affected entities. 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 the proposed designation of critical habitat for Florida bristle fern, first we identified, in the IEM dated October 2019, probable incremental economic impacts associated with the following categories of activities: (1) Commercial or residential development; (2) roadway and bridge construction; (3) utility-related activities; (4) agriculture, including land clearing; (5) grazing; (6) groundwater pumping; (7) surface water withdrawals and diversions; (8) forest management; (9) fire management; (10) conservation and restoration activities, including nonnative species control; and (11) recreation. Additionally, we considered whether the 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. In areas where Florida bristle fern is present, Federal agencies already are required to consult with the Service under section 7 of the Act on activities they fund, permit, or implement that may affect the subspecies. If we finalize this proposed critical habitat designation, consultations to avoid the destruction or adverse modification of critical habitat would be incorporated into the existing consultation process.

In our IEM, we attempted to clarify the distinction between the effects that will result from the subspecies being listed and those attributable to the critical habitat designation (*i.e.,* the difference between the jeopardy and adverse modification standards) for Florida bristle fern. The following considerations helped 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 subspecies, and (2) any actions that would result in sufficient harm or harassment to constitute jeopardy to Florida bristle fern 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 subspecies. This evaluation of the incremental effects has been used as the basis to evaluate the probable incremental economic impacts of this proposed designation.

The proposed critical habitat designation for Florida bristle fern totals approximately 1,624 ha (4,014 ac) in Miami-Dade and Sumter Counties, Florida, and includes both occupied and unoccupied units. Within the occupied units, any actions that may affect the subspecies would also affect proposed critical habitat, and it is unlikely that any additional conservation efforts would be recommended to address the adverse modification standard over and above those recommended as necessary to avoid jeopardizing the continued existence of Florida bristle fern. Therefore, 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.

Within the unoccupied units, incremental section 7 costs will include both the administrative costs of consultation and the costs of developing and implementing conservation measures needed to avoid adverse modification of critical habitat. Therefore, this analysis focuses on the likely impacts to activities occurring in unoccupied units of the proposed critical habitat designation. This analysis considers the potential need to consult on development, transportation, and other activities authorized, undertaken, or funded by Federal agencies within unoccupied habitat. The total incremental section 7 costs associated with the designation were estimated to be $210,000 in 2019 dollars (IEC 2020, p. 12). Accordingly, we conclude that these costs would not reach the threshold of ''significant'' under E.O. 12866.

As we stated earlier, we are soliciting data and comments from the public on the DEA, as well as all aspects of the proposed rule and our required determinations. See **ADDRESSES**, above, for information on where to send comments. We may revise the proposed rule or supporting documents to incorporate or address information we receive during the public comment period. In particular, we may exclude an area from critical habitat if we determine that the benefits of excluding the area outweigh the benefits of including the area, provided the exclusion will not result in the extinction of this subspecies.

Exclusions

Exclusions Based on Economic Impacts

We are soliciting data and comments from the public on the DEA discussed above, as well as all aspects of the proposed rule. During the development of a final designation, we will consider the information presented in the DEA and any additional information on economic impacts received through the public comment period to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Exclusions Based on National Security Impacts or Homeland Security Impacts

In preparing this proposal, we have determined that no lands within the proposed designation of critical habitat for Florida bristle fern are owned or managed by the Department of Defense or Department of Homeland Security, and therefore, we anticipate no impact on national security. However, during the development of a final designation we will consider any additional information received through the public comment period on the impacts of the proposed designation on national security or homeland security to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors, including whether there are permitted conservation plans covering the species in the area such as habitat conservation plans (HCPs), safe harbor agreements, or candidate conservation agreements with assurances, 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 the existence of tribal conservation plans and partnerships, and consider the government-to-government relationship of the United States with tribal entities. We also consider any social impacts that might occur because of the designation.

In preparing this proposal, we have determined that there are currently no HCPs or other management plans for Florida bristle fern, and the proposed designation does not include any tribal lands or trust resources. We anticipate no impact on tribal lands, partnerships, or HCPs from this proposed critical habitat designation. During the development of a final designation, we will consider any additional information received through the public comment period regarding other relevant impacts to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19. Required Determinations

Clarity of the Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Regulatory Planning and Review (Executive Orders 12866 and 13563)

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

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. 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.

