Postal Service states that accrued labor costs in these three cost pools totaled $2.3 billion in FY 2019. *Id.* at 1.

The main factor determining labor requirements for sorting operations is the number of pieces inducted into the operation for processing, total pieces fed (TPF) in the Management Operating Data System (MODS). *Id.* at 2; Variability Report at 7. In automated distribution operations, the actual number of handlings are directly counted by the sorting equipment and automatically transmitted from the equipment to the Web End-of-Run (WebEOR) system. Petition, Proposal Six at 2. MODS collects and aggregates piece handlings and runtime data through automated interfaces with WebEOR. *Id.* Labor usage or workhour data by operation are derived from time clock rings reported to MODS through the Time and Attendance Collection System. *Id;* Variability Report at 15.

Currently, In-Office Cost System tallies are used to partition the mail processing cost pools into activities assumed to be 100-percent volume-variable, and other activities assumed to be non-volume-variable. *Id.* The basis for such determination was an assumption that mail processing costs should vary in proportion to the volume of mail or articles processed. *See* Variability Report at 4. For the operations that are the subject of this analysis, the associated mail processing costs were taken to be 99.1-percent volume-variable in FY 2019 under the accepted methodology. *Id.*

This methodology has been in use since Docket No. R71–1, and its origins predate the Postal Reorganization Act and the development of the automated mail processing technologies in this proposal. Petition, Proposal Six at 2. The Postal Service states that the Commission previously declined to adopt any empirical models for mail processing variability, citing data and econometric issues. *Id.* at 3. However, the Postal Service explains that several factors merit re-examination, including volume changes, the reliability of automated counts of mailpiece handlings, and the availability of machine utilization data. *Id.* at 4.

Proposal. The proposed methodology is based on econometric analysis of workhour and workload data collected by the Postal Service on an ongoing basis. *Id.* at 1. Specifically, the estimation of the proposed variabilities employs monthly MODS datasets compiled into a multi-year panel dataset. *Id.* at 5. The variabilities are derived from a regression equation of the natural logarithm, where workhours are used as a dependent variable and the TPF (current and lagged) as well as seasonal dummy variables are used as explanatory variables. *Id.* The regression sample periods cover the most recent 4 fiscal years and would be rolled forward to allow for re-estimating the variabilities annually. *Id.* The variabilities estimated for the three cost pools during a FY 2016–FY 2019 sample period are 0.976 for DBCS, 0.774 for AFSM 100, and 0.804 for FSS. *Id.* at 6.

Impact. The proposed methodology would permit re-estimation of the variabilities because the underlying data are produced in the course of Postal Service operations and are already included in the Annual Compliance Report. *Id.* at 1–2. The Postal Service concludes that the proposed methodology would reduce FY 2019 volume-variable labor costs for the three cost pools by 8.3 percent overall. *Id.* at 6. The Postal Service also states that, including piggybacks, the proposal reduces measured volume-variable and product-specific costs in the Cost and Revenue Analysis C Report by 0.79 percent. *Id.* The Postal Service provides a table showing the effects of the proposed variabilities on product unit costs. *Id.* at 6–8. In a separate table filed under seal, the Postal Service shows the impacts of the proposal on individual Competitive products.[2]

III. Notice and Comment

The Commission establishes Docket No. RM2020–13 for consideration of matters raised by the Petition. More information on the Petition may be accessed via the Commission's website at *http://www.prc.gov.* Interested persons may submit comments on the Petition and Proposal Six no later than November 24, 2020. Pursuant to 39 U.S.C. 505, Lawrence Fenster is designated as an officer of the Commission (Public Representative) to represent the interests of the general public in this proceeding.

IV. Ordering Paragraphs

It is ordered:

1. The Commission establishes Docket No. RM2020–13 for consideration of the matters raised by the Petition of the United States Postal Service for the Initiation of a Proceeding to Consider Proposed Changes in Analytical Principles (Proposal Six), filed September 15, 2020.

2. Comments by interested persons in this proceeding are due no later than November 24, 2020.[3]

3. Pursuant to 39 U.S.C. 505, the Commission appoints Lawrence Fenster to serve as an officer of the Commission (Public Representative) to represent the interests of the general public in this docket.

4. The Secretary shall arrange for publication of this order in the **Federal Register**.

By the Commission.

Erica A. Barker,

Secretary.

[FR Doc. 2020–21416 Filed 10–7–20; 8:45 am]

BILLING CODE 7710–FW–P

[2] *See* Library Reference USPS–RM2020–13/NP1, September 15, 2020.

[3] The Commission reminds interested persons that its revised and reorganized Rules of Practice and Procedure became effective April 20, 2020, and should be used in filings with the Commission after April 20, 2020. The new rules are available on the Commission's website and can be found in Order No. 5407. *See* Docket No. RM2019–13, Order Reorganizing Commission Regulations and Amending Rules of Practice, January 16, 2020 (Order No. 5407).

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2019–0018; FXES11130900000–190–FF09320000]

RIN 1018–BE09

Endangered and Threatened Wildlife and Plants; Reclassification of the Red-Cockaded Woodpecker From Endangered to Threatened With a Section 4(d) Rule

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to reclassify the red-cockaded woodpecker (*Dryobates* (= *Picoides*) *borealis*) as a threatened species with a rule issued under section 4(d) of the Endangered Species Act of 1973 (Act), as amended. If we finalize this rule as proposed, it would reclassify the red-cockaded woodpecker from endangered to threatened on the List of Endangered and Threatened Wildlife (List). This proposal is based on a thorough review of the best available scientific and commercial data, which indicate that the species' status has improved such that it is not currently in danger of extinction throughout all or a significant portion of its range. We are also proposing a rule under the authority of section 4(d) of the Act that provides measures that are necessary and advisable to provide for the conservation of the red-cockaded woodpecker. In addition, we correct the

List to reflect that *Picoides* is not the current scientifically accepted generic name for this species. We seek information, data, and comments from the public regarding this proposal.

DATES: We will accept comments received or postmarked on or before December 7, 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 November 23, 2020.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter FWS–R4–ES–2019–0018, 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–2019–0018, U.S. Fish and Wildlife Service, MS: JAO/1N, 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).

Availability of supporting materials: This proposed rule and supporting documents (including the species status assessment report and references cited) are available at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0018 and at the Southeast Regional Office (see **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Aaron Valenta, Chief, Division of Restoration and Recovery, U.S. Fish and Wildlife Service, Southeast Regional Office, 1875 Century Boulevard, Atlanta, GA 30345; telephone 404–679–4144. 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. Under the Act, a species may warrant reclassification from endangered to threatened if it no longer meets the definition of an endangered species. The red-cockaded woodpecker is listed as endangered, and we are proposing to reclassify it as threatened because we have determined it is no longer in danger of extinction throughout all or a significant portion of its range. However, we have determined that the species meets the definition of a threatened species, in that it is in danger of extinction in the foreseeable future throughout all of its range. We may only list, reclassify, or delist a species by issuing a rule to do so; therefore, for the red-cockaded woodpecker, we must first publish a proposed rule in the **Federal Register** to reclassify the species and request public comments on the proposal. Furthermore, take prohibitions of section 9 of the Act can only be applied to threatened species by issuing a section 4(d) rule. Finally, we are changing the scientific name of the red-cockaded woodpecker in the List of Endangered and Threatened Wildlife from *Picoides borealis* to *Dryobates borealis,* and such action can only be taken by issuing a rule.

The basis for our action. Under the Act, we may determine that a species is an endangered or threatened species based on any one or a combination of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. The factors for downlisting a species (changing its status from endangered to threatened) are the same as for listing it. We have determined that the red-cockaded woodpecker is no longer at risk of extinction and, therefore, does not meet the definition of endangered, but it is still affected by the following current and ongoing stressors to the extent that the species meets the definition of a threatened species under the Act:

- Lack of suitable roosting, nesting, and foraging habitat due to legacy effects from historical logging, incompatible forest management, and conversion of forests to urban and agricultural uses (Factor A).
- Fragmentation of habitat, with resulting effects on genetic variation, dispersal, and connectivity to support demographic populations (Factor A).
- Stochastic events such as hurricanes, ice storms, and wildfires, exacerbated by the environmental effects of climate change (Factor E).
- Small populations (Factor E).

We are also proposing a section 4(d) rule. When a species is listed as threatened, section 4(d) of the Act allows for the issuance of regulations that are necessary and advisable to provide for the conservation of the species. Accordingly, we are proposing a 4(d) rule for the red-cockaded woodpecker that would, among other things, prohibit incidental take associated with actions that would result in the further loss or degradation of red-cockaded woodpecker habitat, including impacts to cavity trees, actions that would harass red-cockaded woodpeckers during breeding season, and use of insecticides near clusters. The section 4(d) rule would also prohibit incidental take associated with the installation of artificial cavities and inspections of cavity contents, unless covered under a section 10(a)(1)(A) permit. The section 4(d) rule would also, among other things, except from prohibitions incidental take associated with conservation or habitat restoration activities carried out in accordance with a Service- or State-approved management plan providing for red-cockaded woodpecker conservation, incidental take associated with red-cockaded woodpecker management and military training activities on Department of Defense installations with a Service-approved integrated natural resources management plan, certain actions that would harm or harass red-cockaded woodpeckers during breeding season associated with existing infrastructure that are not increases in the existing activities, and activities authorized by a permit under § 17.32.

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 sought the expert opinions of six appropriate specialists regarding the species status assessment (SSA) report that informed this proposed rule. The purpose of peer review is to ensure that our reclassification determination is based on scientifically sound data, assumptions, and analyses. The peer reviewers have expertise in: (1) The life history and population dynamics of the red-cockaded woodpecker; (2) fire ecology and forest habitat conditions; and (3) conservation management.

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 and information from other concerned governmental agencies, Native American tribes, the scientific community, industry, or any other interested party concerning this proposed rule.

We particularly seek comments on:

(1) Information concerning the biology and ecology of the red-cockaded woodpecker.

(2) Relevant data concerning any stressors (or lack thereof) to the red-cockaded woodpecker, particularly the effects of habitat loss, small populations, habitat fragmentation, and hurricanes and other severe natural events.

(3) Current or planned activities within the geographic range of the red-cockaded woodpecker that may negatively impact or benefit the species.

(4) Reasons why we should or should not reclassify the red-cockaded woodpecker from an endangered species to a threatened species under the Act (16 U.S.C. 1531 *et seq.*).

(5) Information about current or proposed land management plans and conservation plans for the red-cockaded woodpecker, and whether they may negatively impact or benefit the species, including the likelihood of such plans and their associated management activities persisting into the future.

(6) Information on regulations that are necessary and advisable for the conservation and management of the red-cockaded woodpecker and that the Service can consider in developing a 4(d) rule for the species, including whether the measures outlined in the proposed 4(d) rule are necessary and advisable for the conservation of the red-cockaded woodpecker. We particularly seek comments concerning:

(a) The extent to which we should include any of the section 9 prohibitions in the 4(d) rule, including whether there are additional activities or management actions that should be prohibited or excepted from the prohibitions for incidental take of the red-cockaded woodpecker;

(b) Whether it is appropriate to prohibit use of insecticides and herbicides on standing pine trees within 0.50 mile from the center of an active cavity tree cluster, including whether the spatial area covered by this prohibition is appropriate;

(c) Whether it is appropriate to prohibit operations conducted near active cavity trees that render cavity trees unusable to red-cockaded woodpeckers, and what types of operations and actions should be included in this prohibition;

(d) Whether any other forms of take should be excepted from the prohibitions in the 4(d) rule, including activities that should be excepted from the prohibitions for incidental take of the red-cockaded woodpecker once a property is being managed in accordance with a Service- or State-approved management plan, and what factors should be included in a Service- or State-approved management plan;

(e) What additional conditions, if any, should be placed upon State-approved management plans such that they provide adequate protection to red-cockaded woodpeckers, for example, the type and extent of monitoring and reporting to the Service;

(f) Whether an exception should be made for habitat regeneration activities without a Service- or State-approved management plan, and what limiting conditions should be placed on such activities;

(g) Whether it is appropriate to except from the prohibitions red-cockaded woodpecker management and military training activities on Department of Defense installations with a Service-approved integrated natural resources management plan;

(h) Whether the installation of artificial cavities should be excepted from the prohibitions for incidental take of red-cockaded woodpecker for individuals who have completed training and have achieved a certain level of proficiency, and what that training and proficiency should be; and,

(i) Whether there are additional provisions the Service may wish to consider for the 4(d) rule in order to conserve, recover, and manage the red-cockaded woodpecker. Please include sufficient information (such as scientific journal articles, or other credible publications) to allow the Service to verify any scientific or commercial information you include.

(7) Whether the red-cockaded woodpecker warrants delisting.

Please note that submissions merely stating support for or opposition to the listing action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made ''solely on the basis of the best scientific and commercial data available.''

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 hard copy 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, Southeast Regional Office (see **FOR FURTHER INFORMATION CONTACT**).

Public Hearing

Section 4(b)(5)(E) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified 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 requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the **Federal Register** at least 15 days before the hearing.

Previous Federal Actions

The red-cockaded woodpecker was listed as endangered on October 13, 1970 (35 FR 16047) under the Endangered Species Conservation Act of 1969, and received Federal protection with the passage of the Endangered Species Act in 1973. The most recent revision to the red-cockaded woodpecker recovery plan was released on January 27, 2003 (USFWS 2003, entire; see 68 FR 13710, March 20, 2003). The latest 5-year review was completed on October 5, 2006 (USFWS 2006 entire); that 5-year review did not recommend changing the classification of the red-cockaded woodpecker. However, since the 5-year review, we have acquired new information and conducted a thorough analysis, documented in an SSA report (USFWS 2020, entire). We also initiated another 5-year review for the species on August 6, 2018 (83 FR 38320); because we have determined the species now meets the definition of a threatened species under the Act, this proposed rule will equate to our 5-year review.

Background

A thorough review of the taxonomy, life history, ecology, and overall viability of the red-cockaded woodpecker is presented in the SSA report (USFWS 2020, entire; available at *https://www.fws.gov/southeast/* and at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0018). Below is a summary of the information presented in the SSA report. For further details, please refer to the SSA report.

Species Description and Needs

The red-cockaded woodpecker is a territorial, non-migratory bird species that makes its home in mature pine forests in the southeastern United States. Once a common bird distributed contiguously across the southeastern United States, the red-cockaded woodpecker's rangewide estimates made around the time of listing in 1970 indicated a decline to fewer than 10,000 individuals (approximately 1,500 to 3,500 active clusters; an aggregate of cavity trees used by a group of woodpeckers for nesting and roosting) in widely scattered, isolated, and declining populations (Jackson 1971, pp. 12–20; Jackson 1978, entire; USFWS 1985, p. 22; Ligon *et al.* 1986, pp. 849–850).

Due to changes in how red-cockaded woodpecker populations have been defined and surveyed over the years and with more comprehensive surveys over time, it is difficult to make accurate comparisons today with the species' status when it was listed. The species continued to decline even after listing until the early-1990s. However, by 1995, the red-cockaded woodpecker population had increased to about 4,694 active clusters or active territories rangewide (Costa and Walker 1995, p. 86). Today, the Service's conservative estimate is about 7,800 active clusters rangewide (USFWS 2020, pp. 14, 106–108), between 2 and 5 times the number of clusters at the time of listing.

Red-cockaded woodpeckers were once common throughout open, fire-maintained pine ecosystems, particularly longleaf pine that covered approximately 92 million acres before European settlement (Frost 1993, p. 20). The birds inhabited the open pine forests of the Southeast from New Jersey, Maryland, and Virginia to Florida, and west to Texas and north to portions of Oklahoma, Missouri, Tennessee, and Kentucky (Jackson 1971, entire). Original pine forests were old and open, and contained a structure dominated by two layers, a canopy and diverse herbaceous ground cover, maintained by frequent low-intensity fire (Brockway et al. 2006, pp. 96–98). Both the longleaf pine and other open pine ecosystems were eliminated from much of their original range because of early (1700s) European settlement, widespread commercial timber harvesting, and the naval stores/turpentine industry (1800s). Early to mid-1900 commercial tree farming, urbanization, and agriculture contributed to further declines. Much of the remaining habitat is very different from the vast, historical pine forests in which the red-cockaded woodpecker evolved. The second growth longleaf pine forests of today, rather than being dominated by centuries-old trees as the original forests were, are just reaching that age (90–100 years) required to meet all the needs of the red-cockaded woodpecker. Furthermore, in many cases, the absence of fire has caused the original open savannahs to degrade into dense pine/hardwood forest. Much of today's forest is young and dense, and dominated by loblolly pine, with a substantial hardwood component and little or no herbaceous groundcover (Noel *et al.* 1998, entire; Frost 2006, pp. 37–38).

