including the name, title, and period of service of each such person or entity.

(iii) Each person or entity who is an additional disclosable party of the facility (as defined in § 424.502).

(iv) The organizational structure (as defined in § 424.502) of each additional disclosable party of the facility and a description of the relationship of each such additional disclosable party to the facility and to one another.

(2) The skilled nursing facility need not disclose the same information described in paragraph (g)(1) of this section more than once on the same enrollment application submission.

(3) The skilled nursing facility must report any change to any of the information described in paragraph (g)(1) of this section consistent with the applicable timeframes in paragraph (e) of this section.

PART 455—PROGRAM INTEGRITY: MEDICAID

■ 4. The authority citation for part 455 continues to read as follows:

Authority: 42 U.S.C. 1302.

■ 5. Section 455.101 is amended by:
■ a. Adding the definition of ''Additional disclosable party'' in alphabetical order;
■ b. Revising the definition of ''Managing employee''; and
■ c. Adding the definition of ''Organizational structure'' in alphabetical order.

The additions and revision read as follows:

§ 455.101 Definitions.

Additional disclosable party means, with respect to a nursing facility defined in section 1919(a) of the Act, any person or entity who—

(1) Exercises operational, financial, or managerial control over the facility or a part thereof, or provides policies or procedures for any of the operations of the facility, or provides financial or cash management services to the facility;

(2) Leases or subleases real property to the facility, or owns a whole or part interest equal to or exceeding 5 percent of the total value of such real property; or

(3) Provides management or administrative services, management or clinical consulting services, or accounting or financial services to the facility.

* * * * *

Managing employee means—

(1) A general manager, business manager, administrator, director, or other individual who exercises operational or managerial control over, or who directly or indirectly conducts, the day-to-day operation of an institution, organization, or agency, either under contract or through some other arrangement, whether or not the individual is a W–2 employee of the institution, organization, or agency; or

(2) With respect to the additional requirements at § 455.104(e) for a nursing facility defined in section 1919(a) of the Act, an individual, including a general manager, business manager, administrator, director, or consultant, who directly or indirectly manages, advises, or supervises any element of the practices, finances, or operations of the facility.

Organizational structure means, with respect to a nursing facility defined in section 1919(a) of the Act, in the case of any of the following:

(1) *A corporation.* The officers, directors, and shareholders of the corporation who have an ownership interest in the corporation which is equal to or exceeds 5 percent.

(2) *A limited liability company.* The members and managers of the limited liability company including, as applicable, what percentage each member and manager has of the ownership interest in the limited liability company.

(3) *A general partnership.* The partners of the general partnership;

(4) *A limited partnership.* The general partners and any limited partners of the limited partnership who have an ownership interest in the limited partnership which is equal to or exceeds 10 percent.

(5) *A trust.* The trustees of the trust.

(6) *An individual.* Contact information for the individual.

* * * * *

■ 6. Section 455.104 is amended by redesignating paragraph (e) as paragraph (f) and adding new paragraph (e) to read as follows:

§ 455.104 Disclosure by Medicaid providers and fiscal agents: Information on ownership and control.

* * * * *

(e) *Nursing facilities.* (1) In addition to all other applicable reporting requirements in this subpart, a nursing facility (as defined in section 1919(a) of the Act) must disclose upon initial enrollment and revalidation the following information:

(i) Each member of the governing body of the facility, including the name, title, and period of service for each such member.

(ii) Each person or entity who is an officer, director, member, partner, trustee, or managing employee (as defined in § 455.101) of the facility, including the name, title, and period of service of each such person or entity.

(iii) Each person or entity who is an additional disclosable party of the facility (as defined in § 455.101).

(iv) The organizational structure (as defined in § 455.101) of each additional disclosable party of the facility and a description of the relationship of each such additional disclosable party to the facility and to one another.

(2) The State need not require the facility to disclose the same information described in this paragraph (e) more than once on the same enrollment application submission.

* * * * *

Dated: February 8, 2023.

Xavier Becerra

Secretary, Department of Health and Human Services.

[FR Doc. 2023–02993 Filed 2–13–23; 4:15 pm]

BILLING CODE P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2022–0099; FF09E22000 FXES1113090FEDR 234]

RIN 1018–BF53

Endangered and Threatened Wildlife and Plants; Removal of the Southeast U.S. Distinct Population Segment of the Wood Stork From the List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to remove the Southeast U.S. distinct population segment (DPS) of the wood stork (*Mycteria americana*) from the Federal List of Endangered and Threatened Wildlife due to recovery. This determination is based on a thorough review of the best available scientific and commercial data, which indicate that this wood stork DPS has recovered and the threats to it are being adequately managed such that the DPS no longer meets the definition of an endangered species or threatened species under the Endangered Species Act of 1973, as amended (Act). If we finalize this rule as proposed, the prohibitions and conservation measures provided by the Act, particularly through section 7, and our regulations would no longer apply to the wood stork DPS. We are seeking information

and comments from the public regarding this proposed rule.

DATES: We will accept comments received or postmarked on or before April 17, 2023. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. eastern time on the closing date. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by April 3, 2023.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *https://www.regulations.gov.* In the Search box, enter FWS–R4–ES–2022–0099, 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, check the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment.''

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R4–ES–2022–0099, U.S. Fish and Wildlife Service, MS: PRB/3W, 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 *https://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 recovery plan and the species status assessment (SSA) report are available at *https://www.regulations.gov* under Docket No. FWS–R4–ES–2022–0099, and at the Florida Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Lourdes Mena, Classification and Recovery Division Manager, U.S. Fish and Wildlife Service, Florida Ecological Services Office, 7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256–7517; telephone: 904–731–3134. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, the term ''species'' includes any subspecies of fish or wildlife or plants, and any distinct population segment (DPS) of any species of vertebrate fish or wildlife which interbreeds when mature. A species warrants delisting if it no longer meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become endangered in the foreseeable future throughout all or a significant portion of its range). The Southeast U.S. DPS of the wood stork is listed as a threatened species. We are proposing to remove it from the List because we have determined that it no longer meets the Act's definition of a threatened species, nor does it meet the Act's definition of an endangered species. Delisting a species can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 *et seq.*).

What this document does. This rule proposes to remove the Southeast U.S. DPS of the wood stork from the List.

The basis for our action. Under the Act, we may determine that a species is an endangered species or a threatened species because of any 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 determination to delist a species must be based on an analysis of the same factors.

Under the Act, we must review the status of all listed species at least once every five years. We must delist a species if we determine, on the basis of the best available scientific and commercial data, that the species is neither a threatened species nor an endangered species. Our regulations at 50 CFR 424.11 identify three reasons why we might determine a species shall be delisted: (1) The species is extinct; (2) the species does not meet the definition of an endangered species or a threatened species; or (3) the listed entity does not meet the definition of a species. Here, we have determined that the Southeast U.S. DPS of the wood stork does not meet the definition of an endangered species or a threatened species due to recovery; therefore, we are proposing to delist it.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. Due to the ongoing challenges regarding the 2019 regulations, we also seek comments on whether and how applying the regulations that were in effect before the 2019 regulations would alter any of these analyses.

We particularly seek comments concerning:

(1) Reasons we should or should not remove the Southeast U.S. DPS of the wood stork from the List;

(2) New information on the historical and current status, range, distribution, and population size of the Southeast U.S. DPS of the wood stork.

(3) New information on the known and potential threats to the Southeast U.S. DPS of the wood stork.

(4) New information regarding the life history, ecology, and habitat use of the Southeast U.S. DPS of the wood stork.

(5) New information on current or planned activities within the geographic range of the DPS that may have adverse or beneficial impacts on the species.

(6) Relevant data concerning any threats (of lack thereof) to the Southeast U.S. DPS of the wood stork, particularly any data on the possible effects of climate change as it relates to habitat, as well as the extent of State protection and management that would be provided to this bird as a delisted species;

(7) Considerations for post-delisting monitoring, including monitoring protocols and length of time monitoring is needed, as well as triggers for reevaluation.

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

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination. 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 *https://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *https://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 *https://www.regulations.gov.*

Because we will consider all comments and information we receive during the comment period, our final determination may differ from this proposal. For example, based on the new information we receive (and any comments on that new information), we may conclude that the DPS should remain listed as threatened instead of being delisted.