Executive Order 13771

This proposed rule is not an E.O. 13771 (''Reducing Regulation and Controlling Regulatory Costs'') (82 FR 9339, February 3, 2017) regulatory action because this proposed rule is not significant under E.O. 12866.

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.

The Service's current understanding of the requirements under the RFA, as amended, and following recent court decisions, is that Federal agencies are only required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself and, therefore, not required 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 if we adopt the proposed critical habitat designation. There is no requirement under the RFA to evaluate the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities are directly regulated by this rulemaking, the Service certifies that, if made final as proposed, this proposed critical habitat designation will not have a significant economic impact on a substantial number of small entities.

In summary, we have considered whether the proposed designation would result in a significant economic impact on a substantial number of small entities. For the above reasons and based on currently available information, we certify that, if made final as proposed, this proposed critical habitat designation will not have a significant economic impact on a substantial number of small business entities. Therefore, an initial 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 the designation of this proposed critical habitat would significantly affect energy supplies, distribution, or use. 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 findings:

(1) This proposed rule would not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

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

(2) We 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 greater in any year, that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The economic analysis concludes that incremental impacts may primarily occur due to administrative costs of section 7 consultations for development and transportation projects, and for other activities primarily related to land and facility management, cultural resource, research, and conservation activities in Everglades National Park; however, these are not expected to significantly affect small governments. Incremental impacts stemming from various species conservation and development control activities are expected to be borne by the Federal Government, State of Florida, and Miami-Dade County, which are not considered small governments. Consequently, we do not believe that the critical habitat designation would significantly or uniquely affect small government entities. As such, 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 bristle fern in a takings implications assessment. The Act does not authorize the Service 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, if adopted, this designation of critical habitat for Florida bristle fern 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 proposed 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 proposed critical habitat designation with, appropriate State resource agencies in Florida. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The proposed designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the subspecies are more clearly defined, and the physical or biological features of the habitat necessary to the conservation of the subspecies 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 would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the subspecies, this proposed rule identifies the elements of physical or biological features essential to the conservation of the subspecies. The proposed areas of designated critical habitat are presented on maps, and the proposed 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 (NEPA, 42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to 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)).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes. As discussed above (see Exclusions), we have determined that no tribal lands would be affected by this designation.

Authors

The primary authors of this proposed rule are the staff members of the U.S. Fish and Wildlife Service South Florida Ecological Services Field Office.

References Cited

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

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

■ 2. Amend § 17.12(h) by revising the entry for ''*Trichomanes punctatum* ssp. *floridanum* (Florida bristle fern)'' under ''Ferns and Allies'' in the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
*	*	*	*	* * *
FERNS AND ALLIES				
*	*	*	*	* * *
Trichomanes punctatum ssp. *floridanum*.	Florida bristle fern	Wherever found	E	80 FR 60439, 10/6/2015; 50 CFR 17.97(b)(1).[CH]
*	*	*	*	* * *

■ 3. Add § 17.97 to read as follows:

§ 17.97 Critical habitat; conifers, ferns and allies, lichens.

(a) [Reserved.]

(b) *Ferns and allies.* (1) *Trichomanes punctatum* ssp. *floridanum* (Florida bristle fern).

(i) Critical habitat units are depicted for Miami-Dade and Sumter Counties, Florida, on the maps in this entry.

(ii) Within these areas, the physical or biological features essential to the conservation of Florida bristle fern consist of the following components:

(A) Upland hardwood forest hammock habitats of sufficient quality and size to sustain the necessary microclimate and life processes for Florida bristle fern.

(B) Exposed substrate derived from oolitic limestone, Ocala limestone, or exposed limestone boulders, which provide anchoring and nutritional requirements.

(C) Constantly humid microhabitat consisting of dense canopy cover, moisture, stable high temperature, and stable monthly average humidity of 90 percent or higher, with intact hydrology within hammocks and the surrounding and adjacent wetland communities.

(D) Dense canopy cover of surrounding native vegetation that consists of the upland hardwood forest hammock habitats and provides shade, shelter, and moisture.

(E) Suitable microhabitat conditions, hydrology, and connectivity that can support Florida bristle fern growth, distribution, and population expansion (including rhizomal growth, spore dispersal, and sporophyte and gametophyte growth and survival).