Nesting and roosting habitat of red-cockaded woodpeckers varies across the species' range. The largest populations tend to occur in the longleaf pine woodlands and savannahs of the East Gulf Coastal Plain, South Atlantic Coastal Plain, Mid-Atlantic Coastal Plain, and Carolina Sandhills (Carter 1971, p. 98; Hooper *et al.* 1982, entire; James 1995, entire; Engstrom *et al.* 1996, p. 334). The shortleaf/loblolly forests of the Piedmont, Cumberlands, and Ouachita Mountain regions (Mengel 1965, pp. 306–308; Sutton 1967, pp. 319–321; Hopkins and Lynn 1971, p. 146; Steirly 1973, p. 80) are another important habitat type. Red-cockaded woodpeckers also occupy a variety of additional pine habitat types at the edges of their range, including slash (*Pinus elliottii*), pond (*P. serotina*), pitch (*P. rigida*), and Virginia pines (*P. virginiana*) (Steirly 1957, entire; Lowery 1974, p. 415; Mengel 1965, pp. 206–308; Sutton 1967, pp. 319–321; Jackson 1971, pp. 12–20; Murphy 1982, entire). Where multiple pine species exist, red-cockaded woodpeckers appear to prefer longleaf pine (Lowery 1974, p. 415; Hopkins and Lynn 1971, p. 146; Jackson 1971, p. 15; Bowman and Huh 1995, pp. 415–416).

The red-cockaded woodpecker is a relatively small woodpecker. Adults measure 20 to 23 centimeters (8 to 9 inches) and weigh roughly 40 to 55 grams (1.5 to 1.75 ounces) (Jackson 1994, p. 3; Conner *et al.* 2001, pp. 53–54). Both male and female adult red-cockaded woodpeckers are black and white with a ladder back and large white cheek patches. These cheek patches distinguish red-cockaded woodpeckers from all other woodpeckers in their range. The red ''cockade'' of the species' common name is actually a tiny red streak on the upper cheek of males that is very difficult to see in the field.

Red-cockaded woodpeckers were first described as *Picus borealis* (Vieillot 1807, p. 66). The species' English common name is a reference to the several red feathers on the cheek of males, which are briefly displayed when the male is excited (Wilson 1810, p. 103). The original rule identifying the red-cockaded woodpecker as an endangered species (35 FR 16047; October 13, 1970) listed its scientific name as *Dendrocopus borealis,* based on the American Ornithological Union (AOU) 1946 22nd supplement to the 4th AOU checklist edition (AOU 1947, p. 449). The AOU 6th edition (AOU 1982, p. 10CC) classified the species as *Picoides borealis,* the scientific name under which the red-cockaded woodpecker is currently identified in the Federal List of Endangered and Threatened Wildlife (List). The AOU has since merged with the Cooper Ornithological Society and is now known as the American Ornithological Society (AOS). In the recent 59th supplement to the AOS' checklist of North American birds, the AOS Committee on Classification and Nomenclature (Committee) changed the classification of *Picoides borealis* to *Dryobates borealis* (Chesser *et al.* 2018, pp. 798–800). In doing so, the Committee considered, among other data, results of phylogenetic analyses with nuclear and mitochondrial DNA (Weibel and Moore 2002a, entire; Weibel and Moore 2002b, entire; Winkler *et al.* 2014, entire; Fuchs and Pons 2015, entire; Shakya *et al.* 2017, entire) indicating that the genus *Picoides* was not monophyletic (descended from a common evolutionary ancestor or ancestral group). As a result, the genus *Picoides* was retained for the American three-toed woodpecker (*P. dorsalis*) and the black-backed woodpecker (*P. arcticus*), but all other North American woodpeckers formerly in *Picoides* were transferred to *Dryobates.* We accept the change of the red-cockaded woodpecker's classification from *Picoides borealis* to *Dryobates borealis,* and in this rulemaking, we amend the scientific name to match the currently accepted AOS nomenclature.

Red-cockaded woodpeckers live in groups that share, and jointly defend,

territories throughout the year. Group living is a characteristic of their cooperative breeding system. In cooperative breeding systems, some mature adults forego reproduction and instead assist in raising the offspring of the group's breeding male and female (Emlen 1991, entire). In red-cockaded woodpecker groups, these helpers are typically male, and participate in incubation, feeding, and brooding of nestlings and in feeding of fledglings, as well as territory defense, nest defense, and cavity excavation (Lennartz *et al.* 1987, entire). A potential breeding group may consist of zero to as many as five helpers, but most potential breeding groups consist of only a breeding pair plus one to two helpers. A red-cockaded woodpecker group occupying and defending its territory usually consists of a potential breeding group. A red-cockaded woodpecker group in about 10 percent of cases consists of single-male that defends its territory while awaiting an adult breeding female. Red-cockaded woodpeckers are highly monogamous (Haig *et al.* 1994b, entire). Group living, however, strongly affects population dynamics. While not actively breeding themselves, helpers provide a pool of replacement breeders and thereby act as a buffer between mortality and productivity. In other words, the number of groups within a red-cockaded woodpecker population is not strongly affected by either productivity or mortality in the previous year. Instead, the number of helpers is affected by these variables, while the number of potential breeding groups remain constant.

Young birds either disperse in their first year or remain on the natal territory and become a helper. First-year dispersal is the dominant strategy for females, but both strategies are common among males (Walters *et al.* 1988, pp. 287–301; Walters and Garcia 2016, pp. 69–72). Male helpers may become breeders by inheriting breeding status on their natal territory or by dispersing to fill a breeding vacancy at another territory (Walters *et al.* 1992, p. 625). When helpers move, it is usually to an adjacent or nearby territory; they rarely disperse across more than two territories (Kesler *et al.* 2010, entire). Female helpers almost never inherit the breeding position on their natal territory, instead relying on dispersal to neighboring territories to become breeders. Although some young birds disperse long distances (more than 100 kilometers (km) in a few cases; Conner *et al.* 1997c, entire; Ferral *et al.* 1997, entire; Costa and DeLotelle 2006, pp. 79–83), typical dispersal distance of juvenile females is only two territories from the natal site, with 90 percent dispersing one to four territories from the natal site (Daniels 1997, pp. 59–61; Daniels and Walters 2000a, pp. 486–487; Kesler *et al.* 2010, entire). Juvenile males are even more sedentary; about 70 percent of males remain on their natal territory or an immediately adjacent territory at age one, mostly as helpers with a few as breeders (Walters 1991, pp. 508–510; Daniels 1997, p. 66; Kesler *et al.* 2010, pp. 1339–1340; Conner *et al.* 2001 p. 143).

Red-cockaded woodpeckers are unique among North American woodpeckers in that they nest and roost in cavities they excavate in living pines (Steirly 1957, p. 282; Jackson 1977, entire). Cavities are an essential resource for red-cockaded woodpeckers throughout the year, because the birds use them for roosting year-round, as well as nesting seasonally. Each individual in a group has its own roost cavity, and the group usually nests in the breeding male's cavity. The aggregation of active and inactive cavity trees within the area defended by a single group is termed the cavity tree cluster (Conner *et al.* 2001, p. 106). This aggregation of cavity trees is dynamic, changing in shape as new cavity trees are added through excavation and existing cavity trees are lost to death or a neighboring group. Excavation of cavities in live pines is an extremely difficult task, making a cluster of cavity trees an extremely valuable resource. Expansion into new territories, therefore, happens more frequently through ''budding,'' or the splitting of an existing territory with cavity trees into two, rather than ''pioneering,'' or the construction of a new cavity tree cluster.

The development of techniques to construct artificial cavities (Copeyon 1990, entire; Allen 1991, entire) offset the lack of natural cavities and provided managers a new tool to greatly increase cavity availability, especially after storms. Red-cockaded woodpeckers readily adopt these artificial cavities. Thousands of artificial cavities have been installed since the early 1990s, and most populations are currently dependent on the installation and maintenance of artificial cavities for their viability.

Red-cockaded woodpeckers require open pine woodlands and savannahs with large, old pines for nesting and roosting. Old pines are required as cavity trees because cavity chambers must be completely within the heartwood to prevent pine resin in the sapwood from entering the chamber (Conner *et al.* 2001, pp. 79–155); a tree must be old and large enough to have sufficient heartwood to contain a cavity. In addition, old pines have a higher incidence of the heartwood decay that greatly facilitates cavity excavation. Cavity trees must be in open stands with little or no hardwood midstory and few or no overstory hardwoods. Hardwood encroachment on cavity trees resulting from fire suppression is a well-known cause of cluster abandonment.

Fire suppression also affects foraging. Over 75 percent of the red-cockaded woodpecker's diet consists of arthropods. Individuals generally capture arthropods on and under the outer bark of live pines and in dead branches of live pines. A large proportion of the arthropods on pine trees crawl up into the trees from the ground, which implies the condition of the ground cover is an important factor influencing abundance of prey for red-cockaded woodpecker (Hanula and Franzreb 1998, entire). The density of pines has a negative relationship with arthropod abundance and biomass, likely due at least in part to the negative effect of pine density on ground cover, from which some of the prey comes (Hanula *et al.* 2000, entire). Arthropod abundance and biomass also increase with the age and size of pines (Hooper 1996, entire; Hanula *et al.* 2000, entire), which is another reason older pines are so critical to this species. Accordingly, suitable foraging habitat generally consists of mature pines with an open canopy, low densities of small pines, a sparse hardwood or pine midstory, few or no overstory hardwoods, and abundant native bunchgrass and forb groundcovers. Frequent fire likely increases foraging habitat quality by reducing hardwoods and by increasing the abundance and perhaps nutrient value of prey (James *et al.* 1997, entire; Hanula *et al.* 2000, entire; Provencher *et al.* 2002, entire). Thus, frequent growing season fire may be critical in providing red-cockaded woodpeckers with abundant prey.

Home ranges of red-cockaded woodpeckers vary from 40.5 to 161.9 hectares (ha) (100 to 400 acres (ac)) per group, depending on the quality of foraging habitat. Red-cockaded woodpecker groups in high-quality habitat, particularly old growth or restored, fire-maintained habitat, exhibit much smaller home range and territory sizes than groups in fire-suppressed habitat (Nesbitt *et al.* 1983, entire; Engstrom and Sanders 1997, entire). The fitness of red-cockaded woodpecker groups also increases where foraging areas are burned regularly, resulting in sparse hardwood midstory and an abundant grass and forb groundcover.

Given the historical loss of significant portions of its native habitat, and generations of fire suppression degrading remaining old growth and new second-growth habitat, aggressive management of habitat through prescribed burning and other vegetation manipulation is key to the conservation strategy of red-cockaded woodpeckers. In addition, the small amount of old growth habitat that remains still has potential to attract woodpeckers if prescribed burning and other tools are deployed to reduce the midstory; therefore, these habitats should also be aggressively managed.

Currently, red-cockaded woodpeckers are distributed largely as discrete populations, with large gaps of unoccupied land between. An improvement from the species' status at the time of listing, these gains are due to intensive management implemented beginning in the 1990s. Except in rare instances, these populations remain dependent on conservation actions, such as prescribed fire, forest management with compatible silviculture, placement and maintenance of artificial cavities within existing clusters, creation of new recruitment clusters using artificial cavities and translocation, and monitoring of population and habitat conditions.

Summary of Stressors and Conservation Measures Affecting the Species

Section 4(a)(1) of the Act directs us to determine whether any species is an endangered species or a threatened species because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. The factors for downlisting a species (changing its status from endangered to threatened) are the same as for listing it.

In the SSA report, we review the factors (*i.e.,* threats, stressors) that could be affecting the red-cockaded woodpecker now or in the future. However, in this proposed rule, we will focus our discussion on those factors that could meaningfully impact the status of the species. Below is a summary of those factors. The results of the SSA report are discussed later in this proposed rule. For further information, see the SSA report (USFWS 2020, entire).

The primary risk factor (*i.e.,* stressor) affecting the status of the red-cockaded woodpecker remains the lack of suitable habitat (Factor A). Wildfire, pine beetles, ice storms, tornadoes, hurricanes, and other naturally occurring disturbances that destroy pines used for cavities and foraging are stressors for the red-cockaded woodpecker (Factor E), especially given the high number of very small woodpecker populations (Factor E) (USFWS 2020, pp. 38–39, 81–83, 103, 119–127). Increases in number and severity of major hurricanes (Bender *et al.* 2010, entire; Knutson *et al.* 2010, entire; Walsh *et al.* 2014, pp. 41–42), is expected to increase in response to global climate change, and this could also disproportionately affect the smaller, less resilient woodpecker populations (Factor E). With rare exception, the vast majority of red-cockaded woodpecker populations remain dependent on artificial cavities due to the absence of sufficient old pines for natural cavity excavation and habitat treatments to establish and maintain the open, pine-savannah conditions favored by the species (Factor E). These populations will decline without active and continuous management to provide artificial cavities and to sustain and restore forest conditions to provide suitable habitat for natural cavities and foraging similar to the historical conditions (Conner *et al.* 2001, pp 220–239, 270–299; Rudolph *et al.* 2004, entire).

Habitat Loss and Degradation

The primary remaining threats to the red-cockaded woodpecker's viability have the same fundamental cause: Lack of suitable habitat. Historically, the significant impacts to red-cockaded woodpecker habitat occurred as a result of clearcutting, incompatible forest management, and conversion to urban and agricultural lands uses. These impacts have been significantly curtailed and replaced by beneficial conservation management that sustains and increases populations; however, stressors caused by adverse historical practices still linger, including insufficient numbers of cavities, low numbers of suitable old pines, habitat fragmentation, degraded foraging habitat, and small populations. These lingering impacts can negatively affect the ability of populations to grow, even when populations are actively managed for growth, as the carrying capacity of suitable forest areas across much of the range can be quite low. However, restoration activities such as prescribed fire and strategic placement of recruitment clusters can reduce gaps between populations and increase habitat and population size toward current carrying capacity. These activities are occurring across the range of the red-cockaded woodpecker on properties actively managed for red-cockaded woodpecker conservation.

Currently, stressors to the species resulting from exposure to habitat modification or destruction are minimal, especially when compared to historical levels. Periodically, military training on Department of Defense installations requires clearing of red-cockaded woodpecker habitat for construction of ranges, expansion of cantonments, and related infrastructure, but these installations have management plans to sustain and increase red-cockaded woodpecker populations. In addition, silvicultural management on Federal, State, and private lands also occasionally results in temporary impacts to habitat; for example, red-cockaded woodpecker habitat may be unavoidably, but temporarily, adversely affected in old, even-aged loblolly pine stands that require regeneration prior to stand senescence to sustain a matrix of future suitable habitat for a net long-term benefit. Similarly, red-cockaded woodpecker habitat may be temporarily destroyed in areas where offsite loblolly, slash, or other pines are removed and replaced by the more fire-tolerant native longleaf pine. However, the net result of these activities is a long-term benefit, as the goal is to restore these areas to habitat preferred by woodpeckers.

Natural Disturbances

Wildfire, pine beetles, ice storms, tornadoes, and hurricanes are naturally occurring disturbances that destroy pines used for cavities, with subsequent reductions to population size unless management actions are taken to reduce or ameliorate adverse impacts by providing artificial cavities, reducing hazardous fuels, and restoring forests to suitable habitat following these events. These disturbances can also destroy or degrade foraging habitat and cause direct mortality of woodpeckers. Small populations are the most vulnerable to these disturbances. See the SSA report for more information about these natural disturbances (USFWS 2020, pp. 119–127).

Habitat destruction caused by hurricanes is the most acute and potentially catastrophic disturbance because hurricanes can impact entire populations. According to the SSA report, of the 124 current demographic populations, about 63 populations in the East Gulf Coastal Plain, West Gulf Coastal Plain, the lower portion of the Upper West Gulf Coastal Plain, and

Florida Peninsula ecoregions are vulnerable to potential catastrophic impacts of hurricanes, particularly major hurricanes. Most (56 populations; 89 percent) of these 63 populations are identified as low or very low resiliency in the SSA report (see *Summary of the SSA Report,* below), which means they face a significant risk from hurricanes. In addition, the frequency and intensity of Atlantic basin hurricanes, particularly major Category 4 and 5 storms, are expected to increase in response to global climate change during the 21st century (Bender *et al.* 2010, entire; Knutson *et al.* 2010, entire; Walsh *et al.* 2014, pp. 41–42), although the location and frequency of future storms affected by climate change relative to particular red-cockaded woodpecker populations cannot be precisely predicted. While larger populations (greater than 400 active clusters) are the most likely to withstand a strike by a major hurricane without extirpation (*e.g.,* Hooper *et al.* 1990, entire; Hooper and McAdie 1995, entire; Watson *et al.* 1995, entire), smaller populations are more vulnerable to individual hurricanes, as well as to the effects of recurring storms depleting cavity trees and foraging habitat with reductions in population size. However, these populations may be able to withstand and persist after hurricanes if biologists and land managers implement prompt, effective post-storm recovery actions, such as installing artificial cavities, reducing hazardous fuels, and restoring forests to suitable habitat. Such actions have been occurring after storm events for managed populations, such as the quick response after Hurricane Michael in October 2018.