Public Hearing

Section 4(b)(5) 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** and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the **Federal Register**. The use of virtual public hearings is consistent with our regulation at 50 CFR 424.16(c)(3).

Previous Federal Actions

On February 28, 1984, we listed the U.S. breeding population of the wood stork as an endangered species under the Act because it had declined by more than 75 percent over a 50-year time period starting in the 1930s (49 FR 7332). We developed a recovery plan for the U.S. breeding population of the wood stork in 1987 and updated it in 1997.

Following increases in the wood stork's population, breeding range, and overall range, a 5-year status review in 2007 (Service 2007, p. 32) recommended the species be downlisted from endangered to threatened status, and in 2009, the Service was petitioned to do so. On September 21, 2010, the Service published a 90-day finding that the petition presented substantial information indicating that downlisting the U.S. breeding population of the wood stork may be warranted (75 FR 57426). On December 26, 2012, the Service found that the petitioned action was warranted and proposed to downlist the U.S. breeding population of the wood stork from endangered to threatened (77 FR 75947). In that document, we announced our conclusion that the continental U.S. breeding population of wood stork meets the discreteness and significance elements of the joint policy of the National Marine Fisheries Service and U.S. Fish and Wildlife Service regarding the recognition of distinct vertebrate population segments (see 61 FR 4722, February 7, 1996). On June 30, 2014, we finalized the rule downlisting the U.S. breeding population of the wood stork from endangered to threatened and establishing the U.S. breeding population in Alabama, Florida, Georgia, North Carolina, Mississippi, and South Carolina as a DPS (79 FR 37078).

On June 20, 2019, we initiated a 5-year review for the U.S. breeding population of the wood stork and requested new information that could have a bearing on the status of this DPS (84 FR 28850). This document completes that 5-year review.

The currently listed entity on the List of Endangered and Threatened Wildlife in 50 CFR 17.11(h) is the ''Southeast U.S. DPS of wood stork,'' and the action being taken in this document is to propose removal of that entity from the List. However, for the sake of brevity, throughout the rest of this document we will refer to the Southeast U.S. DPS of wood stork simply as ''wood stork'' or ''the listed entity of wood stork'' when needed for clarity. We believe this abbreviated terminology should not be confusing as the Southeast U.S. DPS of wood stork is currently the only population of wood stork on the List of Endangered and Threatened Wildlife.

Peer Review

A species status assessment (SSA) team prepared an SSA report for the Southeast U.S. DPS of the wood stork. The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the DPS, including the impacts of past, present, and future factors (both negative and beneficial) affecting the DPS.

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained in the SSA report. We sent the SSA report to 6 independent peer reviewers and received two responses. Results of this structured peer review process can be found at *https://regulations.gov.* In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the final SSA report, which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed in *Peer Review* above, we received comments from two peer reviewers on the draft SSA report. We also received feedback from our state wildlife agency partners. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the information contained in the SSA report.

Peer and state agency expert reviewers generally concurred with our methods and conclusions, and provided additional information, clarifications, and editorial recommendations to help improve clarity for the reader. We were asked to bolster our discussion of how the recovery criteria apply to our interpretation of current condition, to clarify our use of the term ''adaptability,'' and for further development of and emphasis on future climate factors, including drought, affecting wetland habitat conditions rangewide and within the Breeding Regions. We updated version 1.0 of the SSA report with these and other clarifications, additional pieces of information, and more detailed explanations that were requested during the peer and partner review, but did not find substantive changes to our analysis or conclusions necessary.

Background

A thorough review of the taxonomy, life history, and ecology of the wood stork is presented in the SSA report (Service 2021, chapters 1–3).

Distribution

Genetic analyses of wood storks (*Mycteria americana*) nesting in the southeastern United States indicate that these birds represent a single population that shows no evidence of discrete subpopulations (Lopes et al. 2011, p. 1911; Stangel et al. 1990, p. 618; Van Den Bussche et al. 1999, p. 1083). When the wood stork was listed in 1984, the population was estimated at 4,000–5,000 nesting pairs. At that time, the overall range of the wood stork included Alabama, Florida, Georgia, and South Carolina, with breeding and nesting primarily occurring in south and central Florida, and a small number of nesting colonies in north Florida and coastal Georgia and South Carolina (Ogden et al. 1987, p. 752). Currently, the listed entity of wood stork has a distribution that includes the coastal plain of Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina, with breeding occurring in Florida, Georgia, North Carolina, and South Carolina. The most recent survey data (2021) indicate that there are 107 known active wood stork breeding colony sites, which is more than 3.5 times the number of breeding colonies (29) that were in existence at the time of listing. Within the breeding range, wood stork colonies and nest numbers generally cluster into four regions (in the south, central, northwest, and northeast portions of the breeding range) (Service 2021, p. 27). Hereinafter, we refer to these regions as the South, Central, Northwest, and Northeast Breeding Regions.

Ecology

Wood storks are colonial breeders, typically nesting with conspecifics and other wading bird species within a landscape containing sufficient wetland foraging habitats. Suitable foraging wetlands generally contain aquatic prey that is concentrated by decreasing water levels (*e.g.,* tidal creeks at low tide, ephemeral ponds, shallow wetlands, and flood plains during seasonal dry down). Colonies also occur in human-impacted areas, including in artificially impounded waters, as well on dredge spoil islands, in wastewater treatment wetlands, and on artificial nest platforms (Coulter et al. 2020, unpaginated). A large proportion of the nesting colonies in Georgia and South Carolina occur in close proximity to the expansive coastal salt marshes in these States, and foraging during the breeding and post breeding season focuses on this highly productive ecosystem (Coulter et al. 2020, unpaginated). Primary prey species vary geographically and include fish (primarily), crustaceans, amphibians, insects, snails, and reptiles (Coulter et al. 2020, unpaginated).

Life History

Wood storks are a relatively long-lived species, with the maximum age of more than 22 years documented in the wild (Coulter et al. 2020, unpaginated). Wood storks breed annually (typically only one brood per season) and exhibit extensive parental care, with nesting and brooding lasting approximately 4 months of the year. Wood storks undergo a 3-year ''sub-adult'' (non-breeding) stage before most initiate breeding at 4 years of age (Coulter et al. 2020, unpaginated).

Breeding seasonality varies regionally and is related to rainfall amounts and timing. Wood storks typically breed during periods when wetland water levels are decreasing, which concentrates prey during the period when stork nestlings are growing at a maximum rate (Coulter et al. 2020, unpaginated). After the lengthy nesting period when wood storks are associated with their colony site area, they can exhibit intra-regional movements in response to environmental conditions (*e.g.,* availability of shallow foraging habitat) (Coulter et al. 2020, unpaginated).

Recovery Criteria

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of section 4 of the Act, that the species be removed from the Lists of Endangered and Threatened Wildlife and Plants.

Recovery plans provide a roadmap for us and our partners on methods of enhancing conservation and minimizing threats to listed species, as well as measurable criteria against which to evaluate progress towards recovery and assess the species' likely future condition. However, they are not regulatory documents and do not substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. A decision to revise the status of a species, or to delist a species, is ultimately based on an analysis of the best scientific and commercial data available to determine whether a species is no longer an endangered species or a threatened species, regardless of whether that information differs from the recovery plan.

There are many paths to accomplishing recovery of a species, and recovery may be achieved without all of the criteria in a recovery plan being fully met. For example, one or more criteria may be exceeded while other criteria may not yet be accomplished. In that instance, we may determine that the threats are minimized sufficiently and that the species is robust enough that it no longer meets the definition of an endangered species or a threatened species. In other cases, we may discover new recovery opportunities after having finalized the recovery plan. Parties seeking to conserve the species may use these opportunities instead of methods identified in the recovery plan. Likewise, we may learn new information about the species after we finalize the recovery plan. The new information may change the extent to which existing criteria are appropriate for identifying recovery of the species. The recovery of a species is a dynamic process requiring adaptive management that may, or may not, follow all of the guidance provided in a recovery plan.