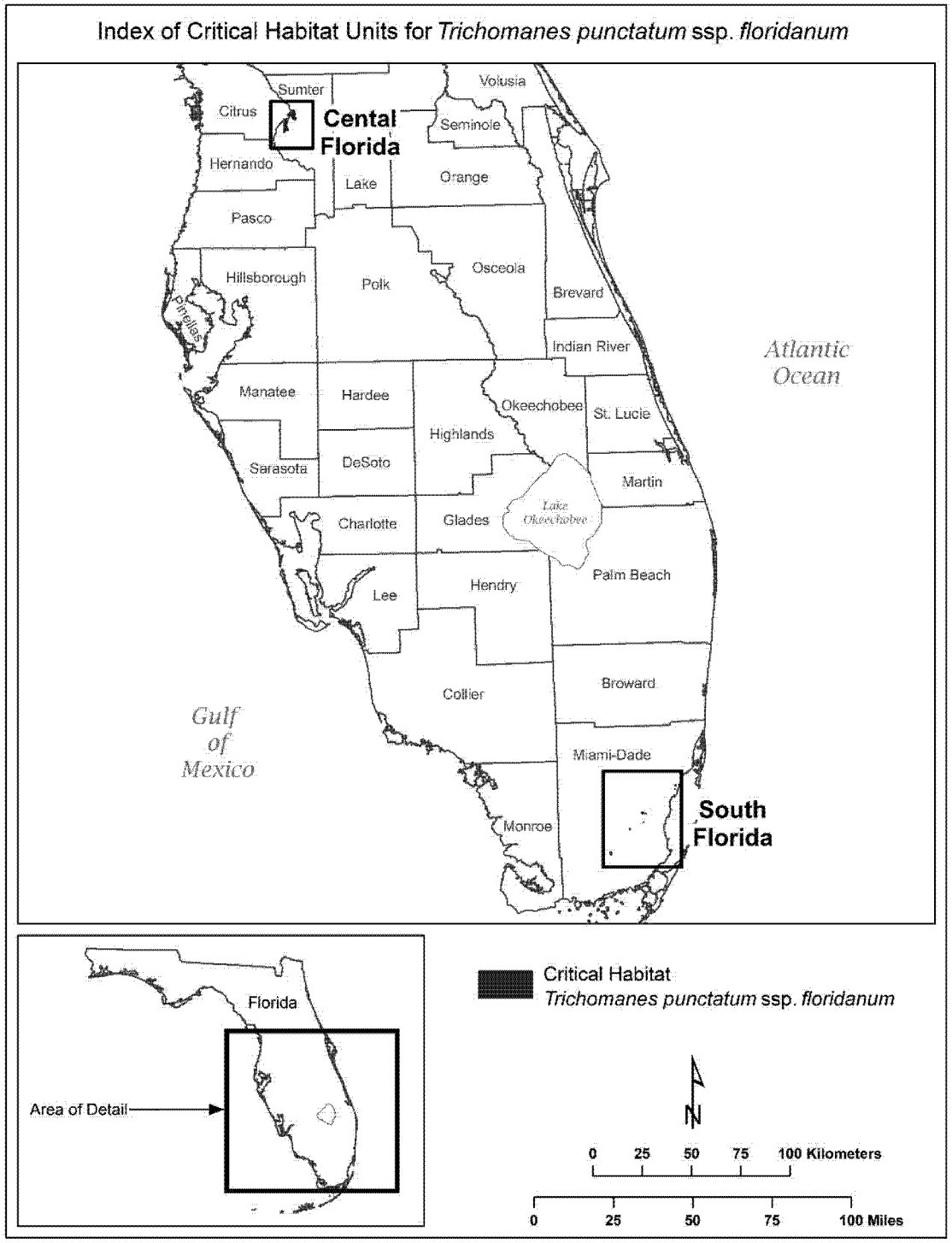
(F) Plant community of predominantly native vegetation that is minimally disturbed, free from human-related disturbance with either no competitive nonnative, invasive plant species, or such species in quantities low enough to have minimal effect on Florida bristle fern.

(iii) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [EFFECTIVE DATE OF THE FINAL RULE].