Conservation Management

The reliance on artificial cavities and active habitat management is not just restricted to post-hurricane recovery efforts. With the potential exception of several ecologically unique populations in pond pine and related habitat on organic soils in northeast North Carolina, none of the current or estimated future populations is capable of naturally persisting without ongoing management, for reasons discussed previously. Fortunately, most sites have active management, such as prescribed fire, artificial cavity installation, and habitat restoration to maintain these populations across the range of the species.

Other proactive management that must be maintained for the species to continue to persist and expand includes translocations into small populations. Most (108) of the current 124 demographic populations are small (fewer than 99 active clusters) with inherently very low or low resiliency. These are the most vulnerable to future extirpation due to stochastic demographic and environmental factors and inbreeding depression. Inbreeding depression in small, fragmented populations of up to 50 to 100 active clusters without adequate immigration can further increase the probability of decline and future extirpation; for these populations, red-cockaded woodpecker translocation programs reduce risks of adverse inbreeding impacts. In addition, as noted in the SSA report (see *Summary of the SSA Report,* below), while resiliency is moderate for 10 of the current populations with 100 to 249 active clusters and 6 populations exhibit high or very high resiliency, potential adaptive genetic variation is still expected to decline in all red-cockaded woodpecker populations (Bruggeman 2010, p. 22, appendix B pp. 39–42; Bruggeman *et al.* 2010, entire; Bruggeman and Jones 2014, pp. 29–33). This is because genetically effective (N_e) populations of 1,000 or more individuals are needed to avert the loss of genetic variation in a species (*e.g.,* Lande 1995, entire; Allendorf and Ryman 2002, p. 73–76). These large population sizes do not exist in red-cockaded woodpecker populations because not all birds in an active cluster may be breeders (Reed *et al.* 1988, entire, 1993, entire). Possible exceptions may be the two largest current red-cockaded woodpecker populations at Apalachicola National Forest/St. Marks National Wildlife Refuge/Tate's Hell State Forest (858 active clusters, ~764 potential breeding groups (PBG)) and North Carolina Sandhills (781 active clusters, ~695 PBGs). A PBG is a concept introduced in the 2003 recovery plan (see Recovery Plan and Recovery Implementation, below), to describe a cluster with a potentially breeding adult male and female, with or without adult helpers or successfully fledging young. An active cluster can be either a PBG or a single territorial bird. So, for example, a red-cockaded woodpecker population of 310–390 PBGs probably represents a genetically effective population of only 500 (Reed *et al.* 1993, p. 307). Effective management programs to sustain even the smallest populations are critical to reduce the risks of inbreeding, establish genetic connectivity among fragmented populations, and maintain ecological diversity and life-history demographic variation as patterns of representation within and across broad ecoregions. Because of the outstanding work of our conservation partners, and their ongoing commitment to continue implementing proactive management to benefit the red-cockaded woodpeckers, we expect many of these activities, as articulated in individual management plans, to continue.

Conservation Measures That Benefit the Species

As noted above, the red-cockaded woodpecker is a conservation-reliant species and responds well to active management. The vast majority of properties on public lands harboring red-cockaded woodpeckers have implemented management programs to sustain or increase populations consistent with population size objectives in the recovery plan or other plans. Plans are specific to each property or management unit, but generally contain the same core features. The most comprehensive plans call for intensive cavity management with the installation of artificial cavities to offset cavity loss in existing territories, maintenance of sufficient suitable cavities to avoid loss of active territories, and creation of new territories with recruitment clusters and artificial cavities in restored or suitable habitat to increase population size. These cavity management activities are necessary until mature forests are restored with abundant old pines 65 and more years of age for natural cavity excavation. Managers are also reducing fragmentation by restoring and increasing habitat with strategic placement of recruitment clusters to reduce gaps within and between populations. Furthermore, red-cockaded woodpecker subadults from large or stable donor populations are translocated to augment growth of small, vulnerable populations. Additionally, managers are implementing silviculturally compatible methods to sustain, restore, and increase habitat with an increased use of effectively prescribed fire. Finally, managers are implementing monitoring programs looking at both habitat and populations to provide feedback for effective management. The future persistence of the species will require these management actions to continue.

In the SSA, we identified 124 current demographic populations with a total of 7,794 active clusters. Seventy-one of the 124 currently delineated red-cockaded woodpecker populations occur on lands solely owned and managed by Federal agencies with 4,033 current active clusters. Seven additional populations with 2,026 active clusters occur on lands that are under mixed Federal and State ownership but are predominately managed by Federal agencies. Thirty-one populations are on lands managed

solely by State agencies with 557 active clusters. Thus, 88 percent of delineated populations with 6,059 active clusters (78 percent of all 7,794 active clusters in 124 populations) are on lands managed entirely by Federal and State agencies with statutes to require management plans addressing the conservation of natural resources. Two populations occur in a matrix of public and private lands, mostly Federal and State properties, with 816 active clusters. One population with 20 active clusters is managed by a State agency and private landowner. Twelve populations with 342 active clusters reside entirely on private lands, of which 10 populations with 295 active clusters are managed by landowners enrolled in the safe harbor program. Also, most of the private landowners are enrolled in the safe harbor program in the two previously described populations with a matrix of mostly public lands with some private lands. Landowners with safe harbor agreements (SHA) manage about 375 active clusters in all or parts of 12 populations. There are additional active clusters of red-cockaded woodpeckers on nongovernmental lands, enrolled in SHAs, but, as noted above, we did not have adequate data to spatially delineate all of these demographic populations on these lands. Of the 933 active clusters managed by safe harbor landowners in eight states (Alabama, Florida, Georgia, Louisiana, North Carolina, South Carolina, Texas and Virginia), demographic populations with respective population sizes have not been delineated for about 558 active clusters.

Below is a summary of the types of management plans that include elements directed at red-cockaded woodpecker management and conservation. Note that the numbers of populations below do not necessarily add up to the 124 current demographic populations identified in the SSA report, because some populations cross property boundaries and are managed by more than one landowner.

Department of Defense

Within the range of the red-cockaded woodpecker, the Department of Defense (DOD) manages habitat for 14 populations, of which 5 are in the moderate to very high resiliency categories, and 9 low to very low resiliency. The Sikes Act (16 U.S.C. 670 *et seq.*) requires DOD installations to conserve and protect the natural resources within their boundaries. Integrated natural resources management plans (INRMPs) are planning documents that outline how each military installation with significant natural resources will manage those resources, while ensuring no net loss in the capability of an installation to support its military testing and training mission. Within the range of the red-cockaded woodpecker, all DOD installations have current INRMPs that address protection and recovery of the species, both through broader landscape-scale ecosystem stewardship and more specific management activities targeted directly at red-cockaded woodpecker conservation. These activities include providing artificial cavities to sustain active clusters, installing recruitment clusters to increase population size, sustaining and increasing habitat through compatible forest management and prescribed fire, and increasing the number and distribution of old pines for natural cavity excavation. Each installation has a red-cockaded woodpecker property or population size objective with provisions for monitoring. For most installations, a schedule is available for reducing certain military training restrictions in active clusters in response to increasing populations and attaining population size thresholds.

U.S. Forest Service

The U.S. Forest Service manages habitat for 49 red-cockaded woodpecker populations on 17 National Forests and the Savannah River Site Unit (owned by the Department of Energy but managed by the U.S. Forest Service). Of these populations, 10 have moderate to very high resiliency and 39 identified as having low or very low resiliency. Under the National Forest Management Act of 1976 (16 U.S.C. 1600 *et seq.*), National Forests are required to develop plans that provide for multiple use and sustained yield of forest products and services, which includes timber, outdoor recreation, range, watershed, fish and wildlife, and wilderness resources. These plans, called ''land and resource management plans'' (LRMPs) and their amendments, have been developed for every National Forest in the current range of the red-cockaded woodpecker. However, LRMPs are not always up to date. The LRMPs for National Forests in three States (Louisiana, North Carolina, and Texas) predate the Service's 2003 recovery plan. Nevertheless, all National Forests (even those with outdated LRMPs) have implemented management strategies to protect and manage red-cockaded woodpecker habitat and increase populations. Current LRMPs approved prior to the 2003 recovery plan were developed in coordination with the Forest Service's 1995 regional plan for managing the red-cockaded woodpecker on southern National Forests (U.S. Forest Service 1995, entire). The 1995 regional plan includes most of the new and integrated management methods (Rudolph *et al.* 2004, entire) to sustain and increase populations as incorporated in the recovery plan. These include installing artificial cavities, increasing population size with recruitment clusters, and restoring suitable habitat with forest management treatments and prescribed fire. Some of the more recent LRMPs, such as for National Forests in Mississippi, are more broadly programmatic, but incorporate the 2003 recovery plan by reference for appropriate conservation methods and objectives.

U.S. Fish and Wildlife Service

The National Wildlife Refuge System manages 10 National Wildlife Refuges with red-cockaded woodpeckers, which includes all or part of 19 populations. We considered three of these populations to be moderate to very high resiliency in the SSA report, while 16 have low to very low resiliency. Under the National Wildlife Refuge System Improvement Act of 1997 (Pub. L. 105–57), refuges prepare comprehensive conservation plans (CCPs), which provide a blueprint for how to manage for the purposes of each refuge; address the biological integrity, diversity, and environmental health of a refuge; and facilitate compatible wildlife-dependent recreation. National Wildlife Refuges have assigned population objectives from the 2003 recovery plan through their CCPs or as stepped down or modified in habitat management plans. Specific tasks in these plans include installation of artificial cavities; translocation; establishing recruitment clusters; population monitoring; prescribed fire; and silvicultural treatments, such as mid-story removal, thinning of younger stands, and, where necessary, increasing stand age diversity with regeneration of pine stands.

National Park Service

The National Park Service (NPS) manages two red-cockaded woodpecker populations, one with low and the other with very low resilience, on Big Cypress National Preserve (Preserve) in Florida. The NPS's plans do not include specific provisions for red-cockaded woodpecker management; however, at the Preserve, the NPS conducts prescribed fire to maintain and improve the south Florida slash pine forest communities that support the species. The NPS also allows Florida Fish and Wildlife Conservation Commission

biologists to conduct red-cockaded woodpecker surveys, monitor, periodically install a limited number artificial cavities, and conduct translocations on occasion. From surveys and monitoring by the Florida Fish and Wildlife Conservation Commission, 75 percent of all cavity trees within the Preserve consist of natural cavities, which is an unusually high number relative to other populations, reflecting the predominately old condition of the Big Cypress south Florida slash pine forests (Spikler 2019, pers. comm).

State Lands

The States of Arkansas, Florida, Georgia, Louisiana, North Carolina, Oklahoma, South Carolina, Texas, and Virginia have red-cockaded woodpecker populations on State-owned lands. All or parts of 40 currently delineated populations occur on State lands. Seven populations on or partially on State lands have moderate to very high resiliency, while 32 populations have low to very low resiliency. These properties range from State Forest Service or Forest Commission holdings to Department of Wildlife, Department of Natural Resources, and State Park Service properties. The mission, and therefore the extent and type of management, of each unit varies. For example, some State lands are managed generally to provide ecosystem benefits, such as managing pine-dominated forests with prescribed fire. However, other State properties implement proactive conservation management specifically for the red-cockaded woodpecker. For example, the Florida Fish and Wildlife Conservation Commission manages all of its properties under the umbrella of the Florida Red-cockaded Woodpecker Management Plan, with other specific plans for the agency's wildlife management areas.

Other Lands

Eight states have a Service-approved programmatic safe harbor agreement program with a section 10(a)(1)(A) enhancement of survival permit under the Act to enroll non-Federal landowners that voluntarily provide beneficial management. Of 459 enrolled non-federal landowners, one is for a State property and all others are private nongovernmental lands. All or parts of 12 currently delineated demographic populations are covered under a current SHA. Again, we are aware of additional active clusters covered under SHAs, but we lack the data to delineate them as demographic populations. Safe harbor agreements are partnerships between landowners and the Service involving voluntary agreements under which the property owners receive formal regulatory assurances from the Service regarding their management responsibilities in return for contributions to benefit the listed species. For the red-cockaded woodpecker, this includes voluntary commitments by landowners to maintain and enhance red-cockaded woodpecker habitat to support baseline active clusters, which is the number of clusters at the time of enrollment, and additional above-baseline active clusters that increase in response to beneficial management. Beneficial management includes the maintenance and enhancement of existing cavity trees and foraging habitat through activities such as prescribed fire, mid-story thinning, seasonal limitations for timber harvesting, and management of pine stands to provide suitable foraging habitat and cavity trees. Because above-baseline active clusters and habitat covered under these plans can be returned to ''baseline'' conditions, any population growth on lands covered by SHAs may not be permanent. In addition, enrolled landowners can terminate their agreement at any time. However, fewer than 5 of the 459 enrolled landowners have ever used their permit authorities to return the number of active clusters to baseline conditions, and only 12 landowners have terminated their agreement. There currently are 241 active above-baseline clusters in the program.

In summary, the red-cockaded woodpecker is a conservation-reliant species, but one that responds very well to active management. The majority of red-cockaded woodpecker populations are managed under plans that address population enhancement and habitat management to sustain or increase populations, and to meet the 2003 recovery plan objectives for primary core, secondary core, and essential support populations. We expect these property owners will continue to implement their respective management plans, partially because, even if we reclassify the red-cockaded woodpecker as a threatened species, the woodpecker would remain protected under the Act.

Summary of Biological Status

As described in the preceding section, the Act directs us to determine whether any species is an endangered or a threatened species because of any of the factors listed in section 4(a)(1) affecting the species' continued existence. The SSA report documents the results of our comprehensive biological status review for the red-cockaded woodpecker, including an assessment of the potential stressors to the species. The SSA report does not represent a decision by the Service on whether the species should be listed as an endangered or a threatened species under the Act. It does, however, provide the scientific basis for our regulatory decision, which involves the further application of standards within the Act and its implementing regulations and policies. The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found on the Southeast Region's website at *https://www.fws.gov/southeast/* or at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0018.

Summary of SSA Report

To assess the red-cockaded woodpecker's viability, we used the three conservation biology principles of resiliency, representation, and redundancy (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency supports the ability of the species to withstand environmental and demographic stochasticity (for example, random fluctuations in birth rates or annual variation in rainfall); representation supports the ability of the species to adapt over time to long-term changes in the environment (for example, climate changes); and redundancy supports the ability of the species to withstand catastrophic events (for example, hurricanes). In general, the more redundant and resilient a species is and the more representation it has, the more likely it is to sustain populations over time, even under changing environmental conditions. Using these principles, we identified the red-cockaded woodpecker's ecological requirements for survival and reproduction at the individual, population and species, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species' life-history needs. The next stage involved an assessment of the historical and current condition of species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species' responses to positive and negative environmental and anthropogenic influences. This process used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We utilized this

information to inform our regulatory decision.

For the red-cockaded woodpecker to maintain viability, its populations or some portion thereof must be resilient. The SSA assessed resiliency at the population level, primarily by evaluating the current population size as the number of active clusters and secondarily by the associated past growth rate. Red-cockaded woodpecker resiliency primarily depends upon a single factor: Amount of managed suitable habitat. Historically, impacts to the red-cockaded woodpecker occurred as a result of clearcutting, incompatible forest management, and conversion to urban and agricultural lands uses. While these impacts have been significantly curtailed and replaced by beneficial conservation management, legacy stressors stemming from these historical impacts still remain, including: (1) Insufficient numbers of natural cavities and suitable, abundant old pines for natural cavity excavation; (2) habitat fragmentation and its effects on genetic variation, dispersal, and connectivity to support demographic populations; (3) lack of suitable foraging habitat for population growth and expansion; and (4) small populations. Intensive management is ongoing to ameliorate these threats.