The recovery plan for the U.S. breeding population of wood storks, first published in 1987, was revised in 1997 (Service 1997, entire). The major objectives identified to accomplish the recovery objective are (1) protect currently occupied habitat, (2) restore and enhance habitat, (3) conduct applied research, and (4) increase public awareness. The primary long-term recovery actions being implemented include large-scale wetland ecosystem restorations, enhancements, and management of multiple wetland systems occupied by the wood stork.

The recovery plan for the wood stork outlines the following criteria that, if met, could result in the recovery of the wood stork to the extent that it no longer warrants listing under the Act (Service 1997, p. 17):

- *Criterion 1:* An average of 10,000 nesting pairs (which constitutes 50 percent of the historical population) calculated over 5 years, beginning at the time of reclassification (2014).
- *Criterion 2:* Annual regional productivity (in each of four breeding regions) greater than 1.5 chicks per nest per year, calculated over a 5-year average.
- *Criterion 3:* As a subset of the 10,000 nesting pairs calculated over 5 years, a minimum of 2,500 successful nesting pairs must occur in the Everglades and Big Cypress systems (*i.e.,* the South Breeding Region).

Criterion 1 for delisting, which is an average of 10,000 nesting pairs calculated over 5 years, has been met since 2016 (see table 1).

TABLE 1—FIVE-YEAR MOVING AVERAGES OF WOOD STORK NEST COUNTS FROM THE TIME OF RECLASSIFICATION (2014) TO 2021

	2014	2015	2016	2017	2018	2019	2020	2021
U.S. Breeding Population (entire DPS)	9,226	9,941	10,171	10,650	11,012	10,582	10,713 *	11,139 *

* 2020 COVID protocols precluded a survey of all the nesting colonies in the U.S. Breeding Population. Thus, the 2020 average is a 4-year average using the years 2016, 2017, 2018, and 2019; similarly, the 2021 average is calculated using the years 2017, 2018, 2019, and 2021.

We also note that criterion 1 implies that the wood stork must exhibit a positive population growth trend to reach a breeding population of 10,000 nesting pairs. The long-term trend (1974 to 2019) shows an increase in nest counts at a rate of 153 nests per year. The current trend during the past 10 years (5-year averages from 2010 to 2019) shows an increase in nest counts at a rate of 344 nests per year.

Criterion 2 for delisting is a 5-year average annual productivity of at least 1.5 chicks per nest per year in each breeding region calculated over 5 years. This productivity metric has been achieved or exceeded in each region except for the South Breeding Region since 2018 or earlier (see table 2).

TABLE 2—FIVE-YEAR MOVING AVERAGES OF WOOD STORK PRODUCTIVITY (CHICKS PER NEST PER YEAR) FROM 2014 TO 2019

Region/year	2014	2015	2016	2017	2018	2019
Northeast	1.6	1.7	1.7	1.9	2.0	1.9
Northwest	1.3	1.3	1.0	1.2	1.5	1.7
Central	1.4	1.5	1.5	1.7	1.7	1.8
South	0.7	0.8	0.7	1.0	1.0	0.8

Criterion 3, which requires that at least 2,500 pairs (5-year average) breed in the South Breeding Region, has been achieved in each of the past five years (2017–2021) (see table 3).

TABLE 3—FIVE-YEAR MOVING AVERAGES OF THE NUMBER OF BREEDING PAIRS OF WOOD STORKS IN THE SOUTH BREEDING REGION FROM 2012 TO 2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
5-yr avg	2,116	2,650	2,021	2,048	1,941	3,033	2,895	2,576	2,722	3,088

Although criteria 2 has not been satisfied as specifically defined in the recovery plan, we conclude that the essential intent of this recovery goal has been achieved, mainly due to new information that has come to light since the recovery criteria were defined in the original 1987 recovery plan and carried forward to the 1997 update to the recovery plan.

For example, when the wood stork recovery criteria were originally defined, there was a focus on breeding success in the South Breeding Region, given its historical importance to the species. However, since then, wood storks have expanded their breeding range to include not only new regions, but also new habitat types such as coastal salt marsh and human-made wetlands. Coastal salt marsh in Georgia and South Carolina is now being exploited by wood storks to support breeding, and provides year-round consistent foraging, with prey concentrations being tidally dependent and less impacted by the factors that dictate prey availability in the inland freshwater wetlands. Coastal salt marsh habitat provides previously unexploited food resources and breeding habitat. It is also plentiful and widespread throughout the southeastern U.S. coastal plain from north Florida to Virginia. The expansion of the wood stork's breeding range, and its novel exploitation of other abundant wetland habitat types (such as coastal salt marsh and manmade and managed wetlands) for breeding, indicates that it is no longer as dependent on the Everglades system as once thought, and ultimately that the South Breeding Region is now less critical to the species' viability than it was historically.

At the time that the recovery criteria were established, there were only about a third of the number of wood stork colonies that exist today, as multiple breeding colonies are now present in Georgia, North Carolina, and South Carolina, where few or none had existed historically (see figure 1, below). As such, we conclude that productivity and breeding pair numbers are sufficient for wood stork viability and continue to support a growing population across the wood stork's range. Productivity is highly variable on an annual basis and slightly under the target set originally as a recovery criterion in the South Breeding Region; however, the target for this metric has been met or exceeded in all other breeding regions, and the wood stork is much less dependent on the South Breeding Region than it was historically. Thus, although criteria 2 has not been fully realized in the manner specifically identified in the recovery plan, we conclude that the intent of the criterion to ensure that productivity is sufficient for the long-term viability of the wood stork has been satisfied.

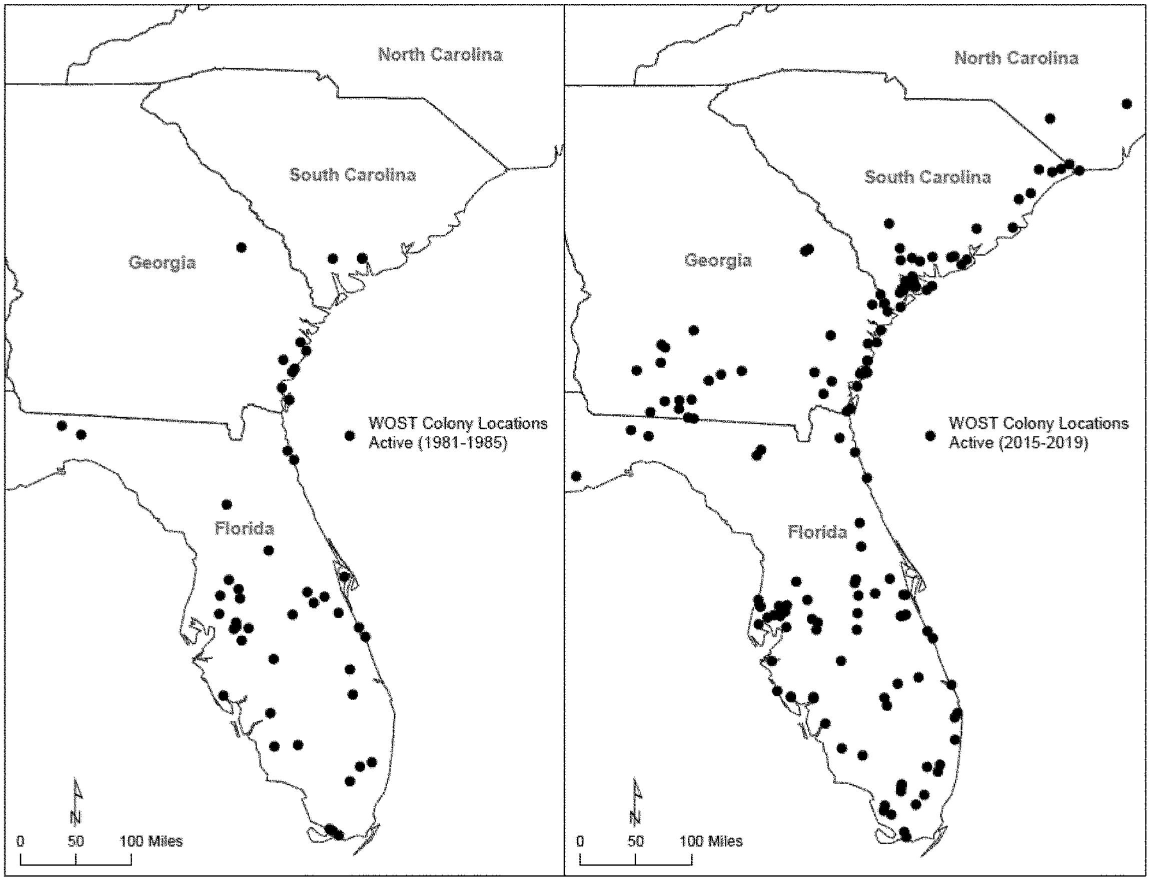

Figure 1. Active wood stork (WOST) colonies in the South Breeding Region from 1981–1985 (left) and from 2015–2019 (right).