(iv) *Critical habitat map units.* Data layers defining map units were created using ESRI ArcGIS mapping software along with various spatial data layers. ArcGIS was used to calculate the size of habitat areas. The projection used in mapping and calculating distances and locations within the units was North American Albers Equal Area Conic, NAD 83 Geographic. 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 *http://www.fws.gov/verobeach, http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0068 and at the South Florida Ecological Services Field Office. 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.

(v) *Note:* Index map follows:

BILLING CODE 4333–15–P

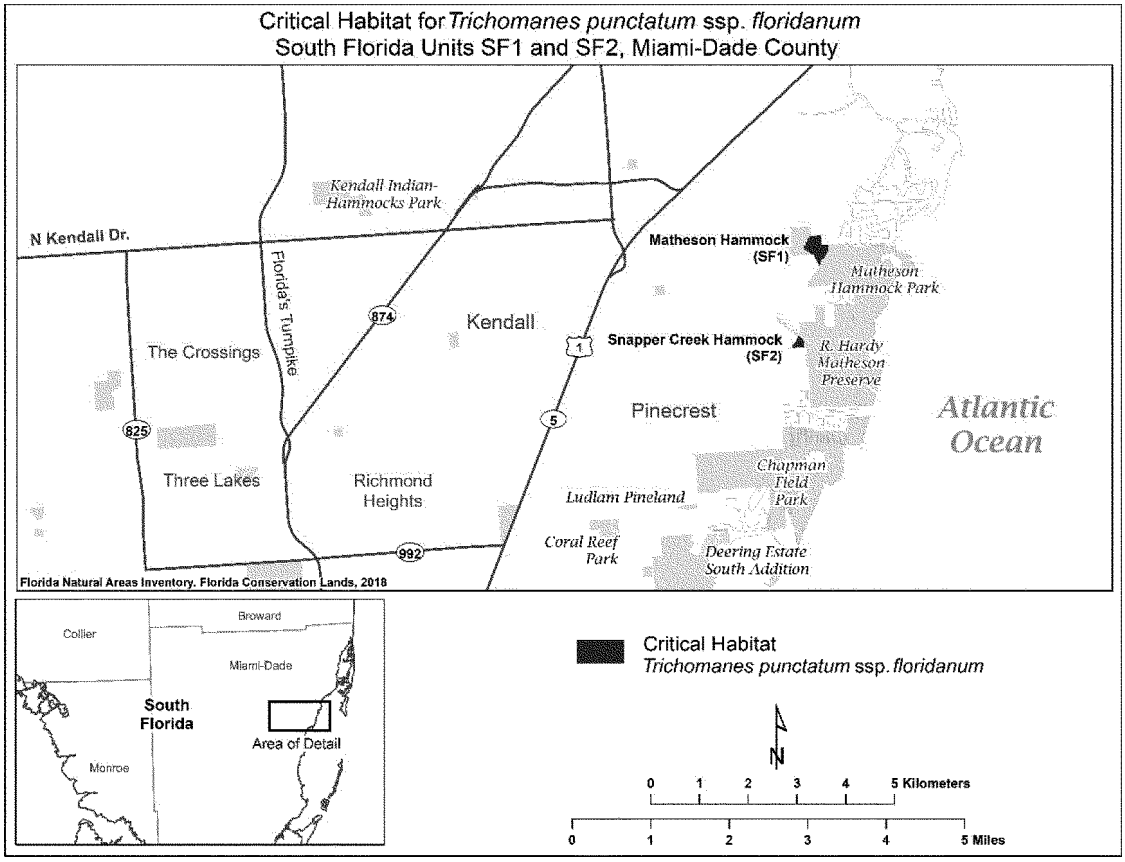


(vi) SF 1—Matheson Hammock, Miami-Dade County, Florida; and SF 2—Snapper Creek Hammock, Miami-Dade County, Florida.

(A) SF 1 consists of approximately 16 ha (39 ac) of unoccupied critical habitat in Matheson Hammock in Matheson Hammock Park. This unit comprises County-owned land that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands program and Natural Areas Management division.

(B) SF 2 consists of approximately 3 ha (8 ac) of unoccupied critical habitat in Deering-Snapper Creek Hammock adjacent to R. Hardy Matheson Preserve. This unit comprises State-owned land that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands program and Natural Areas Management division.