Representation can be measured by the breadth of genetic or environmental diversity within and among populations and gauges the probability that a species is capable of adapting to environmental changes. The SSA evaluated representation based on the extent and variability of habitat characteristics across the geographical range of the species and characterized representative units for the red-cockaded woodpecker using ecoregions. This analysis generally followed the approach to representation used in the species' recovery plan (USFWS 2003, pp. 148, 152–155). A genetic analysis of material prior to 1970 in eight ecoregions indicates the species appears to have been a single genetic unit or population without significant genetic structure or differentiation (Miller *et al.* 2019, entire). The best available rangewide genetic data indicate a loss of genetic variation after 1970 with development of significant contemporary genetic structure among ecoregions. This structuring is most likely in response to fragmentation of this historically more widespread and abundant species, reduced dispersal between populations and regions, and genetic drift (Stangel *et al.* 1992, entire; Haig *et al.* 1994a, p. 590; Haig *et al.* 1996, p. 730; Miller *et al.* 2019, entire). However, the similarity of genetic parameters between the 1992–1995 and 2010–2014 periods indicates that a further significant loss of genetic diversity with an increase in differentiation among ecoregions may have been ameliorated by conservation management that began in the 1990s to rapidly increase populations and translocate individuals from large populations to augment small populations (Miller *et al.* 2019, entire). Mitochondrial DNA haplotype diversity has declined significantly since the pre-1970s, but not to extent of a loss of any phylogenetically distinct lineages that may represent evolutionarily significant units (Miller *et al.* 2019, p. 9–10).

For the red-cockaded woodpecker to maintain viability, the species also needs to exhibit some degree of redundancy. Measured by the number of populations, their resiliency, and their distribution, redundancy increases the probability that the species has a margin of safety to withstand, or can bounce back from, catastrophic events. The SSA reported redundancy for red-cockaded woodpeckers as the total number and resilience of population segments and their distribution within and among representative units.

Current Condition

Resiliency

In the SSA report, we identified 124 demographic populations across the range of the red-cockaded woodpecker for which sufficient data were available to complete the SSA analyses for the recent past to current condition. We acknowledge there are other small occurrences of red-cockaded woodpeckers, particularly on private lands; however, spatial data for these other occurrences were incomplete, so for purposes of the SSA analysis, and subsequently throughout this proposed rule, we focused only on these 124 demographic populations that could be spatially delineated. The SSA categorizes two important parameters related to current population resiliency: Current population size and associated population growth rate. Population resilience size categories are defined as follows: Very low (fewer than 30 active clusters); low (30 to 99 active clusters); moderate (100 to 249 active clusters); high (250 to 499 active clusters); and very high (greater than or equal to 500 active clusters).

Population resilience size-classes were derived from spatially explicit individual-based models and simulations for this species (Letcher *et al.* 1998, entire; Walters *et al.* 2002, entire), the performance of which have been reasonably validated with reference to actual populations (Schiegg *et al.* 2005, entire; Walters *et al.* 2011, entire). We also considered subsequent modifications of these models and simulations that incorporated adverse effects of inbreeding depression on population persistence and growth (Daniels *et al.* 2000, entire; Schiegg *et al.* 2006, entire). These models were developed from extensive actual biological data and specifically designed to incorporate the dynamics of the red-cockaded woodpecker's cooperative breeding system that are not accurately represented in other types of population models (Zieglar and Walters 2014, entire). These models simulated populations of different initial sizes under natural conditions without any limiting habitat and cavity conditions that could impair population growth. We consider these results as indicators of inherent resilience because effects of conservation management actions to sustain and increase populations were not simulated. These beneficial management practices would include installation of recruitment clusters with artificial cavities to induce new red-cockaded woodpecker groups and translocation to augment the size and growth of small populations. The vast majority of the 124 current populations have been and currently are subject to specific conservation management actions for this species, including recruitment clusters. Thus, the inherent resilience size-classes derived from population models and simulations have been further qualified by actual growth rates as indicators of effects of beneficial management for this conservation-reliant species.

Populations with very low resiliency (fewer than 30 active clusters) are the most vulnerable to future extirpation following stochastic events with declining growth and future extirpation likely in 50 years. Populations with low resiliency (30 to 99 active clusters) are more persistent, but remain vulnerable to declining growth, inbreeding depression, and extirpation. Inbreeding depression reduces red-cockaded woodpecker egg hatching rates and survival of fledglings (Daniels and Walters 2000a, entire). Inbreeding in red-cockaded woodpeckers is a consequence of breeding among close relatives in response to naturally short dispersal distances of related birds among nearby breeding territories exacerbated by small populations and fragmentation among populations that reduce immigration rates of unrelated individuals (Daniels and Walters 2000a, entire; 2000b, entire; Daniels *et al.* 2000, entire; Schiegg *et al.* 2002, entire; 2006, entire). The consequences of inbreeding

depression further reduce population growth rates and increase the probabilities of extirpation in populations in sizes up to about 100 active clusters (Daniels *et al.* 2000, entire; Schiegg *et al.* 2006, entire). The largest populations in this class may have long-term average growth rates (λ or lambda) near 1.0 (a λ of 1.00 is considered stable, less than 1.00 is declining, and greater than 1.00 is increasing), but with slow rates of decline and a high risk of inevitable future extirpation. The moderate resiliency category (100 to 249 active clusters) is a large transitional class. Smaller populations without inbreeding likely will experience a slow decline, but without extirpation in 25 to 50 years because at least some territories will survive, although as much smaller and more vulnerable populations. The largest populations in this class may be relatively stable or nearly so. Populations with a high resiliency (250 to 499 active clusters) on average should be stable except perhaps for the very smallest that may have average growth rates slightly less than 1.00. In high resiliency populations, adverse demographic effects of inbreeding depression are not expected. Populations in the very high resiliency class (greater than or equal to 500 active clusters) are stable and the most resilient, with average growth rates of 1.0 or slightly greater. Based on the most recent data, 3 red-cockaded woodpecker populations fall within the very high category (totaling 2,143 clusters); 3 are high (1,364 total clusters); 10 are moderate (1,555 total clusters); 37 are low (1,923 total clusters); and 71 are very low (809 total clusters). In short, of the estimated 7,794 active clusters distributed among 124 populations across the range of the species, 5,062, or 65 percent, are in 16 moderate to very high resiliency populations.

The second resiliency parameter measured in the SSA was growth rate of the populations. For the SSA, there were only sufficient GIS data to delineate past demographic populations with population size data to compute past-to-current growth rates for 98 of the 124 populations. Of these 98 populations, the SSA determined that 13 (13.3 percent) were declining (λ <1.00), 19 (19.4 percent) were stable (λ = 1.00–1.02), and 66 (67.3 percent) were increasing (λ >1.02). Combining growth rates with population sizes of these 98 populations, growth rates have been stable to increasing for all of those moderate, high, and very high resiliency populations where growth rate could be measured. At the other end, of the 86 very low and low resiliency populations where growth rate could be measured, 73 populations demonstrated stable and positive growth rates, with several populations showing very high growth rates. This is indicative of the positive effects of red-cockaded woodpecker conservation management programs on these locations and the ability of such management to offset inherently low or very low population resilience. Growth rates are decreasing in only 13 (15 percent) of the low and very low resiliency populations where growth rate could be measured.

Current population conditions in the SSA report were derived from the number and location of active clusters primarily in 2016 and 2017. These conditions did not take into account Hurricane Michael, which came ashore near Mexico Beach, Florida, on October 10, 2018, as a Category 4 storm. More than 1,500 cavity trees were blown down or damaged in populations in the Apalachicola National Forest, Silver Lake Wildlife Management Area (WMA), Jones Ecological Research Center, and Tate's Hell State Forest (Dunlap 2018, entire; McDearman 2018, entire). These represented three demographic populations: Apalachicola National Forest-St. Marks NWR-Tate's Hell State Forest, Jones Ecological Research Center, and Silver Lake WMA. The effects of Hurricane Michael did not change current conditions for these populations in terms of their resilience size-classes as described in the SSA report, and as summarized here.

After this hurricane, 870 clusters were rapidly assessed in Apalachicola National Forest where 1,410 cavity trees were damaged or blown down, followed by the installation of 682 artificial cavities (Dunlap 2018, entire). In 2018, prior to this hurricane, the Apalachicola National Forest population survey estimate was 833 active clusters (Casto 2018, p. 4). After the hurricane, the 2019 survey estimate was 857 active clusters (Casto 2019, p. 9). At Silver Lake WMA, 154 cavity trees were damaged or lost; however, within two weeks of the storm more than 90 artificial cavities were installed (Burnham 2019a, p. 9). The pre-storm population was 36 active clusters and 32 potential breeding groups, with a post-storm decline to 33 active clusters and 28 potential breeding groups (Burnham 2019b, p. 6). About 24 percent of all cavity trees at the Jones Ecological Research Center were damaged or destroyed (Rutledge 2019, p. 13). The pre-storm Jones Center population was 38 active clusters with 34 potential breeding groups (Henshaw 2019, p. 4). Post-storm, after installation of artificial cavities, there were 40 active clusters with 31 potential breeding groups (Henshaw 2019, p. 4). At Tate's Hell State Forest, about 23 of 527 cavity trees among 61 active clusters and 51 PBGs were blown down (Alix 2018, pers. comm.). After post-storm management, the Tate's Hell State Forest currently consists of 64 active clusters and 54 PBGs (Alix 2019, pers. comm.). Overall, the total decline in number of active clusters from all of these properties is minor, demonstrating that with prompt, active management, the vulnerability of these populations to stochastic events can potentially be reduced. Additional intermediate and long-term habitat restoration treatments at these properties are still required to reduce hazardous fuels from large and small woody debris, restore habitat, and implement reforestation or regeneration in the most severely damaged pine stands. Overall, we do not anticipate that Hurricane Michael will affect long-term viability of these populations. However, we will continue to evaluate the success of the emergency, intermediate, and long-term response efforts.

In summary, although most of red-cockaded woodpecker populations for which we have data are still small, and remain vulnerable to stochastic events and possibly inbreeding depression, the vast majority of populations are showing stable or increasing growth rates, and the majority of birds and clusters occur in a few large, resilient populations. Of the 98 populations for which trend data are available, only 13 percent are declining. In addition, over 65 percent of red-cockaded woodpecker clusters are currently in moderate to very high resiliency populations.

Representation

We evaluated representation based on the extent and variability of habitat characteristics across the species' geographical range. For the red-cockaded woodpecker, the SSA report characterizes representative units using ecoregions, which align with the recovery units identified in the recovery plan (USFWS 2003, pp. 145–161). These ecoregions are broad areas defined by physiography, topography, climate, and major historical and current forest types and thus serve as surrogates for the variability of habitat characteristics across the species' range, such as ecology, life history, geography, and genetics. There are currently 13 ecoregions containing at least one red-cockaded woodpecker population: (1) Cumberland Ridge and Valley; (2) Florida Peninsula (= South/Central Florida); (3) East Gulf Coastal Plain; (4) Mid-Atlantic Coastal Plain; (5) Ouachita

Mountains; (6) Piedmont; (7) South Atlantic Coastal Plain; (8) Sandhills; (9) Upper East Gulf Coastal Plain; (10) Upper West Gulf Coastal Plain; (11) West Gulf Coastal Plain; and (12) Gulf Coast Prairie and Marshes and (13) Mississippi River Alluvial Plain, two ecoregions that the SSA includes that were not represented in the recovery plan because they only have one small population each. In the SSA report, figures 20 and 24 provide maps illustrating the ecoregions (USFWS 2019, pp. 91, 109), and figure 25 includes the historical county records for the range of the species (USFWS 2020, p. 116).

The historical range of the red-cockaded woodpecker included the entire distribution of longleaf pine ecosystems, but the species also inhabited open shortleaf, loblolly, slash pine, and Virginia pine forests, especially in the Ozark-Ouachita Highlands and the southern tip of the Appalachian Highlands with occasional occurrences noted for New Jersey, Pennsylvania, Maryland, and Ohio (Costa and Walker 1995, pp. 86–87). Red-cockaded woodpeckers no longer occur in six ecoregions (Ozarks, Central Mixed Grass Prairies, Cross Timbers and Southern Mixed Grass Prairies, Northern Atlantic Coast, Central Appalachian Forest, and Southern Blue Ridge). The recovery plan did not consider recovery in these areas to be essential to the conservation of the species.

The remaining 13 ecoregions still contain red-cockaded woodpeckers. In these ecoregions, red-cockaded woodpeckers occupy a wide variety of pine-dominated ecological settings scattered across a broad geographic range. Considerable geographic variation in habitat types exists, illustrating the species' ability to adapt to a wide range of ecological conditions within the constraints of mature or old growth, southern pine ecosystems. However, of these 13 ecoregions, only 4 currently have populations that are considered to have high or very high resiliency (East Gulf Coastal Plain, South Atlantic Coastal Plain, Sandhills, and Mid-Atlantic Coastal Plain), and 6 have populations that are low or very low resiliency (Florida Peninsula, Ouachita Mountains, Cumberland Ridge and Valley, Piedmont, Gulf Coast Prairie and Marshes, and Mississippi River Alluvial Plain). Of those six, the latter four have only one or two populations each, meaning these ecoregions, and the ecology, life history, geography, and genetics they represent, are particularly vulnerable to stochastic events. However, five of the six populations in these four ecoregions all demonstrate stable or increasing growth rates (growth rate for the sixth, Mitchell Lake in the Piedmont Ecoregion, could not be measured), primarily because they are being actively managed.

In summary, the species no longer persists in six ecoregions where it was historically present. However, it is still currently represented in the 13 remaining ecoregions, and this level of representation has not decreased further since the 2003 recovery plan revision, which did not consider the extirpated ecoregions necessary for recovery. Nevertheless, while populations persist in the 13 ecoregions, many of the ecoregions contain only populations that have low or very low resiliency, and four ecoregions only have one or two populations, which are all of low or very low resiliency, making them vulnerable to stochastic events.

Redundancy

In the SSA report, redundancy for red-cockaded woodpeckers is characterized by the number of resilient populations and their distribution within each ecoregion. Of the 124 current populations, there are 3 populations that have very high resiliency, 3 with high, 10 with moderate, 37 with low, and 71 with very low resiliency. As noted above, 4 of 13 ecoregions currently harbor high or very high resiliency populations: East Gulf Coastal Plain (2 populations), Mid-Atlantic Coastal Plain (1 population), Sandhills (2 populations), and South Atlantic Coastal Plain (1 population). In terms of redundancy, only two ecoregions, East Gulf Coastal Plain and Sandhills, have more than one population classified as having high or very high resiliency, and only these two ecoregions also have more than two populations classified as having moderate to very high resiliency. Redundancy of smaller populations is higher with a greater number of populations in the moderate, low, and very low resiliency categories within and across ecoregions. Four ecoregions (South Atlantic Coastal Plain, Mid-Atlantic Coastal Plain, West Gulf Coastal Plain, and Upper East Gulf Coastal Plain) have two populations exhibiting moderate to high resiliency, and thus some level of redundancy in terms of resilient populations. Most of the populations in these regions have moderately resiliency. The greatest number of current populations reside in the Mid-Atlantic Coastal Plain (24) and Florida Peninsula (22), although most of these are in the very low and low resiliency class. However, even for the more resilient populations, habitat fragmentation has resulted in wide gaps between forested areas, meaning there is little connectivity between populations.

Across the range of the red-cockaded woodpecker, the populations with the most resiliency (high or very high) populations tend to be in the eastern half of the range and in coastal or near coastal ecoregions rather than interior. Florida Peninsula and the western ecoregions currently only have populations in the moderate to very low resiliency categories. This concentration of the more resilient populations in coastal and near coastal areas could affect the species' ability to withstand catastrophic events such as hurricanes. Particularly for these populations, post-storm management actions are critical, as they can mitigate cavity loss and reduce hazardous fire fuels.

In summary, a species needs a suitable combination of all three characteristics (resiliency, representation, and redundancy) for long-term viability. Based on our analysis of the three factors, the red-cockaded demonstrates some degree of stability in all three factors. The species' viability is reduced over historical levels, but habitat conditions and population numbers are improving. In terms of resiliency, most of the populations are still quite small, but the vast majority are stable or even growing. The species has not lost any representative populations since the 2003 revised recovery plan, and while a few ecoregions still only contain one or two populations, most of these populations are stable or growing. Finally, there is a fair degree of redundancy within ecosystems across the range of the species, although, again, most of these populations are still quite small and are isolated from each other. The improving viability of the red-cockaded woodpecker has been largely due to intensive, extensive management, including actions immediately after large storm events to offset cavity loss and reduce hazardous fuels. Without this intervention, many populations, especially the low and very low resilience populations, likely would have been extirpated.

Future Conditions

Our analysis of stressors and risk factors, as well as the past, current, and future influences on what the red-cockaded woodpecker needs for long-term viability, revealed that the primary predictor of future viability of the species is the continuation of active management (including cavity management, midstory treatment such as prescribed fire, and translocation efforts).