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and species. In 2019, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR part 424 regarding how we add, remove, and reclassify endangered and threatened species and the criteria for designating listed species' critical habitat (84 FR 45020; August 27, 2019). On the same day the Service also issued final regulations that, for species listed as threatened species after September 26, 2019, eliminated the Service's general protective regulations automatically applying to threatened species the prohibitions that section 9 of the Act applies to endangered species (84 FR 44753; August 27, 2019).

The Act defines an "endangered species" as a 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 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.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects. The determination to delist a species must be based on an analysis of the same five factors.

We use the term "threat" to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term "threat" includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term "threat" may encompass—either together or separately—the source of the action or condition or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an "endangered species" or a "threatened species." In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species—such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an ''endangered species'' or a ''threatened species'' only after conducting this cumulative analysis and describing the expected effect on the species now and in the foreseeable future.

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 we 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.

It is not always possible or necessary to define the foreseeable future as a particular number of years. Analysis of the foreseeable future uses the best scientific and commercial data available and should consider the timeframes applicable to the relevant threats and to the species' likely responses to those threats in view of its life-history characteristics. Data that are typically relevant to assessing the species' biological response include species-specific factors such as lifespan, reproductive rates or productivity, certain behaviors, and other demographic factors.

Analytical Framework

The SSA report documents the results of our comprehensive biological review of the best scientific and commercial data regarding the status of the wood stork, including an assessment of the potential threats to the wood stork. The SSA report does not represent our decision on whether the listed entity of wood stork should be proposed for delisting. However, it does provide the scientific basis that informs our regulatory decisions, which involve the further application of standards within the Act and its implementing regulations and policies.

To assess the wood stork's viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency is the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years); redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and DPS levels, and described the beneficial and risk factors influencing the wood stork's viability.

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

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS–R4–ES–2022–0099 on *https://www.regulations.gov* and at *https://www.fws.gov/office/florida-ecological-services.*

Summary of Biological Status and Threats

In this discussion, we review the biological condition of the wood stork and its resources, and the threats that influence the wood stork's current and future condition, in order to assess the wood stork's overall viability and the risks to that viability. In addition, the SSA (Service 2021, entire) documents our comprehensive biological status review for the species, including an assessment of the potential threats to the species.

The following is a summary of this status review and the best available information gathered since that time that have informed this decision.

Species Needs

Wood storks are a wetland-dependent species. They use a wide variety of freshwater and estuarine wetlands for nesting, feeding, and roosting throughout their range (Coulter et al. 2020, unpaginated). Local hydrologic conditions correlate to annual nesting effort (Klassen et al. 2016, pp. 1450–1460). Wood storks feed primarily on fish and other aquatic prey by tactilocation. They forage most efficiently in shallow wetlands where prey is concentrated, and their intra-regional movements during the breeding and non-breeding seasons are typically in response to the availability of such shallow wetlands (Coulter et al. 2020, unpaginated).

Wood storks are colonial breeders, typically nesting with conspecifics and other wading bird species. Wood stork breeding colonies are found within landscapes containing sufficient wetland foraging habitats, and wood storks nest over or surrounded by water in natural and human-altered freshwater and marine-estuarine forested habitats (Rodgers et al. 1996, pp. 18–19). Inundation of trees prior to and during nesting reduces predation at nests, and thus reduces nest abandonment and nest failure. Alligators are typically present in wood stork colonies and limit access to nests by mammalian predators such as raccoons. However, drought conditions can result in drying under the nest trees and increased predation (Coulter et al. 2020, unpaginated).

In the southeastern United States, wood storks use a large variety of wetland habitats and use native and nonnative trees for nesting substrate (Rodgers et al. 1996, pp. 2–17). In recent years, an increasing number of colonies have established in wetlands in close proximity to human development such as housing, roads, and active waterways (Tsai et al. 2016, p. 644). Wood storks feed on fish and other aquatic prey in natural and artificial wetlands where water depths are appropriately shallow (less than 50 cm or 20 in, and often 10–30 cm (4–12 in)), and the habitat is not densely vegetated (Coulter et al. 2020, unpaginated; Service 1997, pp. 3–4). The presence of wood storks feeding in human-altered landscapes has become more common in recent years, and, as such, observations of wood storks foraging in urban environments and manmade wetlands during both the breeding and non-breeding seasons is not uncommon (Evans and Gawlik 2020, p. 1).

Wood storks typically roost in trees, over or surrounded by water, and may roost at breeding colony sites and foraging sites. Wood storks may also roost or rest on the ground (*e.g.,* levees, open grassy fields, mud flats) close to foraging areas (Coulter et al. 2020, unpaginated).

Thus, wood storks throughout all phases of life depend upon various types of shallow wetlands, both natural and manmade, both freshwater and estuarine, for foraging and nesting habitat both inside and outside of the breeding season. They need forested wetlands of various types in proximity to foraging habitat, that host a variety of suitable emergent native and nonnative tree and shrub species, for breeding colonies (nest substrate), as well as for roosting outside of the breeding season. Wood storks also require an adequate abundance of prey items, which include a wide variety of aquatic animal species, but especially fish, such as sunfish (see figure 2).

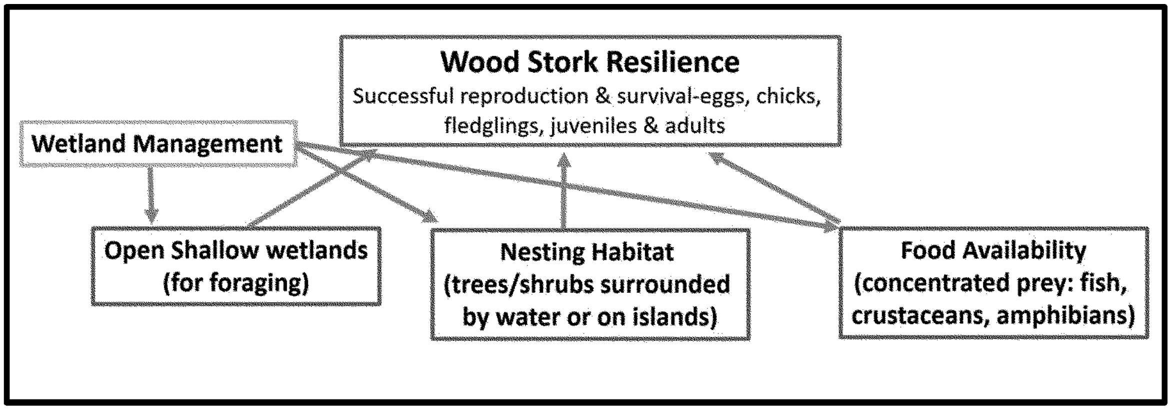

Figure 2. Species needs for the Southeast U.S. DPS of the wood stork.

Threats

Threats to wood storks are described in detail in the SSA report (Service 2021, chapter 5). The primary threats to wood storks, or those that affect the species at the population level, are habitat loss, conversion, and degradation (acting on populations currently and into the future), and climate change effects including warming temperatures and drought, precipitation changes, and sea level rise (acting on populations primarily in the future).