(C) Map of SF 1 and SF 2 follows:



(vii) SF 3—Castellow and Ross Hammocks, Miami-Dade County, Florida; SF 4—Silver Palm Hammock, Miami-Dade County, Florida; SF 5—Hattie Bauer Hammock, Miami-Dade County, Florida; and SF 6—Fuchs and Meisnner Hammocks, Miami-Dade County, Florida.

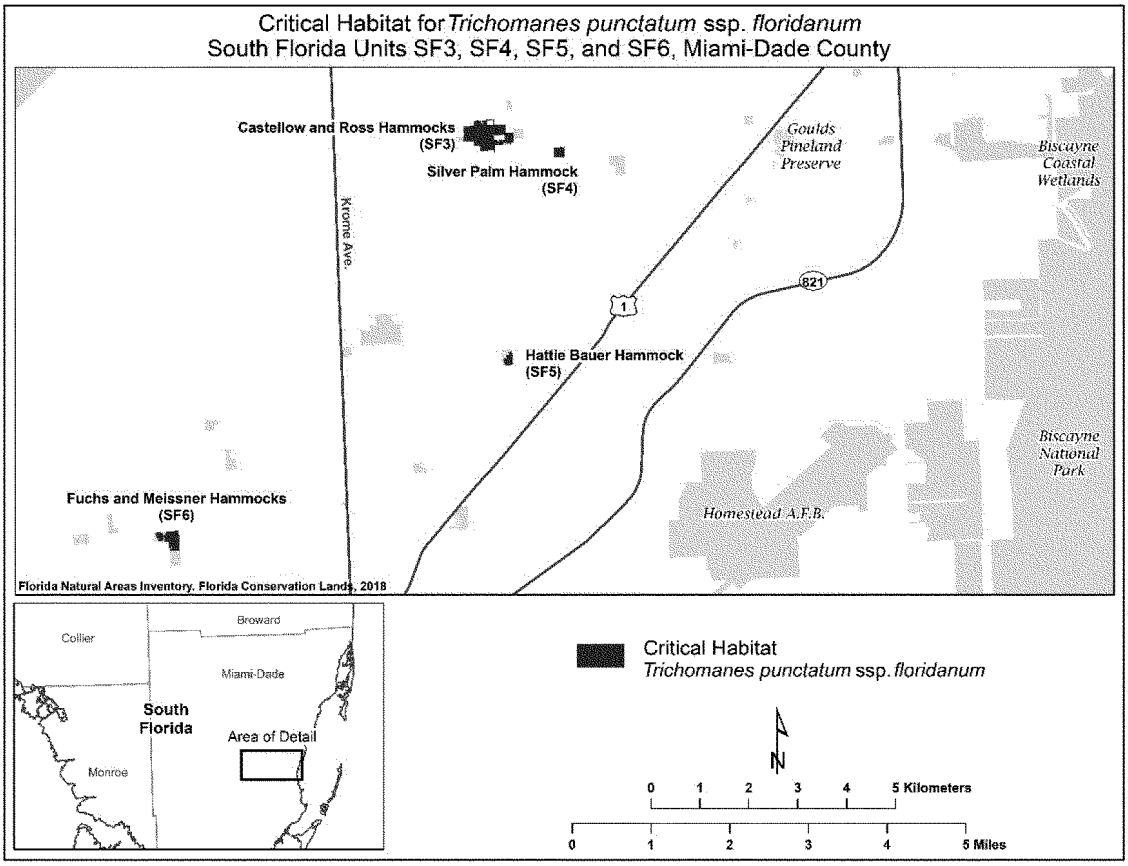
(A) SF 3 consists of approximately 38 ha (93 ac) of occupied critical habitat in Castellow and Ross Hammocks. This unit consists of 13 ha (32 ac) of State-owned and 25 ha (61 ac) of County-owned lands that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands program and Natural Areas Management division.

(B) SF 4 consists of approximately 4 ha (10 ac) of unoccupied critical habitat in Silver Palm Hammock. This unit comprises State-owned land that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands program and Natural Areas Management division.

(C) SF 5 consists of approximately 3 ha (8 ac) of occupied critical habitat in Hattie Bauer Hammock. This unit consists of County-owned land that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands program and Natural Areas Management division.