We assessed future red-cockaded woodpecker population growth, population size (active clusters), and resiliency by first modeling past trends and variation in population size of demographically delineated populations as affected by factors including management treatments (*e.g.,* number of artificial cavities, recruitment clusters, birds received by translocations, and frequency of prescribed fire and mid-story hardwood control), dominant pine species, the density of active clusters, and parameters to account for unexplained sources of variation to population size by this procedure (USFWS 2020, chapter 6 and appendix 2). We obtained historical information for 87 demographically delineated populations and were also able to extrapolate missing data for certain populations by imputation with an expectation-maximization algorithm (USFWS 2020, appendix 1). Populations were separately modeled as small (6 to 29 clusters), medium (30 to 75 clusters), and large (more than 75 clusters) classes. Populations with fewer than six active clusters were not modeled because of high variation in growth rates.

For past growth rate of small populations, the most important variables were the number of new recruitment clusters, number of new artificial cavities in previously existing clusters (cavity management), midstory treatments by prescribed fire or mechanical methods, number of red-cockaded woodpeckers translocated into the population, and dominant pine type. Translocation had the greatest positive effect on growth of any management technique. For medium populations, recruitment clusters and midstory treatments by prescribed fire were significant management covariates. The best model for large populations included recruitment clusters, cavity management, and spatial configuration of active clusters. In all cases, effects of recruitment clusters, cavity management, midstory treatment, and translocation were positive.

We then used the best assessed future growth and conditions for each red-cockaded woodpecker population to assess viability under four future 25-year management scenarios: Low management, medium management, high management, and the ''Manager's Expectation.'' In the Manager's Expectation scenario, we elicited estimates for red-cockaded woodpecker conservation management treatments (*e.g.,* number of artificial cavities, number of recruitment clusters, midstory treatments, prescribed fire frequency, translocation, etc.) from property biologists, foresters, and managers.

For the low management scenario, values for each management covariate (*e.g.,* cavity management, prescribed fire treatments, number of recruitment clusters, midstory hardwood treatment, translocation) were set to zero. However, this scenario does not reflect no management, but rather, the absence of management techniques specific to red-cockaded woodpeckers and instead a reliance on ecosystem management. Thus, some baseline habitat management, which would indirectly provide some nesting and foraging habitat, would be expected under the low management scenario. However, because most of the past populations for which we had sufficient data have been actively managed more aggressively than this scenario, we were unable to accurately model this type of minimal baseline habitat management. Therefore, future simulated population growth in the low management scenario is probably overestimated. Management covariate parameters for the medium management scenario assume the average of the past parameters employed to conserve red-cockaded woodpeckers over the past 20 years will continue into the future. For the high management scenario, management treatments for simulated populations reflect the parameter values in the 90th percentile of all past population treatments, as if populations were more intensely and extensively managed. The high management scenario thus represents projections of what might potentially be achieved should the species be systematically managed more intensively across its range than it has been in the past. The Manager's Expectation scenario was based on what the experts, described above, thought was the most likely annual future number of recruitment clusters, artificial cavities, prescribed fire treatments, and other management parameters at 5-year intervals for a 25-year period.

We chose to project 25 years into the future because the combination of species' response to natural factors and management and the ability of managers to accurately predict future management treatments becomes highly uncertain at longer intervals. The red-cockaded woodpecker is a conservation-reliant species of naturally fire-dependent, open, and mature to old southern pine forests. These forest conditions do not currently occur without management due to the history of fire-exclusion, incompatible forest management, and other land uses. Planning and successfully implementing management and treatments for each active cluster and population requires extensive resources that are difficult for managers to accurately predict for longer than 25 years. In addition to a population's response to management, there is natural variation in nest success, number of fledglings, survival of young-of-year and adults, and cooperative breeding dynamics with replacement of adult breeders by other birds dispersing from other territories. In turn, this affects annual variation in population size (active clusters) and patterns of population growth or decline. Simulations of future population conditions under different management scenarios included effects of some management treatments, though not all, as model parameters. However, effects of these management treatment parameters did not account for all sources of annual variation affecting population size that still occurred in the model and simulations. Because of the variation in future simulated population size at 25 years (USFWS 2020, appendix 2), future estimates of population size after 25 years are more uncertain.

Table 1 summarizes the model outputs for the four scenarios at the end of the 25-year simulation period. Data from 106 of the 124 current populations were available for future simulations. Of those 106 populations, initial populations with fewer than 6 active clusters were not simulated unless they demographically merged with other populations to create new, larger populations during the 25-year period. In addition, the total number of simulated future populations at year 25 are not equal among management scenarios because of the different number of initial populations that demographically merge to establish new populations. In other words, a lower number of populations at the end than the start for each scenario does not mean that all those populations were extirpated, rather some of the populations increased and merged to create new, larger populations. Therefore, the initial starting number of populations, and predicted number of populations at the end of the simulation period, varied. We also compare the results of current and future population resiliency classes as percentages in this proposed rule rather than absolute numbers because of this variation. Furthermore, although the initial starting numbers varied for each of the scenarios for the reasons discussed above, we present the current condition of the 124 demographic populations as the starting place for each of these scenarios. The current condition (Past-to-Current in Table 1) for these

populations are: 57.3 percent have very low resiliency, 29.8 percent have low, 8.1 percent have moderate, 2.4 percent have high, and 2.4 percent have very high. For more details on the model, please see the SSA report (USFWS 2020, pp. 130–136, appendix 1, appendix 2).

TABLE 1—RESILIENCE SUMMARY BASED ON CURRENT CONDITION AND POPULATION SIMULATIONS UNDER 4 FUTURE MANAGEMENT SCENARIOS

Model series/scenario	Population resilience category percentages				
	Very low	Low	Moderate	High	Very high
Past-to-Current	57.3	29.8	8.1	2.4	2.4
Future Low	61.7	14.8	11.1	6.2	6.2
Future Medium	25.0	45.2	15.5	8.3	6.0
Future High	22.2	39.5	21.0	11.1	6.2
Future Manager's	28.6	42.9	14.3	8.3	5.9

Low management scenario: At the end of the 25-year simulation period, the predicted resiliency for the resulting 81 simulated demographic populations are: 6.2 percent of populations (5) very high; 6.2 percent (5) high; 11.1 percent (9) moderate; 14.8 percent (12) low; and 61.7 percent (50) very low. The low management scenario projects a modest increase in the percentage of current populations of moderate to very high resiliency from about 13 percent (16) to about 24 percent (19) of the 81 simulated populations compared to current conditions, but the majority of the populations that currently have low resiliency decline sufficiently to transition into the very low resiliency category. The projected outcome of this scenario clearly demonstrates the dependence of red-cockaded woodpecker population resiliency on intensive, species-specific management.

Medium management scenario: At the end of the 25-year simulation period, the predicted resiliency for the resulting 84 simulated demographic populations are: 6.0 percent of populations (5) very high; 8.3 percent (7) high; 15.5 percent (13) moderate; 45.2 percent (38) low; and 25.0 percent (21) very low. The medium management scenario projected a more substantial increase in the percentage of populations of moderate to very high resiliency from about 13 percent (16) to about 30 percent (25) of the populations. At the other end, the percentage of low and very low resiliency populations decreased.

High management scenario: At the end of the 25-year simulation period, the predicted resiliency for the resulting 81 demographic populations are as follows: 6.2 percent of populations (5) very high; 11.1 percent (9) high; 21.0 percent (17) moderate; 39.5 percent (32) low; and 22.2 percent (18) very low. The high management scenario projected an even more substantial increase in the percentage of populations of moderate to very high resiliency, increasing to about 38 percent (31) of the populations. However, the land base available for conservation has a substantial effect on the growth of these populations under this scenario. For example, none of the populations with low or very low resiliency in this scenario has the carrying capacity on their respective managed properties to transition to a higher resiliency category, regardless of the intensive management reflected in this scenario. Thus, there are 50 red-cockaded woodpecker populations that, in the absence of acquisition of additional habitat for population expansion, will always remain small regardless of the management efforts.

Manager's Expectation scenario: At the end of the 25-year simulation period, the predicted resiliency for the resulting 84 demographic populations are: 5.9 percent of the populations (5) very high; 8.3 percent (7) high; 14.3 percent (12) moderate; 42.9 percent (36) low; and 28.6 percent (24) very low. The results are very similar to the medium management scenario.

Future Representation and Redundancy of the Species: Under all management scenarios, five populations in four ecosystems are predicted to have very high resiliency (East Gulf Coastal Plain (2), Sandhills (1), Mid-Atlantic Coastal Plain (1), and South Atlantic Coastal Plain (1)). Under the Manager's Expectation and medium management scenarios, seven populations in five ecosystems are considered to have high resiliency (East Gulf Coastal Plain (2), South Atlantic Coastal Plain (1), Sandhills (2), Upper West Gulf Coastal Plain (1), and West Gulf Coastal Plain (1)). Also, compared to current conditions, the greater number of future high and very high resiliency populations are more widely distributed among ecoregions and include the western geographic range; however, over the whole range of the woodpecker, the occurrence of high and very high resiliency populations is most concentrated in the East Gulf Coastal Plain and Sandhills ecoregions.

Only two ecoregions (Cumberland Ridge and Valley and Gulf Coast Prairie and Marshes) have no simulated populations of moderate to very high resiliency in the Manager's Expectation, medium management, and high management scenarios, compared to six ecoregions (Florida Peninsula, Ouachita Mountains, Cumberland Ridge and Valley, Piedmont, Gulf Coast Prairie and Marshes, and Mississippi River Alluvial Plain) that currently do not have moderate to very high resiliency populations. The one current population in the Mississippi River Alluvial Plain ecoregion was not simulated in the future. In the low management scenario, four ecoregions (Cumberland Ridge and Valley, Gulf Coast Prairie and Marshes, Ouachita Mountains, and Piedmont) that currently only have low or very low resiliency populations are not projected to gain any moderate to very high resiliency populations at 25 years.

Summary: The total number of simulated populations at 25 years varied slightly among the management scenarios because of a different number of initial populations that demographically merged during simulations to establish new and larger populations. Results of the Manager's Expectation and medium management scenarios were most similar, while the low management and high management scenarios represented more extreme future resiliency conditions. These simulations, particularly for the low management and high management scenarios, illustrate the extent to which the red-cockaded woodpecker is a conservation-reliant species that responds positively or negatively to management, and how successful management can sustain small populations with low or very low resiliency. In all scenarios, most populations at year 25 were still in the

very low, low, and moderate resiliency categories. However, the majority of populations were projected to be stable or increasing in all but the low management scenario, highlighting how successful management can sustain even small populations, albeit with a greater inherent risk in response to poor or insufficient management. The low management scenario illustrates that without adequate species-level management, in contrast to ecosystem management alone, very little increase in the number of moderate to very high resiliency populations can be expected and small populations of low or very low resiliency are unlikely to persist. The high management scenario represents the limit of what can be accomplished given the current land base and carrying capacity to support populations. However, management at current levels, as represented by the medium management scenario, further increases the number of moderate to very high resiliency populations and projects that small populations can be preserved. In addition, at current (or greater) levels of future management, redundancy and representation are expected to improve significantly in response to increasing populations. Because, if we reclassify the red-cockaded woodpecker as a threatened species, the woodpecker would remain protected under the Act, current levels of management are expected to continue into the future.

Recovery and Recovery Plan Implementation

The original red-cockaded woodpecker recovery plan was first issued by the Service on August 24, 1979. A first revision was issued on April 11, 1995, and the second, and current, revision on January 27, 2003. The 2003 recovery plan provided management guidelines fundamental to the conservation and recovery of red-cockaded woodpeckers. The Service continues to strongly encourage the application of these guidelines to the management of woodpecker populations on public and private lands. As explained in *Conservation Measures that Benefit the Species,* above, implementation of the recovery plan has been carried out through the incorporation of management guidelines into various Federal and State land management plans. In addition to the management guidelines, the 2003 recovery plan provides guidelines to private landowners to follow on private lands occupied by red-cockaded woodpeckers. The 2003 recovery plan provides guidelines for installing artificial cavities; management of cavity trees and clusters; translocation; silviculture; and prescribed fire under the management guidelines, and guidelines for managing foraging habitat on private lands are provided under the private land guidelines. After the issuance of the 2003 recovery plan, two additional sets of foraging guidelines were developed (USFWS 2005, entire). As described in the 2005 guidance, the recovery standard for good quality foraging habitat is intended for recovery management to sustain and increase populations.

The recovery plan contains both downlisting and delisting criteria. The recovery criteria in the 2003 recovery plan are based on 39 designated populations in different viability size classes. Although these were not the only red-cockaded woodpecker populations known at the time, they were selected as recovery populations because of anticipated future management by their management agencies or entities, the estimated future capacity of the properties, and their geographic distribution within and among recovery units (*e.g.,* ecoregions). Each of these designated populations have a future population size objective with various potential roles toward achieving the downlisting and delisting criteria in the recovery plan. The populations are distributed within 11 recovery units or ecoregions that represent broad patterns of ecological and potential genetic variation and that enhance immigration to reduce the loss of genetic variation (*e.g.,* representation), with multiple populations to reduce risks of catastrophic impacts of periodic hurricanes, and adverse stochastic demographic, environmental, and genetic factors (*e.g.,* redundancy). The 39 designated recovery populations are either primary core (13), secondary core (10), or essential support (16), according to recovery population size potential breeding group (PBG) objectives. As described above, a PBG is a cluster with a potentially breeding adult male and female, with or without adult helpers or successfully fledging young. An active cluster can be either a PBG or a single territorial bird. Further discussion of these terms, along with the rationale for each delisting and downlisting criterion, can be found in the recovery plan (USFWS 2003, pp. 140–145). Further detail on the specific populations required to meet each criterion can also be found in the recovery plan.

Downlisting may be achieved by having a total of 20 designated recovery populations fulfilling the following criteria. Qualifying populations with the largest population sizes are listed for each criterion when a specific population is not required. No particular population may satisfy more than one criterion.

- *Downlisting Criterion 1: There is one stable or increasing population of 350 PBGs (400 to 500 active clusters) in the Central Florida Panhandle.* This criterion has been met. In our 2006 5-year review (USFWS 2006), we identified that part of one of the five properties (Apalachicola Ranger District-Apalachicola National Forest) comprising the Central Florida Panhandle Primary Core population alone had 451 PBGs. Now, there are 909 active clusters representing about 809 PBGs for the Central Florida Panhandle Primary Core population. The average growth rate for this population is increasing.
- *Downlisting Criterion 2: There is at least one stable or increasing population containing at least 250 PBGs (275 to 350 active clusters) in each of the six following recovery units: Sandhills, Mid-Atlantic Coastal Plain, South Atlantic Coastal Plain, West Gulf Coastal Plain, Upper West Gulf Coastal Plain, and Upper East Gulf Coastal Plain.* This criterion has been partially met. Currently, four of the six recovery units have a population that has reached the minimum required size to fulfill this criterion (Sandhills, North Carolina Sandhills East Primary Core; Mid-Atlantic Coastal Plain, Francis Marion Primary Core; South Atlantic Coastal Plain, Fort Stewart Primary Core; and Upper West Gulf Coastal Plain, Sam Houston Primary Core). The Vernon-Fort Polk primary core with 223 active clusters and 185 PBGs (West Gulf Coastal Plain) and Bienville Primary Core with 162 active clusters and 144 PBGs (Upper East Gulf Coastal Plain) have not fulfilled this criterion.
- *Downlisting Criterion 3: There is at least one stable or increasing population containing at least 100 PBGs (110 to 140 active clusters) in each of the four following recovery units: Mid-Atlantic Coastal Plain, Sandhills, South Atlantic Coastal Plain, and East Gulf Coastal Plain.* This criterion has been fulfilled by the following populations: Coastal North Carolina Primary Core (235 active clusters, 209 PBGs, Mid-Atlantic Coastal Plain), South Carolina Sandhills Secondary Core (237 active clusters, 211 PBGs, Sandhills), Osceola/Okefenokee Primary Core (212 active clusters, 189 PBGs, South Atlantic Coastal Plain), and Eglin Primary Core (526 active clusters, 462 PBGs, East Gulf Coastal Plain).
- *Downlisting Criterion 4: There is at least one stable or increasing population containing at least 70 PBGs (75 to 100 active clusters) in each of the following*

four recovery units: Cumberland Ridge and Valley, Ouachita Mountains, Piedmont, and Sandhills. In addition, in the Mid-Atlantic Coastal Plain, the Northeast North Carolina/Southeast Virginia Essential Support Population is stable or increasing and contains at least 70 PBGs (75 to 100 active clusters). This criterion has been partially met by two populations: North Carolina Sandhills West Essential Support (187 active clusters, 166 PBGs, Sandhills) and Oconee/Piedmont Secondary Core (85 active clusters, 76 PBGs, Piedmont). Three of the five populations presently do not meet the required population size: Ouachita Secondary Core (73 active, 69 PBGs, Ouachita Mountains), Northeast North Carolina/Southeast Virginia Essential Support (68 active clusters, 61 PBGs, Mid-Atlantic Coastal Plain), and Talladega/Shoal Creek Essential Support (45 active clusters, 43 PBGs, Cumberland Ridge and Valley). The Ouachita Secondary Core population in the Ouachita Mountains recovery unit, with an estimated 69 PBGs, is on the threshold of achieving the size criterion.