Habitat Loss, Conversion, and Degradation

Land conversion due to development, agriculture, and mining impact wood storks through habitat loss, degradation, and conversion (Coulter et al. 2020, unpaginated). This stressor directly reduces the availability and quality of breeding and roosting habitat, and indirectly impacts food resources in those habitats and in other foraging habitat (Coulter et al. 2020, unpaginated). Conversion and loss of habitat may also exacerbate the normal effects of periodic drought on wood storks, which do poorly in all aspects of their life cycle when prolonged dry conditions prevail (Borkhataria et al. 2012, p. 524; Gaines et al. 2000, p. 64). One of the primary reasons for the historical decline of the Southeast U.S. DPS of the wood stork was the dredging of canals and draining of wetlands to accommodate the settlement of south Florida and provide means of flood control, which altered the hydrologic regimes of the Everglades and Big Cypress ecosystems (Ogden and Nesbitt 1979, p. 512; Ogden and Patty 1981, pp. 99–100; Service 1997, p. 10). Drainage of wetlands throughout the wood stork's range resulted in loss of habitat available to wood storks. Many wetlands were historically converted for agricultural production; however, the rate of land conversion to agriculture has slowed from historical levels (Nickerson and Borchers 2012, entire), primarily due to laws and regulatory review with goals to avoid and minimize impacts to wetlands.

Increased water consumption, especially that which is associated with industrial and agricultural lands, is another factor accompanying land conversion that impacts wood storks through habitat degradation. Large water withdrawals can alter the water table and reduce water levels in wetlands. Further, changes in hydrological regimes and reduced fire frequency can create drier wetland conditions, which can exacerbate the encroachment of woody vegetation into wetlands, and the subsequent succession of wetland to upland habitat (Clem et al. 2019, p. 370; Hall et al. 2017, p. 52). However, ongoing large-scale wetland restorations continue to mitigate some of these negative effects, and based on the best available information, we conclude that these factors are not occurring at such a magnitude to cause population decline for wood storks.

Despite the negative impacts to wetland habitats, wetlands of the southeastern U.S. coastal plain are extensive and significant large- and small-scale wetland restoration efforts have occurred and are underway throughout the wood stork's range (Service 2021, pp. 71–74). Further, wetland habitat loss is avoided, minimized, and mitigated through existing wetland laws and regulations, such as the Clean Water Act (33 U.S.C. 1251 *et seq.*). Additionally, wood storks use habitat opportunistically and will exploit urban and suburban environments, and even use human-created and human-converted wetlands for foraging, roosting, and nesting (Evans and Gawlik 2020, p. 1). Thus, while there are still cases where natural wetland habitat is being lost or becoming fragmented due to human-related habitat conversion, the abundance and distribution of human-made wetlands that incidentally provide food resources and nesting habitat for wood storks have increased. Currently, numerous wood stork colonies throughout the wood stork's range are located in human-modified and human-created wetlands.

Climate Change

Climate change is causing a variety of changes to the various ecosystems and wetland habitats that wood storks depend upon throughout their life cycle. Climate change is driving numerous stressors that will impact the resources and conditions needed by wood storks, thereby having the potential to affect the wood stork's demographic rates (nest success, juvenile and adult survival) and resulting viability. The stressors to wood storks associated with climate change include warming temperatures, precipitation changes, drought, and sea level rise. Many of these climate-related stressors can exacerbate the stressors caused by habitat loss, described above. However, effects of climate change may result in both negative and positive effects to wood storks under certain circumstances.

Warming temperatures—Climate change predictions suggest overall warming temperatures throughout North America, including throughout the range of the wood stork, under all greenhouse gas emission scenarios (IPCC 2014, p. 58). If we examine current projections under plausible future greenhouse gas concentrations (termed ''representative concentration pathways,'' or RCPs) over the 2050 to 2074 timeframe relative to the 1981 to 2010 timeframe, the 50th percentile (median) annual mean maximum air temperature for the South Atlantic–Gulf Region (which includes the Southeast U.S. DPS of the wood stork's range) warms by 3.9 degrees Fahrenheit (°F) (2.2 degrees Celsius (°C)) under RCP4.5, whereas the region warms by 5.7 °F (3.2 °C) under RCP8.5 (Alder and Hostetler 2013, entire).

Warming temperatures contribute to increased drying and drought conditions (Alder and Hostetler 2013, entire), which can also increase the access terrestrial predators have to wood stork nests and nestlings (Coulter et al. 2020, unpaginated). Warming also contributes to sea level rise (Alder and Hostetler 2013, entire), the effects of which are discussed below. Conversely, warming temperatures may also be one of the factors that is leading to the expansion of the wood stork's breeding range beyond its historical boundaries (including into North Carolina), as has been documented for many other North American bird species (Hitch and Leberg 2007, p. 534). Warming may also contribute to changes in nesting phenology and the extension of the breeding season, as evidenced by asynchronous nesting that is being documented throughout the breeding range. For example, wood storks may have more opportunity to renest after previously failed attempts, or to nest later in the season in order to take advantage of optimal habitat conditions in other portions of the range.

Changes in precipitation—Climate change is expected to change precipitation patterns throughout the wood stork's range, but the impacts vary among important habitat types. An overall increase in rainfall due to climate change is expected throughout much of the range. Relative to 1981–2010, the 50th percentile (median) for annual mean precipitation under RCPs 4.5 and 8.5 is expected to increase in the South Atlantic–Gulf Region in 2050–2074 by a relatively small amount (0.2 to 0.3 in (5.1 to 7.6 millimeters (mm)) per month) (Alder and Hostetler 2013, entire). Scaled-down models indicate that precipitation increases will vary regionally, however. For example, in the Ogeechee–Savannah watershed (Northeast Breeding Region), precipitation is expected to increase slightly more (0.3 to 0.4 in (7.6 to 10.2 mm) per month) than in the Everglades watershed (South Breeding Region) (increase of 0.1 to 0.3 in (2.5 to 7.6 mm) per month) in the same time period (Alder and Hostetler 2013, entire).

The timing and amount of precipitation in wood stork habitat influences wood stork prey development, availability, and dispersion. Adequate precipitation can help maintain good hydrologic conditions, which help bolster wood stork survival and productivity, and large rain events can offset drought conditions. However, excessive rainfall generally has a negative impact by dispersing prey and effectively inhibiting wood stork nutrient consumption. This phenomenon is magnified during the breeding season, when it can result in nest abandonment and/or reduced chick survival (caused by inadequate provisioning of chicks by adults) (Cook 2021, p. 5). A rainfall deficit on the other hand, especially in combination with warming temperatures, could contribute to drying and drought conditions, which are discussed below. In general, precipitation is also likely one of the primary drivers that cause segments of the wood stork population to migrate, depending upon local and regional habitat conditions.

Drying—Rising temperatures are expected to increase evaporation, meaning that wood storks could face increased drought-like conditions, which can be measured by a metric called the evaporative deficit. In the time period between 2050–2074, the 50th percentile (median) evaporative deficit across the South Atlantic–Gulf Region indicates drier conditions under RCP4.5 and RCP8.5, relative to 1981–2010 (Alder and Hostetler 2013, entire). For example, the deficit increases modestly by 0.2 in (5.1 mm) per month in the Ogeechee–Savannah watershed under both scenarios during the same time period. Similarly, the deficit increases by 0.2 to 0.3 in (5.1 to 7.6 mm) in the Everglades under RCP4.5 and RCP8.5, respectively. Further, standardized precipitation index data from 2000–2015 suggest that extended periods of dry weather are likely going to increase in the future throughout Florida, particularly in the northern part of the State (*i.e.,* the panhandle) and areas around Lake Okeechobee (Collins et al. 2017, p. 585). In Georgia and South Carolina, even if average annual precipitation remains constant, higher temperatures will likely increase drought intensity (Service 2021, pp. 58–62).

Drought conditions generally lead to poor nesting success and productivity. However, the timing of drought conditions dictates when and how impacts to wood stork productivity will be realized. Initially, a drought can concentrate prey and lead to efficient foraging and good productivity for wood storks, but an extended drought also lowers prey productivity, which in turn lowers prey availability for wood storks in future years, and can thereby negatively impact future wood stork nesting and productivity. In addition, drought conditions can increase colony predation by making it easier for terrestrial predators to access wood stork nests and chicks.