(D) SF 6 consists of approximately 11 ha (28 ac) of occupied critical habitat in Fuchs Hammock on Fuchs Hammock Preserve and Meissner Hammock. This unit consists of 2 ha (5 ac) of State-owned and 9 ha (23 ac) of County-owned lands that is primarily managed cooperatively by the Miami-Dade County Environmentally Endangered Lands program and Natural Areas Management division.

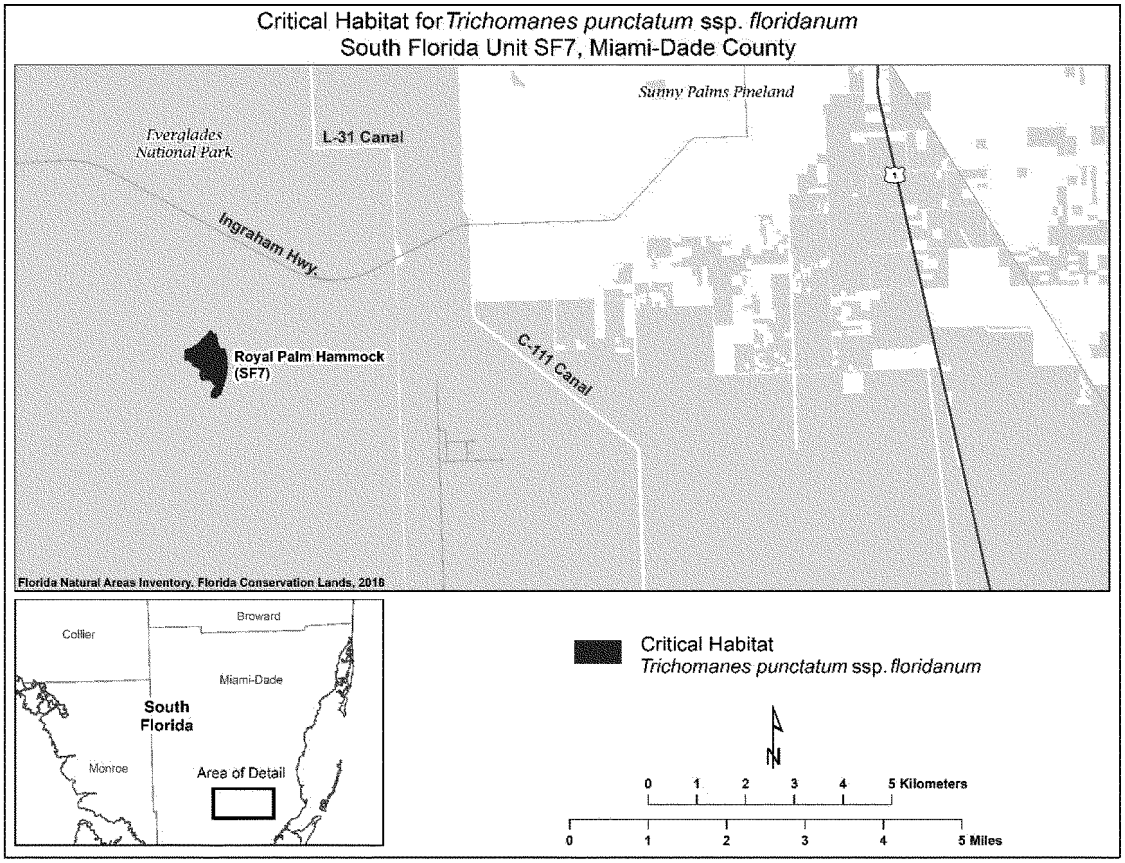
(E) Map of SF 3, SF 4, SF 5, and SF 6 follows:



(viii) SF 7—Royal Palm Hammock, Miami-Dade County, Florida.

(A) SF 7 consists of approximately 60 ha (148 ac) of unoccupied critical habitat in Royal Palm Hammock in Everglades National Park.