- *Downlisting Criterion 5: There are at least four populations each containing at least 40 PBGs (45 to 60 active clusters) on State and/or Federal lands in the South/Central Florida Recovery Unit.* This criterion has been met by four populations: Big Cypress Essential Support, (88 active clusters, 78 PBGs); Goethe Essential Support (63 active clusters, 52 PBGs); Ocala Essential Support (123 active clusters, 109 PBGs); Withlacoochee Citrus Tract (80 active clusters, 78 PBGs).
- *Downlisting Criterion 6: There are habitat management plans in place in each of the above populations identifying management actions sufficient to increase the populations to recovery levels, with special emphasis on frequent prescribed burning during the growing season.* This criterion has been mostly met. These 20 populations occur on properties owned by 6 Federal and 5 State agencies, and 2 nongovernmental entities. Agency management plans meet this criterion for 18 of these 20 populations. The remaining two populations, the Big Cypress Essential Support population and the Northeast North Carolina/Southeast Virginia Essential Support population, do not currently fulfill this management criterion for various reasons. The Big Cypress Essential Support population, on the Big Cypress National Preserve, has exceeded its recovery population size objective, and while the Preserve management plan doesn't mention species-specific management activities, appropriate habitat management is occurring along with a limited application of artificial cavity installation. In addition, because of the current distribution and number of natural cavities and continued excavation of natural cavities on the Preserve by woodpeckers, there may be sufficient old pines for natural cavity excavation to sustain this population even if the Preserve does not manage for artificial cavities in the future. The Northeast North Carolina/Southeast Virginia Essential Support population is spread over five properties with a mixture of management plans and management activities. For example, The Nature Conservancy does not have a management plan for the Piney Grove Preserve in Virginia; however, this population segment is intensively and successfully managed. Red-cockaded woodpeckers on the remaining four properties inhabit ecologically unique conditions that limit the application of the standard management techniques, and a management plan does not exist for one of these properties. In addition, the available management plans for these 20 populations include none to minimal provisions for post-hurricane or post-storm management, although such management generally does occur when needed.

Delisting can be achieved with a minimum 29 populations that fulfill required size criteria in, when required, specific recovery units. As with downlisting, a population that fulfills one criterion cannot be applied to meet another criterion. All of these populations must exist with suitable natural cavities and without dependence on continued artificial cavity management. Sufficient management and monitoring plans must be available by respective management agencies to continue to sustain these populations. Finally, the recovery plan indicates that only 11 of the 13 primary core populations must meet the delisting criteria because at any time 2 may be recovering from adverse impacts of hurricanes. Similarly, the requirement for secondary core populations is 9 of 10, and the requirement for essential support populations is 9 of 16 to allow for hurricane impacts.

Of the 29 populations required for delisting, only 12 (41.4 percent) currently meet delisting population size requirements. Of the following four recovery criteria with delisting population size requirements, Delisting Criterion 3, concerning populations in the South/Central Florida recovery unit, is the only criterion in which all populations have attained minimum size attributes. All of these 29 populations currently remain dependent on artificial cavities.

- *Delisting Criterion 1: There are 10 populations of red-cockaded woodpeckers that each contain at least 350 PBGs (400 to 500 active clusters), and one population that contains at least 1,000 PBGs (1,100 to 1,400 active clusters), from among 13 designated primary core populations, and each of these 11 populations is not dependent on continuing installation of artificial cavities to remain at or above this population size.* This criterion has not been met. Five of the 11 primary core populations in this criterion have met or positively exceeded the minimum population size, but all populations remain dependent on artificial cavities and no population has reached at least 1,000 PBGs: North Carolina Sandhills East Primary Core (520 active clusters, 514 PBGs), Fort Stewart Primary Core (504 active clusters, 480 PBGs), Eglin Primary Core (526 active clusters, 462 PBGs), Francis Marion Primary Core (465 active clusters, 414 PBGs), Fort Benning Primary Core (400 active clusters, 387 PBGs) The Central Florida Primary Core is the closest to achieving the 1,000 PBG goal (858 active clusters, 764 PBGs). In addition, the following populations have not yet met the goal of 350 PBGs: Sam Houston Primary Core (289 active clusters, 257 PBGs), Coastal North Carolina Primary Core (235 active clusters, 209 PBGs), Osceola/Okefenokee Primary Core (212 active clusters, 189 PBGs), Vernon/Fort Polk Primary Core (223 active clusters, 199 PBGs), and Bienville Primary Core (162 active clusters, 144 PBGs)
- *Delisting Criterion 2: There are nine populations of red-cockaded woodpeckers that each contain at least 250 PBGs (275 to 350 active clusters) from among 10 designated secondary core populations, and each of these nine populations is not dependent on continuing installation of artificial cavities to remain at or above this population size.* This criterion has not been met. None of the 10 designated secondary core populations harbors 250 PBGs, which range in size from 69 PBGs in the Ouachita Secondary Core to 211 PBGs in the South Carolina Sandhills Secondary Core, and all of these populations remain dependent on artificial cavities.
- *Delisting Criterion 3: There are at least 250 PBGs (275 to 350 active clusters) distributed among designated essential support populations in the South/Central Florida Recovery Unit, and six of these populations (including at least two of the following: Avon Park, Big Cypress, and Ocala) exhibit a minimum population size of 40 PBGs*

that is independent of continuing artificial cavity installation. This criterion has been partially met. The size of the six populations and total number of PBGs has been fulfilled: Babcock/Webb Essential Support (46 active clusters, 42 PBGs), Big Cypress Essential Support (88 active clusters, 78 PBGs), Goethe Essential Support (63 active clusters, 52 PBGs), Ocala Essential Support (123 active clusters, 109 PBGs), Three Lakes Essential Support (48 active clusters, 45 PBGs), and Withlacoochee Citrus Tract Essential Support (80 active clusters, 78 PBGs). All populations continue to be dependent on artificial cavities.

- *Delisting Criterion 4: There is one stable or increasing population containing at least 100 PBGs (110 to 140 active clusters) in northeastern North Carolina and southeastern Virginia, the Cumberland Ridge and Valley recovery unit (Talladega/Shoal Creek), and the Sandhills recovery unit (North Carolina Sandhills West), and these populations are not dependent on continuing artificial cavity installation to remain at or above this population size.* This criterion has been partially met. Of these three populations, the size objective of the North Carolina Sandhills West Essential Support (187 active clusters, 166 PBGs) has been fulfilled, while the Northeast North Carolina/Southeast Virginia Essential Support (73 active clusters, 65 PBGs) and the Talladega/Shoal Creek Essential Support (42 active clusters, 32 PBGs) have not achieved the population size objective. Also, all three populations continue to be dependent on artificial cavities.
- *Delisting Criterion 5: For each of the populations meeting the above size criteria, responsible management agencies shall provide (1) a habitat management plan that is adequate to sustain the population and emphasizes frequent prescribed burning, and (2) a plan for continued population monitoring.* This criterion has not been met. Once the populations required for delisting have achieved population size objectives and are not dependent on artificial cavities, this criterion requires adequate future management plans to continue to sustain habitat and populations with active habitat management and monitoring. Such management is essential to ensure populations do not decline and the species falls to an endangered or threatened status. These management and monitoring plans would represent post-delisting commitments by respective management entities for this conservation-reliant species. Various management plans currently exist for these populations, but not as continued commitments upon recovery and delisting of the red-cockaded woodpecker.

Summary

Since the recovery plan was last revised in 2003, the number of red-cockaded woodpecker active clusters has increased from 5,627 to over 7,800 (USFWS 2020, entire). The population size objectives to meet applicable downlisting criteria have been met for 15 of 20 designated populations. All of these designated populations show stable or increasing long-term population growth rates ($\lambda \geq 1$). However, not all of the designated recovery populations are demographically a single functional population as intended by the recovery plan. Nine of the 20 designated recovery populations toward fulfilling downlisting population size criteria consist of multiple smaller demographic populations. Based on the largest single demographic population for a designated recovery population, 14 of 20 designated recovery populations have achieved downlisting population size criteria. As to delisting criteria, because the delisting criteria all require all-natural cavities, none of the delisting criteria have been fully met. With continued forest management to retain and produce sufficient old pines for natural cavity excavation, future populations would no longer be dependent artificial cavities. Regardless, there has been encouraging progress towards meeting the delisting criteria, as 12 of 29 demographically delineated populations corresponding to designated recovery populations currently have achieved population sizes that meet the delisting criteria.

While recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are guidance and not regulatory documents. Revisions to the List, including downlisting or delisting a species, must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is an endangered species or threatened species due to threats to the species. Section 4(b) of the Act requires that the determination be made ''solely on the basis of the best scientific and commercial data available.'' Therefore, while it is valuable to consider the progress a species has made towards meeting downlisting or delisting criteria, the decision to reclassify an endangered species as threatened or to delist a species due to recovery does not rely on the recovery plan. For the red-cockaded woodpecker, although the population objectives from the recovery plan have yet to be reached, the primary recovery task of increasing existing populations on Federal and State lands has been successful, and the population growth rates indicate sufficient resiliency to stochastic disturbances with effective management. In addition, redundancy of moderate to very high resiliency populations suggests that risks from future catastrophic events to overall viability is low.

Determination of Red-Cockaded Woodpecker Status

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of ''endangered species'' or ''threatened species.'' The Act defines an ''endangered species'' as any species that is ''in danger of extinction throughout all or a significant portion of its range'' and a ''threatened species'' as a species that is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' The Act requires that we determine whether a species meets the definition of ''endangered species'' or ''threatened species'' because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We must consider these same five factors in reclassifying (*e.g.,* changing a species status from endangered to threatened) or delisting a species.

Status Throughout All of Its Range

Red-cockaded woodpeckers were once considered a common bird across the southeastern United States. At the time of listing in 1970, the species was severely threatened by lack of adequate habitat due to historical logging, incompatible forest management, and conversion of forests to urban and agricultural uses. Fire-maintained old growth pine savannahs, on which the species depends, were extremely rare. What little habitat remained was mostly degraded due to fire suppression and silvicultural practices that hindered the development of older, larger trees

needed by the species for cavity development and foraging. Even after listing, the species continued to decline. However, new restoration techniques, such as artificial cavities, along with changes in silvicultural practices and wider use of prescribed fire to recreate open pine parkland structure, has led to stabilization of the species' viability and resulted in an increase in the number and distribution of populations. While most populations are still small and vulnerable to stochastic events, the majority of populations for which we were able to determine trends are stable or increasing ($\lambda = 1.0$ or greater), and only 13 percent are declining. There are currently at least 124 populations across 13 ecoregions.

When we modeled future scenarios, the majority of populations were projected to be stable or increasing in all but the low management scenario, highlighting how successful management can sustain even small populations, albeit with a greater inherent risk in response to poor or insufficient management. Future management at current and recent past levels, as represented by the medium management scenario, further increases the number of moderate to very high resiliency populations and projects that small populations can be preserved. In addition, at current (or greater) levels of management, redundancy and representation are expected to significantly improve because most populations are expected to increase in size across the ecoregions.

The Act does not define the term ''foreseeable future,'' which appears in the statutory definition of ''threatened species.'' Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term foreseeable future extends only so far into the future as the Services can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. ''Reliable'' does not mean ''certain''; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

We determined the foreseeable future to be 25 years from present, because it is a reasonable timeframe in which we can reasonably estimate population responses to natural factors and management. As discussed under *Future Conditions* above, in the SSA report, future population conditions under different management scenarios were simulated and modeled to 25 years into the future, and we determined that we can rely on the timeframe presented in the scenarios and predict how future stressors and management will affect the red-cockaded woodpecker. It is the timeframe in which the 95 percent confidence intervals around the future scenario modeling have reasonable bounds of uncertainty. This timeframe, given the species' life history, is also sufficient to identify any effects of stressors or conservation measures on the red-cockaded woodpecker's viability at both population and species levels. Finally, 25 years represents 4 to 5 generations of red-cockaded woodpecker, which would be sufficient time for population-level impacts from stressors and management to be detected.

The red-cockaded woodpecker still faces a variety of stressors due to inadequate habitat across its range, but these are now mostly legacy stressors resulting from historical forest conversion and fire suppression practices rather than current habitat loss. These legacy stressors include insufficient numbers of cavities and suitable, abundant old pines for natural cavity excavation; habitat fragmentation and its effects on genetic variation, dispersal, and connectivity to support demographic populations; lack of suitable foraging habitat for population growth and expansion; and small populations. The species also still faces stress from natural events, especially hurricanes. Immediate management response after natural disasters is key to preventing cluster abandonment in all populations and is critical to keeping smaller populations from being extirpated altogether. More broadly, this species remains conservation-reliant throughout its range. Red-cockaded woodpeckers rely on, and will continue to rely almost completely on, active management by property managers and biologists to install artificial cavities and manage clusters, restore additional habitat and strategically place recruitment clusters to improve connectivity, control the hardwood midstory through prescribed fire and silvicultural treatments, and translocate individuals to augment small populations and minimize loss of genetic variation. In addition, emergency response after severe storms and other natural disasters will continue to be necessary to prevent cluster abandonment and minimize wildfire fuel loading. However, both the emergency response and routine management are well-understood and are currently being implemented across the range of the woodpecker. In addition, much of the red-cockaded woodpecker's currently occupied habitat is now protected under various management plans. As a conservation-reliant species, securing management commitments for the foreseeable future would ensure that red-cockaded woodpecker populations grow or are maintained. This conclusion is reinforced by the future scenario simulations, which indicate that management efforts equal to or greater than current levels will further increase the number of moderate to very high resiliency populations and preserve small populations.

After evaluating the threats to the species and assessing the cumulative effect of the threats under the section 4(a)(1) factors, we find that, while the stressors identified above continue to negatively affect the red-cockaded woodpecker, new restoration techniques and changes in silvicultural practices has led to stabilization of the red-cockaded woodpecker's viability and even resulted in a substantial increase in the number and distribution of populations. Thirteen percent of all current red-cockaded woodpecker clusters are within moderate, high, or very highly resilient populations, and populations are spread across multiple ecoregions, providing for redundancy and representation. However, the species remains highly dependent on continued conservation management and the majority of populations contain small numbers of clusters. Thus, after assessing the best available information, we conclude that the red-cockaded woodpecker is not in danger of extinction throughout all of its range; however, it is likely to become in danger of extinction within the foreseeable future throughout all of its range.

However, if ongoing and future proactive red-cockaded woodpecker management were assured, the remaining negative factors identified above could be ameliorated. Therefore, in this proposed rule, we ask the public to provide comments regarding the adequacy of existing management plans for the conservation of the red-cockaded woodpecker, and the likelihood that those plans will continue to be implemented into the future (see Information Requested, above).

Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. The court in *Center*

for Biological Diversity v. *Everson,* 2020 WL 437289 (D.D.C. Jan. 28, 2020) (*Center for Biological Diversity*), vacated the aspect of the 2014 Significant Portion of its Range Policy that provided that the Services do not undertake an analysis of significant portions of a species' range if the species warrants listing as threatened throughout all of its range. Therefore, we proceed to evaluating whether the species is endangered in a significant portion of its range—that is, whether there is any portion of the species' range for which both (1) the portion is significant; and, (2) the species is in danger of extinction in that portion. Depending on the case, it might be more efficient for us to address the ''significance'' question or the ''status'' question first. We can choose to address either question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the species' range.

Following the court's holding in *Center for Biological Diversity,* we now consider whether there are any significant portions of the species' range where the species is in danger of extinction now (*i.e.,* endangered). In undertaking this analysis for the red-cockaded woodpecker, we choose to address the status question first—we consider information pertaining to the geographic distribution of both the species and the threats that the species faces to identify any portions of the range where the species is endangered.

For the red-cockaded woodpecker, we considered whether the threats are geographically concentrated in any portion of the species' range at a biologically meaningful scale. We examined the following stressors: Natural disasters such as hurricanes and vulnerability due to small population sizes and fragmentation. Other identified stressors, such as inadequate habitat, are uniform throughout the red-cockaded woodpecker's range. Although hurricanes may impact populations across the red-cockaded woodpecker's range, return intervals are shorter and impacts are more pronounced in near-coastal populations compared to inland populations (USFWS 2020, pp. 119–122). Furthermore, while small populations occur throughout the species' range, we found that there is a concentration of threats from the combination of both hurricanes and small population sizes in the Florida Peninsula, West Gulf Coastal Plain, and the southernmost near-coastal extension of the Upper West Gulf Coastal Plain ecoregions. This means these portions of the range together may constitute a portion of the species range where the species could have a different status because the threats are not uniform throughout the range and the species may face a greater level of imperilment where threats are concentrated.