Data on wood stork habitat selection and availability are not currently available range-wide, but wetland habitat throughout the Southeast U.S. DPS of the wood stork's range is widely available. The southeastern United States has nearly 48 million acres of wetlands, which account for more than 43 percent of the nation's palustrine and estuarine wetlands (Sucik and Marks 2015, p. 11). Our assessment of core foraging area supporting the current active wood stork nesting colonies includes over 11 million acres of suitable wetland habitat (Service 2021, p. 129). Historically, wetland habitat loss or degradation was the main driver of wood stork population decline, primarily in south Florida which supported nearly the entire breeding population. Human activity during the decades prior to listing of the species in 1984 had reduced wetland areas in this region by 35%, and construction of canals and ditches changed the hydrology of ecosystems like the Everglades, Lake Okeechobee, Kissimmee River, and Big Cypress Swamp. However, since that time

Everglades restoration efforts have been underway, and the species now has additional breeding strongholds in north Florida, Georgia, South Carolina, and North Carolina, where it exploits new habitat types such as coastal saltmarsh, and palustrine and manmade freshwater wetlands. As a result, suitable breeding and foraging habitat is widely available across the species' current range. While climate change may cause an increase in conditions that degrade or convert wetland habitat used by wood storks for nesting and foraging, currently habitat availability does not appear to be limiting wood stork resiliency.

Changes in hurricane patterns—The frequency and intensity of hurricanes and other heavy precipitation events will likely be affected by climate change in North America (IPCC 2014, p. 53). The projected warmer climate will potentially decrease the frequency of tropical cyclones but increase the intensity of these events when they occur in the Atlantic Basin (Collins et al. 2017, p. 610). Direct mortality of wood storks due to storms is not common, and although damage to nesting vegetation at colony sites has been documented, nesting generally continues in following years (Cook & Baranski 2019, p. 1). In many cases, wood storks will have a very productive breeding season in the year following one where a hurricane impacted the breeding habitat due to improved wetland hydrologic conditions resulting from the additional precipitation brought by a hurricane event (Cook & Baranski 2019, p. 1). Hurricanes also commonly act as an erosional agent and may deliver significant volumes of sediment to the marsh surface, which could aid wood stork resiliency by increasing vertical accretion of salt marsh habitat (Staro et al. 2021, p. 1). Therefore, while it is difficult to predict the long-term, population-level effects to wood storks of hurricane patterns influenced by climate change, the best available information does not indicate that hurricane impacts are limiting to wood stork resiliency, nor are they predicted to do so in the future.

Sea level rise—Warming temperatures, coupled with other factors influenced by climate change such as the melting of continental ice, will cause sea levels to rise (Vermeer and Rahmstorf. 2009. Entire). Because wood storks mainly forage in water less than 20 in (50 cm) deep, projected sea level rise exceeding 39 in (0.99 m) by the end of the century would make portions of the currently occupied coastal habitat unusable for foraging. As such, sea level rise and the associated flooding of coastal wetlands may result in the loss and degradation of both foraging and coastal nesting habitats. Sea level rise is also likely to increase the storm surge potential along major coastlines (Collins et al. 2017, p. 611). Storm surge is the rise in water level during a storm, which can cause flooding of coastal wetlands and uplands as the storm's winds push water onshore.

However, while sea level rise is expected to cause the degradation and loss of existing coastal wetland habitats in some areas, it is also likely to create new salt marsh habitat in other adjacent habitats (Colombano et al. 2021, pp. 1639 and 1642; Fagherazzi et al. 2020, entire). Sea level rise will cause shifts in wetlands landward, with salt and brackish marshes transgressing upslope into coastal freshwater wetlands and low-lying upland areas. Vertically, saltmarsh has to accumulate enough material to contrast rising water levels or drown; horizontally, salt marsh erosion at the ocean side will be compensated by landward expansion of salt marsh up slope, but the upslope extent will depend upon the slope gradient of the adjacent uplands (Fagherazzi, et al. 2020, entire). Therefore, although we can project through modeling where currently occupied wood stork habitat is likely to be inundated by sea level rise, it is less clear where and how much new brackish and saltmarsh habitat likely to be exploited by wood storks as a foraging or nesting resource will be created as coastal estuarine marshes migrate upslope in response to sea level rise. As such, the negative impacts to wood stork resiliency caused by habitat loss or degradation due to inundation by sea level rise is likely to be mitigated at least in part by positive impacts to resiliency from newly created salt marsh.

Predicted climatic changes that could impact future wood stork populations include changing of precipitation patterns, increased temperature/drying, and sea level rise. The potential influence of precipitation, hydroperiod, and drying conditions on wood stork foraging habitat quantity and quality, and ultimately on wood stork breeding success, will vary considerably relative to local landscape conditions. For example, the type, abundance, underlying topography, and connectivity of the wetlands associated with each breeding colony will influence how these changes in the climate will impact wood stork resiliency. In general, projected changes in precipitation, temperature, and drying are expected to vary among breeding regions and even among colonies in a single breeding region and could result in either positive or negative effects on breeding success from year to year. For example, initially drought conditions may concentrate prey and lead to increased productivity in a given year, but multi-year droughts would likely lead to lower productivity years when prolonged low water conditions inhibit the regeneration of prey species. Similarly, it is unclear how more intense hurricane and tropical storm events will impact wood storks, as previously mentioned. Therefore, we have limited our future climatic impact scenario to sea level rise, for which the negative effects to occupied habitat and the wood stork's response to these effects can be projected with reasonable certainty.

In summary:

- Changes in seasonal rainfall patterns coupled with warming temperatures could increase the occurrence and severity of drought and wetland drying. Multi-year droughts could negatively impact breeding and survival demographics, but effects will vary among breeding regions and even among colony sites.
- Changes to the quantity and intensity of precipitation (including hurricanes), depending on timing, will alter foraging habitat availability and associated wetland forage resources for wood storks; however, these factors could have a positive and/or negative affect on demographics.
- Warming temperatures contribute to increased sea level rise, which is expected to result in the loss of coastal wetland habitat. Sea level rise will result in the loss of some foraging, nesting, and roosting habitat that is currently occupied. However, coastal marshes are projected to transgress upslope along with sea level rise at the land and water interface, so some habitat will shift rather than be lost. To what extent the breadth and width of salt marsh will migrate upslope and elevate through accretion is yet to be fully modeled.

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have not only analyzed individual effects on the wood stork, but we have also analyzed their potential cumulative effects. We incorporate the cumulative effects into our SSA analysis when we characterize the current and future condition of the wood stork. To assess the current and future condition of the wood stork, we undertake an iterative analysis that encompasses and incorporates the threats individually and then accumulates and evaluates the effects of all the factors that may be influencing the wood stork, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire Southeast U.S. DPS of the wood stork, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative effects analysis.

Conservation Efforts and Regulatory Mechanisms

The long-term survival and recovery of the wood stork requires the presence of a mosaic of wetland habitats for breeding, foraging, and roosting scattered throughout its range during varying climatic and seasonal conditions. Current management actions that address foraging and breeding habitats include maintenance and protection of existing wetlands, creation of new wetland habitats, and restoration of previously impacted habitats. Details of conservation efforts can be found in the SSA report (Service 2021, chapter 5.1.4), but are summarized below:

• Lands with natural and manmade wetlands which contribute to wood stork recovery have and continue to be targeted for acquisition for conservation through Federal, State, and private acquisition programs. The Everglades Headwaters National Wildlife Refuge and Conservation Area initiated in 2012 includes 2.6 million acres of grassland savannah with wet and dry prairie that encompasses the Kissimmee River Valley. Conservation easements and acquisitions purchases for the 150,000 acre approved acquisition boundary are underway, and will provide conservation benefits to wood storks.

• Large-scale watershed and wetland ecosystem restoration initiatives with regionwide impacts have and continue to help restore wetland ecosystems throughout the southeastern United States, including: Everglades (Comprehensive Everglades Restoration Plan have completed 24 of the 68 restoration elements identified in the plan), Picayune Strand (fifty percent hydraulic restoration achieved through road removal, plugging canals, and pump stations), Southern Corkscrew Watershed (4,000 acres of willow infested wetlands treated thus far), Kissimmee River (restoration has already been completed with more than 40 miles of river floodplain ecosystem), Upper St. Johns River Basin (166,000 acres of the headwaters already restored), Everglades Headwaters (lands and conservation easements being actively acquired), Tampa Bay Estuary, Lake Apopka (15,000 acres of wetlands restored on former farms), Altamaha River Watershed, Lower Savannah River Watershed, and Ashepoo–Combahee–Edisto Rivers Basins (over 160,000 acres of upland and wetland habitat protected).