(B) Map of SF 7 follows:

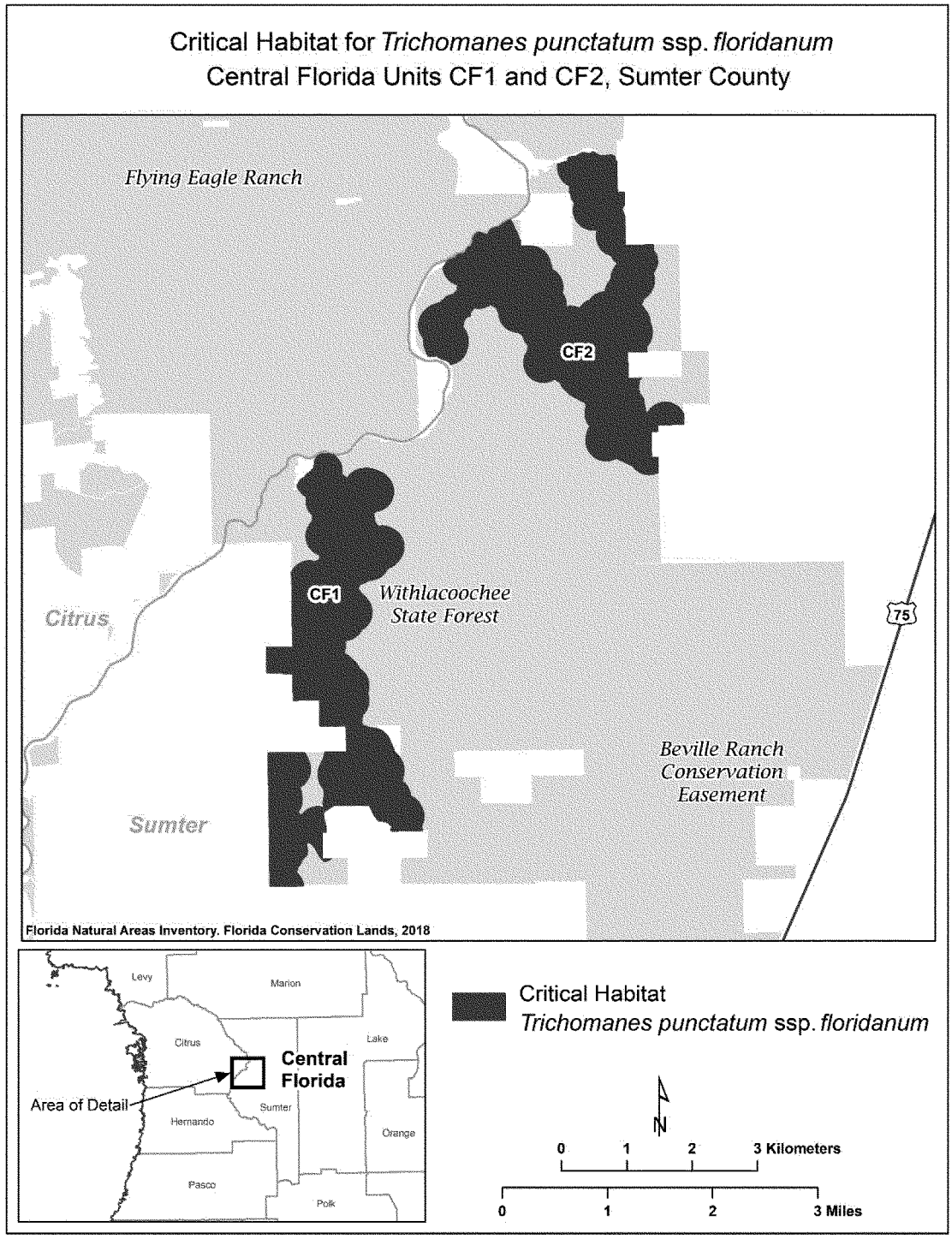


(ix) CF 1, Sumter County, Florida; and CF 2, Sumter County, Florida.

(A) CF 1 consists of approximately 742 ha (1,834 ac) of occupied critical habitat of State-owned land (726 ha (1,795 ac)) within the Jumper Creek Tract of the Withlacoochee State Forest and of privately owned land (16 ha (39 ac)) directly adjacent to Withlacoochee State Forest. The State-owned land is managed by the Florida Forest Service.

(B) CF 2 consists of approximately 747 ha (1,846 ac) of unoccupied critical habitat on State-owned land within the Jumper Creek Tract of the Withlacoochee State Forest.

(C) Map of CF 1 and CF 2 follows:



Dated: February 10, 2020.

Aurelia Skipwith,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2020–03441 Filed 2–21–20; 8:45 am]

BILLING CODE 4333–15–C