Having determined that these are portions of the range where the species may be in danger of extinction, we next examined the question of whether these portions may be significant. In undertaking this analysis for the red-cockaded woodpecker, we considered whether the portions of the species' range identified above may be significant based on their biological importance to the overall viability of the species. Although these areas contain 49 of the 124 demographic populations identified in the SSA (40 percent), only three populations currently have moderate resiliency and the remaining populations demonstrate low and very low resiliency. One of the moderate populations is projected to increase to high resiliency in the low management scenario and two of three moderate populations are projected to increase to high resiliency in the remaining future scenarios. However, the majority of the populations remain in the low or very low resiliency category and do not contribute significantly, either currently or in the foreseeable future, to the species' total resiliency at a biologically meaningful scale compared to other representative areas. Although the populations in these ecoregions are relatively small, the current and future redundancy suggests that hurricanes would be unlikely to extirpate red-cockaded woodpeckers in an entire ecoregion, thus overall representation should not be impacted. Even if some populations in these portions were to become extirpated, the species would maintain sufficient levels of resiliency, representation, and redundancy in the rest of these ecoregions and in other ecoregions across its range, supporting the species' viability as a whole. Thus, we do not find that these are portions of the red-cockaded woodpecker's range that may be significant.

In conclusion, we do not find any portions of the species' range may be significant based on their biological importance to the overall viability of the red-cockaded woodpecker. Therefore, no portion of the species' range provides a basis for determining that the species is in danger of extinction in a significant portion of its range, and we determine that the species is likely to become in danger of extinction within the foreseeable future throughout all of its range. This is consistent with the courts' holdings in *Desert Survivors* v. *Department of the Interior,* No. 16–cv–01165–JCS, 2018 WL 4053447 (N.D. Cal. Aug. 24, 2018), and *Center for Biological Diversity* v. *Jewell,* 248 F. Supp. 3d, 946, 959 (D. Ariz. 2017).

Determination of Status

Our review of the best available scientific and commercial information indicates that the red-cockaded woodpecker meets the definition of a threatened species. Therefore, we propose to reclassify the red-cockaded woodpecker as a threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

Effects of This Proposed Rule

This proposal, if made final, would revise 50 CFR 17.11(h) to reclassify the red-cockaded woodpecker from endangered to threatened. This reclassification is due to the substantial efforts made by Federal, State, and private landowners to recover the species. Adoption of this proposed rule would formally recognize that this species is no longer in danger of extinction throughout all or a significant portion of its range and, therefore, does not meet the definition of an endangered species. However, the species is still impacted by the effects of habitat loss and degradation, habitat fragmentation, and small populations such that it meets the Act's definition of a threatened species.

Proposed Section 4(d) Rule

Background

Section 4(d) of the Act contains two sentences. The first sentence states that the ''Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation'' of species listed as threatened. The U.S. Supreme Court has noted that very similar statutory language like ''necessary and advisble'' demonstrates a large degree of deference to the agency (see *Webster* v. *Doe,* 486 U.S. 592 (1988)). Conservation is defined in the Act to mean ''the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Act] are no longer necessary.'' Additionally, the second sentence of section 4(d) of the Act states that the Secretary ''may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1), in the case of fish or wildlife, or 9(a)(2), in the case of plants.'' Thus, regulations promulgated under section 4(d) of the Act provide the Secretary with wide latitude of discretion to select

appropriate provisions tailored to the specific conservation needs of the threatened species. The statute grants particularly broad discretion to the Service when adopting the prohibitions under section 9.

The courts have recognized the extent of the Secretary's discretion under this standard to develop rules that are appropriate for the conservation of a species. For example, courts have upheld rules developed under section 4(d) as a valid exercise of agency authority where they prohibited take of threatened wildlife or included a limitated taking prohibition (see *Alsea Valley Alliance* v. *Lautenbacher,* 2007 U.S. Dist. Lexis 60203 (D. Or. 2007); *Washington Environmental Council* v. *National Marine Fisheries Service,* 2002 U.S. Dist. Lexis 5432 (W.D. Wash. 2002)). Courts have also upheld 4(d) rules that do not address all the threats a species faces (see *State of Louisiana* v. *Verity,* 853 F.2d 322 (5th Cir. 1988)). As noted in the legislative history when the Act was initially enacted, ''once an animal is on the threatened list, the Secretary has an almost infinite number of options available to him with regard to the permitted activities for those species. He may, for example, permit taking, but not importation of such species, or he may choose to forbid both taking and importation but allow the transportation of such species'' (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

Exercising its authority under section 4(d) of the Act, the Service has developed a proposed 4(d) rule that is designed to address the red-cockaded woodpeckers' specific threats and conservation needs. Although the statute does not require the Service to make a ''necessary and advisable'' finding with respect to the adoption of specific prohibitions under section 9, we find that this rule as a whole satisfies the requirement in seciton 4(d) of the Act to issue regulations deemed necessary and advisable to provide for the conservation of the red-cockaded woodpecker. As discussed above, the Service has concluded that the red-cockaded woodpecker is likely to become an endangered species within the foreseeable future primarily due to threats stemming from lack of suitable habitat. Therefore, the provisions of this proposed 4(d) rule prohibit incidental take associated with actions that would result in the further loss or degradation of red-cockaded woodpecker habitat, including damage to or loss of cavity trees. Maintaining and expanding existing populations is also vital to the conservation of the species; therefore, the proposed 4(d) rule would also prohibit incidental take associated with actions that would harm or harass red-cockaded woodpeckers during breeding season as well as ban the use of insecticides and herbicides on standing pine trees in and around active cavity tree clusters (to provide for adequate foraging).

The red-cockaded woodpecker relies, and will continue to rely, on artificial cavities until a sufficient number of large mature pines becomes widely available; the installation and maintenance of artificial cavities is an essential management tool to sustain populations until such time as there are adequate natural cavities. However, the proper techniques to install cavity inserts, drill cavities, or install cavity restrictor plates require training and experience; therefore, the proposed 4(d) rule would prohibit incidental take associated with these activities, so that they can be properly regulated under a section 10(a)(1)(A) permit. Similarly, inspecting cavities to monitor eggs and hatchlings, typically using a video scope, drop light, or mirror inserted into the cavity, could cause incidental take, through flushing of adult or subadult birds resulting in possible injury or even death, if not done correctly. Therefore, the proposed 4(d) rule would prohibit incidental take associated with inspections of cavity contents, including the use of video scopes, drop lights, or mirrors, inserted into cavities; however, these activities could be covered under a section 10(a)(1)(A) permit.

The proposed 4(d) would also provide for certain exceptions to the prohibitions. In addition to certain standard exceptions, they include incidental take on Department of Defense installations under certain circumstances, incidental take associated with conservation and habitat restoration actions carried out in accordance with a Service- or State-approved management plan, and certain actions that would harm or harass red-cockaded woodpeckers during breeding season associated with existing infrastructure that are not increases in the existing activities. All of these prohibitions and exceptions are discussed in more detail below.

The provisions of this proposed 4(d) rule are one of many tools that the Service would use to promote the conservation of the red-cockaded woodpecker. This proposed 4(d) rule would apply only if and when the Service makes final the determination to reclassify the red-cockaded woodpecker as a threatened species.

Provisions of the Proposed 4(d) Rule

This proposed 4(d) rule would provide for the conservation of the red-cockaded woodpecker by prohibiting the following activities, except as otherwise authorized or permitted: Importing or exporting; take; possession and other acts with unlawfully taken specimens; delivering, receiving, transporting, or shipping in interstate or foreign commerce in the course of commercial activity; and selling or offering for sale in interstate or foreign commerce. We also propose several standard exceptions to the prohibitions for the red-cockaded woodpecker, such as activities authorized by permits under § 17.32 of these regulations; take by employees of State conservation agencies operating under a cooperative agreement with the Service in accordance with section 6(c) of the Act; and take by an employee of the Service, Federal land management agency, or State conservation agency to aid sick or injured red-cockaded woodpeckers, which are set forth under Proposed Regulation Promulgation, below.

Under the Act, ''take'' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Some of these provisions have been further defined by regulation at 50 CFR 17.3. Take can result knowingly or otherwise, by direct and indirect impacts, intentionally or incidentally. Regulating intentional and incidental take would help preserve the species' remaining populations; enable beneficial management actions to occur; and decrease synergistic, negative effects from other stressors.

In this 4(d) rule, we propose to prohibit intentional take, including capturing, handling, and similar activities, because these activities require training and experience. Such activities include, but are not limited to, translocation, banding, collecting tissue samples, and research involving capturing and handling red-cockaded woodpeckers. While these activities are important to red-cockaded woodpecker recovery, there are proper techniques to capturing and handling birds that require training and experience. Improper capture, banding, or handling can cause injury or even result in death of red-cockaded woodpeckers. Therefore, to assure these activities continue to be conducted correctly by properly trained personnel, the proposed 4(d) rule would prohibit intentional take; however, these activities could be covered under a section 10(a)(1)(A) permit.

For the purposes of this rule, ''occupied habitat'' is defined as an active cavity tree cluster with surrounding suitable foraging habitat. An ''active cavity tree cluster'' is defined as the area delineated by a polygon of active cavity trees plus a 200-foot buffer, although there are some exceptions to this. Foraging habitat is delineated as surrogate foraging partitions according to described Service procedure and standard.

As discussed above under Summary of Stressors and Conservation Measures Affecting the Species, the lack of suitable habitat is the primary factor continuing to affect the status of the red-cockaded woodpecker. Historical clearcutting, incompatible forest management, and conversion to urban and agricultural lands uses resulted in the loss of the majority of longleaf and other open-canopy pine habitat across the range of the species. While these impacts have been significantly curtailed and mostly replaced by beneficial conservation management, stressors caused by adverse historical practices still linger, such as insufficient numbers of cavities, low numbers of suitable old pines, and habitat fragmentation. In addition, these types of actions do still occur within red-cockaded woodpecker habitat, so maintaining existing habitat is essential. Therefore, in addition to the activities prohibited above, this proposed 4(d) rule would prohibit incidental take of any red-cockaded woodpecker: (1) Associated with damage or conversion of currently occupied red-cockaded woodpecker nesting and foraging habitat to other land uses that result in conditions not able to support red-cockaded woodpeckers; and (2) associated with forest management practices in currently occupied red-cockaded woodpecker nesting and foraging habitat that result in conditions not able to support red-cockaded woodpeckers. Such actions could include, but are not necessarily limited to, timber harvesting for thinning or regeneration in occupied habitat that temporarily or permanently removes active cavity trees or suitable foraging habitat and renders the remaining habitat and timber insufficient for red-cockaded woodpeckers, or actions that permanently convert currently occupied red-cockaded woodpecker nesting and foraging habitat to other non-forest land uses, such as real estate development, cultivation or crops, firing ranges on military installations, roads, rights-of-way, and pasture.

However, under this 4(d) rule, we propose that habitat restoration activities that would sustain, improve, or increase quality and quantity of habitat for the red-cockaded woodpecker would be excepted from incidental take prohibitions if they are conducted under a Service- or State-approved management plan that provides for the conservation of the red-cockaded woodpecker. The Service encourages landowners and managers to conduct activities that maintain and improve red-cockaded woodpecker habitat. These habitat restoration activities may include, but are not limited to, thinning overstocked stands; converting loblolly, slash or other planted pines to more fire-tolerant native pines such as longleaf pine; regeneration of stands to provide more sustainable future habitat; and prescribed fire. Current conditions in certain pine stands can limit the amount of red-cockaded woodpecker habitat. For example, foraging habitat dominated by even-aged stands of old senescent pines may limit the ability of younger stands to grow and replace the future natural loss of older stands. Regeneration can be an important tool to provide a more sustainable future source of suitable red-cockaded woodpecker nesting and foraging habitat with trees of sufficient size and age. However, harvesting occupied red-cockaded woodpecker habitat for regeneration in these conditions could result in loss of suitable habitat, resulting in a reduction to the red-cockaded woodpecker population. Under this proposed 4(d) rule, we would under certain conditions except incidental take associated with habitat restoration activities that have short-term adverse effects to red-cockaded woodpecker, but that are intended to provide for improved habitat quality and quantity in the long term, with coinciding increase in numbers of red-cockaded woodpeckers. Current and future red-cockaded woodpecker habitat conditions that require such restoration can vary significantly among sites and properties, to the extent that it would be extremely difficult to prescribe a universal condition by which this exception would apply. Therefore, in this 4(d) rule we propose that these activities may proceed in compliance with a Service- or State-approved management plan, where the site-specific conditions can be strategically and accurately assessed. Suitable management plans may consist of stand-alone documents, or may be tiered to other plans, such as U.S. Forest Service Land and Resource Management Plans, National Wildlife Refuge System Comprehensive Conservation Plans, and wildlife management area plans, State Wildlife Action Plans, or other State agency plans.

Potentially, these management plans could cover more than just situations where land managers are seeking to alter habitat in the short term for long-term restoration of improved habitat. In this 4(d) rule we propose to except incidental take associated with other management activities conducted under Service- or State-approved red-cockaded woodpecker management plans. Public agencies and private landowners prepare a variety of plans for different purposes. A Service- or State-approved plan in this regard would include a red-cockaded woodpecker management component, whether as a part of a larger plan or a stand-alone plan, to address factors including, but not limited to, the red-cockaded woodpecker population size objective and how management for artificial cavities as needed and habitat management to sustain, restore, or increase habitat for foraging and cavity trees will attain population size objectives. For example, once certain population size objectives, such as those identified in the 2003 recovery plan, are met, and other parameters are established (such as commitments relating to the amount, extent, and location of any future incidental take), a landowner following a Service- or State-approved management plan could be excepted from incidental take for red-cockaded woodpecker conservation activities or habitat restoration activities, including, but not limited to silviculture and prescribed fire, activities causing harm or harassment of red-cockaded woodpeckers, and use of insecticides or herbicides on their lands. Again, the Service seeks to encourage comprehensive, proactive management that results in red-cockaded woodpecker population growth and stability. Excepting incidental take once such targets are met will encourage these beneficial management activities. However, because of the differences in needed management across the range of the species, it is appropriate to identify these population targets and other parameters on a case-by-case basis in a Service- or State-approved management plan, rather than in a blanket exception in this 4(d) rule. State agency Safe Harbor plans and agreements implemented for non-governmental landowners, as approved by the Service, do not need to be covered under this exception because they receive permits under the authority of section 10(a)(1)(A) of the Act that provides exemption from the prohibitions of incidental take.

We acknowledge the critical role that the States play in the conservation of

the red-cockaded woodpecker. As described in *Conservation Measures that Benefit the Species,* above, States solely own and manage lands occupied by at least 31 demographic populations and oversee State-wide safe harbor agreements that have enrolled 459 non-Federal landowners covering approximately 2.5 million acres. Because of their authorities and their close working relationships with landowners, State agencies are in a unique position to assist the Services in implementing conservation programs for the red-cockaded woodpecker. We also acknowledge the workload that will be associated with the management plans as envisioned, and the limited resources the Service may have to participate fully in developing these plans, especially if multiple landowners were to request to develop such plans if and when this 4(d) rule is made final. Our intention is that these management plans would be developed in coordination with all affected entities—the Service, the landowner or manager, and the State conservation agency. However, because of the States' unique relationship with landowners, and their experience and sustained performance implementing conservation programs for red-cockaded woodpeckers in their States, in this rule, we propose that management actions implemented under red-cockaded woodpecker management plans developed with and approved by State conservation agencies and not necessarily the Service are excepted from the incidental take prohibitions. The Service seeks comment on what conditions, if any, should be placed upon State-approved management plans such that they would provide both protections to red-cockaded woodpeckers and incentives to landowners similar to a Service-approved plan (see Information Requested, above).

The Service is also considering how to expand and provide further clarity regarding red-cockaded woodpecker conservation actions and habitat restoration activities that would be excepted from the incidental take prohibition in the 4(d) rule, and therefore we seek comment on our proposed provision excepting incidental take resulting from conservation or habitat management activities, including silviculture, prescribed fire, and use of insecticides or herbicides, with a Service- or State-approved management plan for red-cockaded woodpecker conservation (see Information Requested, above). In addition, we seek comment and information about the important factors that should be considered for these Service- or State-approved management plans. These factors may include the duration of the plan; personnel and funding for plan implementation; current habitat conditions and management limitations; the treatments to improve habitat and resolve limitations; desired future habitat conditions; and the past, current, and anticipated future size of the red-cockaded woodpecker population. In addition, these factors may include the role and extent of Service oversight of both Service- and State-approved plans, such as monitoring requirements and reporting to the Service any resulting take of red-cockaded woodpeckers. Continued conservation activities and beneficial land management are necessary to address habitat degradation and fragmentation, and it is the intent of this proposed rule to encourage these activities. We also seek comment on whether an exception could be made for beneficial long-term forest regeneration activities without a Service- or State-approved management plan, if limiting conditions were placed on the activities, such as red-cockaded woodpecker current population size and a future limit to the reduction of population size as a result of the restoration project, and what those limiting conditions should be.