• Smaller scale, more localized wetland restoration projects on individual public, private, industrial, and Department of Defense properties within the range of the wood stork have and continue to improve wood stork habitat, through various programs including: National Coastal Wetlands Program, Wetland Reserves Program (restored over 325,000 acres across several states, and one site now supports a nesting colony), Partners for Wildlife, Stewardship Incentive Program, North American Waterfowl Management Plan, and North American Wetlands Conservation Act (77 projects across several states affecting 250,000 acres of wetlands).

• Colony sites have been and continue to be managed, enhanced, and restored, resulting in wood stork recolonization (Woody Pond colony in Georgia; Dugannon Plantation and Green Pond colonies in South Carolina; Duck Lake, Orlando Wetlands, Se7en Wetlands, and Wakadohatchee Wetlands colonies in Florida).

• Suitable foraging wetlands have been and continue to be created within diked ''impoundments,'' through modifications of existing impoundments, restoration of impacted wetlands, and creation of shallow short hydro-period wetlands.

• Tidal impoundments (*e.g.,* former rice fields) in South Carolina (40,000 acres with dike and water management infrastructure for management, and 190,000 acres reverted tidal marsh bottom lands, hardwoods, and forests) and Georgia are now managed to provide winter habitat for waterfowl and foraging for wood storks year-round; and, by staggering drawdowns, concentrated prey is being made available to wood storks throughout the breeding and post-breeding seasons.

• Wastewater treatment flow through marshes and other manmade wetland features are increasing within the southeastern United States and are used by wood storks as both foraging and breeding habitats. For example, in Florida, management for wastewater treatment now supports 200 acres of wetlands at Viera Wetlands and 125 acres of wetlands at Sweetwater Wetlands Park; and wastewater treatment wetlands now support a wood stork nesting colony each at Wakodahatchee Wetlands (50 acres of wetlands), Orlando Wetlands (1,200 acres of wetlands), and at Se7en Wetlands (1,600 acres of wetlands).

• Wetlands negatively impacted by encroaching woody plants (*e.g.,* willows) have been and continue to be restored by combining herbicide and mechanical methods; these projects have opened up impacted wetlands and made them available for wood stork use as colonies and foraging sites.

• Colonies occurring on State and Federal lands (*e.g.,* the Service's National Wildlife Refuges, National Park Service lands, Department of Defense lands, National Aeronautics and Space Administration lands) are and will continue to be afforded some protection from development and large-scale habitat disturbance through State and Federal regulations, and on private lands through conservation partnerships and landowner stewardship.

• Partnerships developed through conservation easements, wetland restoration projects, and other conservation means, have and will continue to minimize potential loss of colony sites.

Current Condition

The U.S. breeding population of wood storks (*i.e.,* the Southeast U.S. DPS of the wood stork) has been categorized as a single population by genetic analyses to date, which have been corroborated by documented intra-regional movements of breeding-aged individuals and shifts in nesting throughout the range (Stangel et al. 1990, p. 618; Van Den Bussche et al. 1999, p. 1083). Within the breeding range, wood stork colonies cluster into the South, Central, Northwest, and Northeast breeding regions (see figure 3). These clusters vary by climate, geography, and landscape features, as well as their influences on wood stork ecology, habitat, and behavior.

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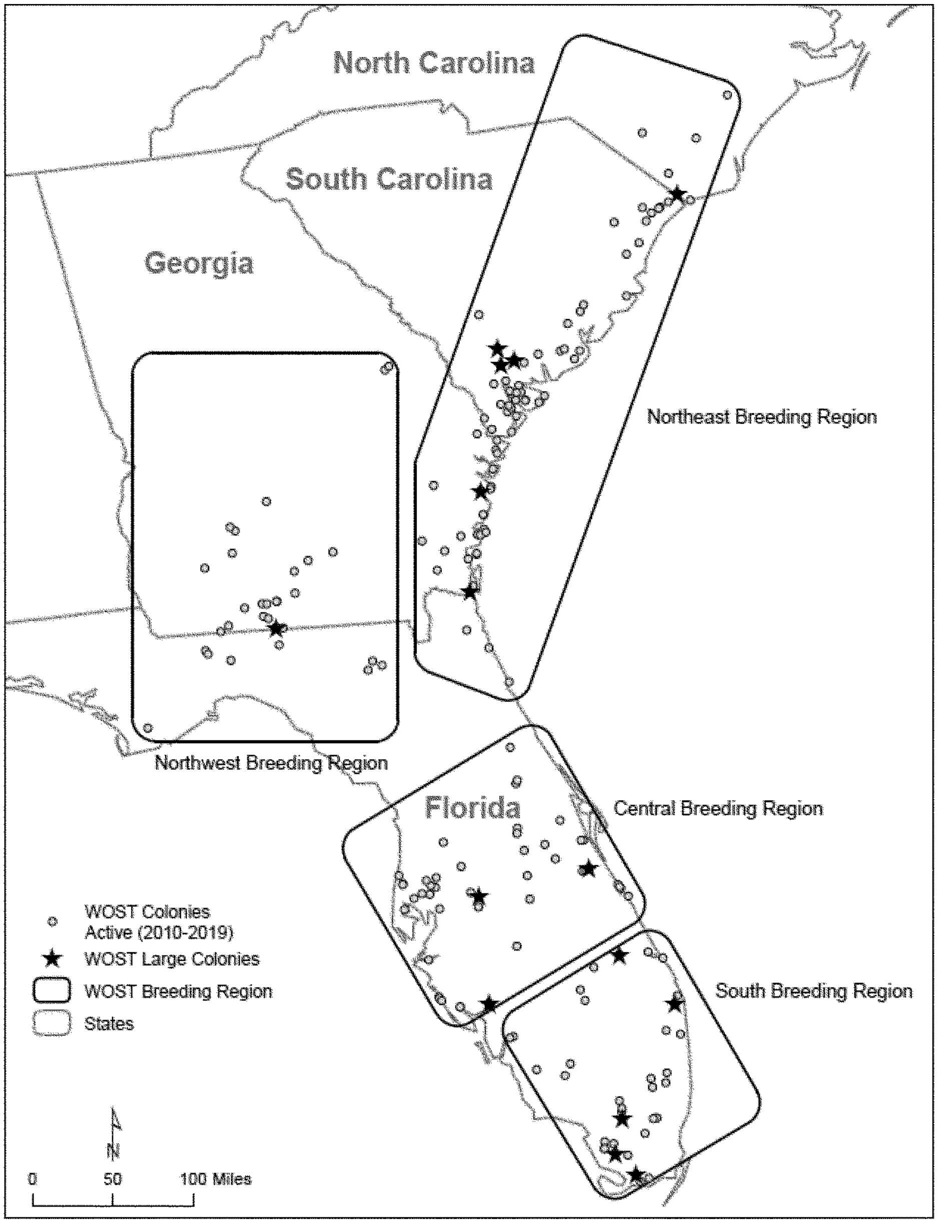

Figure 3. Wood stork (WOST) breeding colonies in the United States.

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Current Resiliency

Demographic factors such as abundance, adult survival, reproductive success, juvenile recruitment, and population growth influence wood stork resiliency. To assess the current condition of the wood stork, we focused on those factors that contribute to resiliency, including nesting population size (number of pairs/nests); population growth trend; number of large, persistent nesting colonies (colonies that consistently support over 200 pairs); and productivity (fledged chicks per nest), which are all described in greater detail in the SSA report (Service 2021, chapter 4). We categorically assigned a condition of high, moderate, or low to each of these factors for each breeding region and for the DPS as a whole (see table 4).

TABLE 4—WOOD STORK POPULATION CONDITION CATEGORIES BASED ON POPULATION METRICS

Population metric	Low condition	Moderate condition	High condition
Population Size (Nests/Pair)	<1,500	1,500–2,499	>2,500.
Large Persistent Colonies	0–1	2–4	5 or more.
Productivity	<1.3	1.3–1.7	>1.7.
Population Trend	Declining	Stable	Increasing.

Finally, we assessed the current overall resiliency of each breeding region based on the average condition of each category of the demographic factors, resulting in the overall current condition of each breeding region ranging from high to moderate (see table 5).