The use of insecticides and herbicides within or near an active cavity tree cluster could expose red-cockaded woodpeckers and their invertebrate prey to toxic chemicals, even when application follows labeling requirements. Depending on chemical ingredients, toxicity, and dose exposure, there is an ecological risk that foraging red-cockaded woodpeckers could be adversely exposed and injured (National Research Council 2013, p. 3–15). Adverse impacts to red-cockaded woodpeckers include reduced quantity of insects available for foraging or ingestion of contaminated prey (*e.g.,* EPA 1993, p. 1–3; National Research Council 2013, pp. 3–15). This proposed 4(d) rule would prohibit incidental take associated with using insecticides and herbicides on any standing pine tree in habitat occupied by red-cockaded woodpeckers within 0.50-mile from the center of an active cavity tree cluster, the area in which red-cockaded woodpeckers in an active territory are most likely to forage (Convery and Walters 2004, entire).

This measure would not prohibit use of insecticides or herbicides in applications that do not result in an adverse chemical exposure to red-cockaded woodpeckers. The Service recognizes that herbicides can be safely applied in occupied habitat (McDearman 2012, entire). For example, hand application of herbicides by direct foliar spray in occupied habitat to control undesirable shrubs or hardwoods may not result in incidental take if no chemicals are applied—either directly or inadvertently—to standing pine trees where red-cockaded woodpeckers are expected to forage on uncontaminated invertebrates within the 0.50-mile radius of the center of the active cavity tree cluster. The use of insecticides or herbicides within these areas could be permitted under a Service- or State-approved management plan, as described above, with an appropriate toxicological risk analysis of the likelihood of an adverse oral, dermal or respiratory exposure to the red-cockaded woodpecker, and incidental take could be excepted when adverse short-term impacts are essential or unavoidable for a long-term benefit. We seek comment from the public on the spatial area covered by this prohibition, and whether the prohibition should apply to other vegetation, such as the herbaceous ground layer in addition to standing pine trees, within 0.50-mile from the center of an active cavity cluster, as well as the clarity of the prohibition, (see Information Requested, above).

The proposed 4(d) rule would also prohibit incidental take of actions that would render cavity trees unusable to red-cockaded woodpeckers. This could result from activities such as parking vehicles, stacking pallets, or piling logging slash or logging decks, pine straw, or other material near active cavity trees; activities that damage active cavity trees; and accidently-set wildfires, because such activities could render the cavity trees unusable to red-cockaded woodpeckers. This prohibition is intended to prevent incidental take resulting from operations in the vicinity of active cavity trees that may damage the trees through, for example, collision or compaction of tree roots. This prohibition would also apply to activities that result in damage to cavity trees, rendering them unusable to red-cockaded woodpeckers. For example, incidental take caused by accidently started fires that damage cavity trees or a small- or large-arms munitions ricochet that hit a cavity tree, causing damage that ultimately kills the tree, would be prohibited.

Within the range of the species, all Department of Defense Army, Air Force, and Marine Corps installations have red-cockaded woodpecker management plans and guidelines incorporated into their Service-approved INRMPs to

minimize the adverse effects of military training and to achieve recovery objectives. These plans and guidelines include red-cockaded woodpecker conservation and population size objectives, management actions to achieve conservation goals, monitoring and reporting, and specific training activities that are allowed or restricted within clusters and near cavity trees. Under the Sikes Act (16.U.S.C. 670 *et seq.*), the Service is required to review and approve INRMPs, when they are revised, at least every 5 years, and participate in annual reviews. As a result of these conservation programs under Service-approved INRMPs, red-cockaded woodpecker populations have increased on all installations. In fact, Fort Bragg, Fort Stewart, Eglin Air Force Base, Fort Benning, and Camp Blanding all have achieved or surpassed their red-cockaded woodpecker recovery plan population size objectives and are expected to continue to manage towards larger populations. Active and beneficial red-cockaded management to increase population sizes on military installations has been an essential component of sustaining the species, and it offsets the adverse effects of training. Therefore, the proposed 4(d) rule would except incidental take resulting from red-cockaded woodpecker management and military training activities on Department of Defense installations with a Service-approved INRMP. Any incidental take resulting from new proposed training or construction activities that is not incorporated into a Service-approved INRMP would not be excepted under this proposed rule, but could be excepted through an incidental take statement associated with a biological opinion resulting from section 7 consultation under the Act. The Service seeks comments on this exception (see Information Requested, above).

During the breeding season in particular, vehicles and equipment, floodlights, other construction activities, extraction activities, military maneuvers, or even just human presence can potentially harass breeding red-cockaded woodpeckers, resulting in nest failure. Therefore, this proposed 4(d) rule would also prohibit incidental take associated with the operation of vehicles or mechanical equipment, the use of flood lights at night, activities with a human presence, (including military activities), other actions associated with construction or repair, or extraction activities in an active cavity tree cluster during the breeding season. The breeding season for red-cockaded woodpeckers can vary across the latitudinal range and, depending on location, the season can start as early as March and end as late as July; therefore we do not propose specific dates for this prohibition in this rule. We furthermore acknowledge that incidental take from such activities can also occur outside of the breeding season, so we seek comments from the public about whether this prohibition should encompass the whole year, and not just during the breeding season (see Information Requested, above).

We acknowledge that there are active cavity tree clusters within areas with existing human presence, activities, and infrastructure, including Federal, State, and county roads, private forest access roads and trails, military installations, nature trails, golf courses, and residential areas. We also recognize the use of vehicles and mechanical equipment may need to be used for maintenance requirements to ensure safety and operational needs of existing infrastruture, including maintaining existing infrastructure such as firebreaks, roads, rights-of-way, fence lines, and golf courses, and we understand that these maintenance requirements to ensure human safety may need to take place during the breeding season. Incidental take resulting from these ongoing activities are excepted from this prohibition. In addition, we recognize there is existing human presence, activities, and infrastructure within active cavity tree clusters and that red-cockaded woodpeckers have demonstrated tolerance, or an ability to habituate, to these stressors without adversely affecting essential feeding, breeding, or sheltering behaviors. Therefore, for continuation of ongoing activities, as long as there is no increase in the frequency, intensity, duration, pattern, or extent of existing operations, use, or activities, such that red-cockaded woodpeckers would negatively respond to the stressor, the activities may continue (*i.e.,* are not prohibited), and any incidental take, although unlikely, resulting from existing operation of vehicles or mechanical equipment, use of lights at night, or activities with human presence are excepted from the incidental take prohibitions. An example of an activity that would be excepted from the incidental take prohibitions would be routine, ongoing road maintenance, such as mowing rights-of way or trimming back vegetation, during the breeding season on a forest road that bisects an active cavity tree cluster. Other examples of ongoing activities include a continuation of recreation at golf courses and parks and driving vehicles on existing highways and roads. On the other hand, new activities, or ongoing activities that increase in frequency, intensity, duration, or extent would not be excepted. For instance, new road construction initiated during the breeding season in an active cavity tree cluster would potentially increase the extent or duration of stressors beyond existing, routine operations, and therefore would be prohibited.

However, there are also operations conducted near active cavity trees that render the tree unusable to red-cockaded woodpeckers, through sustained harassment that prevents individual birds from using cavities. For example, staging and use of equipment such as generators and floodlights within an active cavity tree cluster can cause birds to roost outside of their cavities and become exposed to predation, disrupt incubation and kill eggs, or alter feeding of nestlings, which could result in their death. We seek comment on whether this prohibition should also apply to these situations where harassment is likely (see Information Requested, above).

Red-cockaded woodpeckers must have sufficient nesting and foraging habitat to survive. Maintaining an adequate number of suitable cavities in each woodpecker cluster is fundamental to the conservation of the species. Loss of natural cavity trees was a major factor in the species' decline, and availability of natural cavity trees currently limits many populations. Until a sufficient number of large, old pines become widely available, installation and maintenance of artificial cavities is an essential management tool to sustain populations and bring about population increases, and the Service continues to encourage the installation of artificial cavities. However, we also acknowledge that there are proper techniques to install cavity inserts, drill cavities, or install cavity restrictor plates, and these techniques require training and experience. Improperly installed artificial cavities can cause injury or even result in death of red-cockaded woodpeckers attempting to roost or nest in them. Therefore, to assure artificial cavities continue to be installed correctly by properly trained personnel, the proposed 4(d) rule would prohibit incidental take associated with the installation of artificial cavity inserts, drilled cavities, or cavity restrictor plates; however, these activities could be covered under a section 10(a)(1)(A) permit.

We acknowledge that many of our partners have the training and extensive experience in installing artificial

cavities. We, therefore, ask the public to comment regarding whether the installation of artificial cavities should be excepted from the incidental take prohibitions for individuals who have completed training and have achieved a certain level of proficiency, and what that training and proficiency should be (see Information Requested, above).

Similarly, we encourage monitoring of red-cockaded woodpecker clusters and populations, including inspecting cavities to monitor eggs and hatchlings, typically using a video scope, drop light, or mirror inserted into the cavity. However, these inspections can cause incidental take if not done correctly, as red-cockaded woodpeckers sometimes will flush from the cavity chamber and injure themselves trying to escape past the probe. Therefore, the proposed 4(d) rule would prohibit incidental take associated with inspections of cavity contents, including the use of video scopes, drop lights, or mirrors, inserted into cavities. These activities could be covered under a section 10(a)(1)(A) permit.

We may issue permits to carry out otherwise prohibited activities, including those described above, involving threatened wildlife under certain circumstances. Regulations governing permits are codified at 50 CFR 17.32. With regard to threatened wildlife, a permit may be issued for the following purposes: Scientific purposes, to enhance propagation or survival, for economic hardship, for zoological exhibition, for educational purposes, for incidental taking, or for special purposes consistent with the purposes of the Act. There are also certain statutory exceptions from the prohibitions, which are found in sections 9 and 10 of the Act.

The Service recognizes the special and unique relationship with our State conservation agency partners in contributing to conservation of listed species. State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist the Services in implementing all aspects of the Act. In this regard, section 6 of the Act provides that the Services shall cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act. Therefore, any qualified employee or agent of a State conservation agency that is a party to a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by his or her agency for such purposes, would be able to conduct activities designed to conserve the red-cockaded woodpecker that may result in otherwise prohibited take without additional authorization, including installation of artificial cavities.

Nothing in this proposed 4(d) rule would change in any way the recovery planning provisions of section 4(f) of the Act, the consultation requirements under section 7 of the Act, or the ability of the Service to enter into partnerships for the management and protection of the red-cockaded woodpecker. However, interagency cooperation may be further streamlined through planned programmatic consultations for the species between Federal agencies and the Service. We ask the public, particularly State agencies and other interested stakeholders that may be affected by the proposed 4(d) rule, to provide comments and suggestions regarding additional guidance and methods that the Service could provide or use, respectively, to streamline the implementation of this proposed 4(d) rule (see Information Requested, above).

Required Determinations

Clarity of the Proposed 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:

(a) Be logically organized;

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

(c) Use clear language rather than jargon;

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

(e) 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.

National Environmental Policy Act

We have determined that we do not need to prepare an environmental assessment or environmental impact statement, as defined in the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*), in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

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, 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 we move forward with this reclassification process, we will continue to consult with tribes on a government-to-government basis as necessary.

References Cited

A complete list of references cited is available on the internet at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2019–0018 and upon request from the person listed under **FOR FURTHER INFORMATION CONTACT**, above.

Authors

The primary authors of this proposed rule are staff members of the Service's Southeastern Region, Division of Conservation and Classification.

Signing Authority

The Director, U.S. Fish and Wildlife Service, approved this document and authorized the undersigned to sign and submit the document to the Office of the Federal Register for publication electronically as an official document of the U.S. Fish and Wildlife Service. Aurelia Skipwith, Director, U.S. Fish and Wildlife Service, approved this document on September 24, 2020, for publication.

Dated: September 24, 2020.

Madonna Baucum,

Regulations and Policy Chief, Division of Policy, Economics, Risk Management, and Analytics, Joint Administrative Operations, U.S. Fish and Wildlife Service.

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 § 17.11(h) by revising the entry for ''Woodpecker, red-cockaded'' under BIRDS in the List of Endangered and Threatened Wildlife to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
*	*	*	*	*
Birds				
*	*	*	*	*
Woodpecker, red-cockaded.	*Dryobates borealis*	Wherever found	T	35 FR 16047, 10/13/1970; [Insert **Federal Register** citation when published as a final rule]; 50 CFR 17.41(h).[4d]
*	*	*	*	*

■ 3. Amend § 17.41 by adding a paragraph (h) to read as follows:

§ 17.41 Special rules—birds.

* * * * *

(h) Red-cockaded woodpecker (*Dryobates borealis*).

(1) *Definition.* Under this paragraph (h), an ''active cavity tree cluster'' means the area delineated by a polygon of red-cockaded woodpecker active (*i.e.,* occupied) cavity trees with a 200-foot buffer.

(2) *Prohibitions.* The following prohibitions in this paragraph (h)(2) that apply to endangered wildlife also apply to red-cockaded woodpecker. Except as provided under paragraph (h)(3) of this section and §§ 17.4 and 17.5, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or cause to be committed, any of the following acts in regard to this species:

(i) Import or export, as set forth at § 17.21(b).

(ii) Intentional take, including capturing, handling, or other activities, except as set forth in paragraphs (h)(3)(ii) and (iii) of this section.

(iii) Possession, sale, delivery, carrying, transportation, or shipment, by any means whatsoever, of any red-cockaded woodpecker taken in violation of paragraphs (h)(2)(i) and (ii) of this section, except as set forth in paragraph (h)(3)(iv) of this section.

(iv) Incidental take resulting from the following activities:

(A) Damage or conversion of currently occupied red-cockaded woodpecker nesting and foraging habitat to other land uses that results in conditions not able to support red-cockaded woodpeckers.

(B) Forest management practices in currently occupied red-cockaded woodpecker nesting and foraging habitat, including, but not limited to, timber harvesting for thinning or regeneration, that result in conditions not able to support red-cockaded woodpeckers.

(C) Operation of vehicles or mechanical equipment, the use of floodlights, activities with a human presence, other actions associated with construction and repair, or extraction activities in an active cavity tree cluster during the red-cockaded woodpecker breeding season, except as set forth under paragraph (h)(3)(v)(C) of this section.

(D) Installation of artificial cavity inserts, drilled cavities, or cavity restrictor plates.

(E) Inspecting cavity contents, including, but not limited to, use of video scopes, drop lights, or mirrors inserted into cavities.

(F) Activities that render active cavity trees unusable to red-cockaded woodpeckers.

(G) Use of insecticide or herbicide on any standing pine tree within 0.50-mile from the center of an active cavity tree cluster of red-cockaded woodpeckers.

(iv) Possession and other acts with unlawfully taken specimens, as set forth at § 17.21(d)(1).

(v) Interstate or foreign commerce in the course of commercial activity, as set forth at § 17.21(e).

(vi) Sale or offer for sale, as set forth at § 17.21(f).

(3) *Exceptions from prohibitions.* In regard to this species, you may:

(i) Conduct activities as authorized by a permit issued under § 17.32.

(ii) Take, as set forth at § 17.21(c)(2) through (c)(4) for endangered wildlife, and (c)(6) and (c)(7) for endangered migratory birds.

(iii) Take as set forth at § 17.31(b).

(iv) Possess and engage in other acts with unlawfully taken red-cockaded woodpeckers, as set forth at § 17.21(d)(2) through (d)(4) for endangered wildlife.

(v) Take incidental to an otherwise lawful activity caused by:

(A) Red-cockaded woodpecker management and military training activities on Department of Defense installations with a Service-approved integrated natural resources management plan.

(B) Habitat restoration activities carried out in accordance with a management plan providing for red-cockaded woodpecker conservation developed in coordination with, and approved by, the Service or a State conservation agency.

(C) Operation of vehicles or mechanical equipment, the use of lights at night, or activities with a human presence in active cavity tree cluster during the red-cockaded woodpecker breeding season provided that they:

(*1*) Are maintenance requirements to ensure safety and operational needs of existing infrastructure, including maintaining existing infrastructure such as firebreaks, roads, rights-of-way, fence lines, and golf courses; and

(*2*) Do not increase the frequency, intensity, duration, pattern, or extent of existing operation, use, or activities.

[FR Doc. 2020–21510 Filed 10–7–20; 8:45 am]

BILLING CODE 4333–15–P