TABLE 5—CURRENT CONDITION OF EACH WOOD STORK BREEDING REGION

Breeding region	Population size	Population trend	Large persistent colonies	Productivity	Overall demographic condition
Northeast	High	High	High	High	High.
Northwest	Low	High	Low	High	Moderate.
Central	High	High	Moderate	High	High-Moderate.
South	Moderate	Moderate	High	Low	Moderate.
Southeast U.S. DPS	High-Moderate	High-Moderate	High-Moderate	High-Moderate	High-Moderate.

Because wetland habitat throughout the wood stork's range is widely available and does not appear to be a limiting factor, we did not include a measure for habitat resiliency factors in the analysis of current condition. The southeastern United States has nearly 48 million acres of wetlands, which account for more than 43 percent of the nation's palustrine and estuarine wetlands (Sucik and Marks 2015, p. 11). However, potential future impacts to core foraging area habitats that support nesting colonies were considered for the analysis of future condition. Thus, we used population demographics to measure the current condition of each breeding region, and then we used habitat condition as a proxy for population resiliency in order to project the future condition of each breeding region based on the primary threats to wood stork into the future (see *Future Scenarios,* below, for more information).

Current Redundancy and Representation

As previously described, the Southeast U.S. DPS of the wood stork is a wide-ranging, single population, with all breeding occurring in Florida, Georgia, South Carolina, and North Carolina. However, for our analysis of current and future condition, we identified four breeding regions (see figure 3, above), as defined by the clustering of nesting colonies and nesting numbers (within and across the geographic borders) among the four States, in order to assess redundancy, even though there is no biological or ecological distinction among individuals in these four areas. Wood stork nest numbers often fluctuate among breeding regions within and between years, due to environmental conditions (*e.g.,* rainfall amounts and timing). In contrast to historical trends, 40–50 percent of wood stork nesting now occurs in the Northeast Breeding Region. The wide spatial extent covered by the Southeast U.S. DPS of the wood stork across the four breeding regions reduces the risk to the DPS, because it is unlikely that a single catastrophic event would impact all four breeding regions. Furthermore, the impacts of stressors in one region may be mitigated by the fluid nature of breeding throughout the range. In addition, having several large and/or persistent colonies as anchors within each breeding region provides resiliency within each region and represents a form of redundancy for the Southeast U.S. DPS of the wood stork.

Maintaining representation in the form of genetic or ecological diversity is important to sustain the capacity to adapt to future environmental changes. As previously discussed, there is little genetic diversity among the Southeast U.S. DPS of the wood stork. However, ecological diversity within the range of the species is extensive. Wood storks use a mosaic of wetland habitats for nesting, roosting, and foraging. These include shallow and persistent (*i.e.,* short and long hydroperiod) wetlands, marshes, and shallow open water habitats (including freshwater, brackish water, and saltwater habitat associated with natural and anthropogenic landforms). Negative impacts to the wetlands of the Everglades and other wetlands in south Florida from development and agriculture was a major contributor to the population decline that led to the listing of the U.S. breeding population of the wood stork, but also may have influenced the regional shift in abundance of nesting storks northward. Although wood storks have always had the ability to nest in other parts of their range, they historically concentrated in south Florida because the reproductive rewards there were higher for less cost, resulting in greater reproductive success. However, as conditions deteriorated and dried in south Florida, the extensive salt marshes, coastal wetlands, and old rice impoundments in Georgia and South Carolina offered greater stability, and as such became better options for foraging during the breeding season; the result was that the wood stork population center shifted north. The wood stork now consistently breeds in four distinctive coastal plain regions within its range: Southern Florida Coastal Plain (South Breeding Region), Southern Coastal Plain (Central and Northeast Breeding Regions), Middle Atlantic Coastal Plain (Northeast Breeding Region), and Southeastern Coastal Plain (Northwest Breeding Region). Further, current wood stork nesting in North Carolina appears to indicate range expansion, which is likely a response to climate change as it has been documented in multiple other bird species worldwide (Hitch and Leberg 2007, p. 534). Thus, the shift of wood stork breeding colonies in response to habitat conditions, and the expansion northward of its historical range, may demonstrate an innate behavioral and adaptive response to deteriorating or long-term changes in habitat conditions and climate, which ultimately indicates a certain degree of adaptive capacity and adequate representation in wood storks.

Some wood storks are ''residents'' (remain in one area all year), some exhibit migratory movements among breeding regions and other areas in Alabama and Mississippi, and others employ both strategies (Picardi et al. 2020, p. 9) depending upon habitat conditions. In response to climatic conditions in the fall and winter, most wood storks move south into Florida, especially towards South Florida, or to coastal habitats if residing in South Carolina, Georgia, or north Florida (Coulter et al. 2020, unpaginated). These patterns indicate plasticity that allows individuals to respond to current environmental conditions and to move (or not) depending on local resource availability.

Wood storks also use human-made wetlands such as canals, ditches, impounded ponds and lakes, and other urban habitats rangewide, which they were not known to use historically. Historically, wood storks were thought to be intolerant of human disturbance (Burleigh 1958, p. 119). However, with the increase in use of urban habitats, wood storks appear more tolerant of human activity, to the extent that they will nest and forage in highly urbanized areas like stormwater retention ponds in housing developments, in commercial shopping areas, and along busy roads (Evans and Gawlik 2020, p. 1; Tsai et al. 2016, p. 644). Thus, wood storks will use suitable foraging wetlands and nesting habitats found in a variety of natural and human-influenced and -created habitats.

As mentioned previously, representation is the ability of a species to adapt to both near-term and long-term changes in its physical and biological environment. Species adapt to novel changes in their environment by either: (1) moving to new, suitable environments or (2) altering their physical or behavioral traits (phenotypes) to match the new environmental conditions through either plasticity or genetic change (Beever et al. 2016, p. 132; Nicotra et al. 2015, p. 1270). Thus, representation reflects the ability of the species to respond and adapt to changing conditions (adaptive capacity), either by changing themselves, or by responding to changes around them. Representation is often measured in the genetic, morphological, ecological, behavioral, or other types of diversity present among populations, but as noted previously there is little evidence of these types of differences among populations of wood stork. However, the wood stork's innate behavioral capacity to respond to deteriorating and changing wetland conditions on a daily, seasonal, annual, and long-term basis, and to exploit novel habitat types such as human-made wetlands, indicates adaptive capacity. Wood storks in the Southeast U.S. DPS have gradually shifted and expanded their breeding range (*e.g.,* northward into three new States) and increased their habitat use (*e.g.,* to include urban wetlands, impounded wetlands, and coastal salt marshes of Georgia and South Carolina) in response to changing conditions. Ultimately, these responses demonstrate a degree of adaptive capacity despite a lack of evidence showing genetic diversity within the DPS.

Future Scenarios

To analyze the wood stork's viability, we considered the current demographic condition and future availability or condition of resources important to wood storks. To examine the potential future availability or condition of resources important to wood storks, we developed three future scenarios based on projections for land development, sea level rise, impacts of changing climate conditions, and beneficial conservation actions. More detail on how we assessed each of these metrics can be found in the SSA report (Service 2021, chapter 6). Note that we did not model how population demographics will change under future conditions, nor on how wood storks will respond to changing habitat conditions; rather, the future scenarios consist of habitat-based analyses that project the future condition of the current core foraging areas in each breeding region, employing the condition of required wood stork habitat as a proxy for the condition of the wood stork population, or its resiliency. Core foraging areas are suitable foraging wetlands within a set distance from each colony that is based on regional follow flight study data: 30 kilometers (km) (19 miles (mi)) in south Florida, 25 km (16 mi) in central Florida, and 20 km (12 mi) in all other regions/States (Borkhataria et al. 2013, pp. 8–9; Bryan et al. 2012, p. 293; Cox et al. 1994, p. 134).

The best available data to inform our wood stork future condition analysis was limited to consideration of currently-occupied wood stork habitat and how the major habitat threats may reduce or degrade that occupied habitat. We used modeling to project the future condition of the habitat in currently occupied breeding colonies and core foraging areas. However, models cannot account for the potential expansion, change, or shift of the nesting colonies into currently unoccupied, but suitable habitat. Models cannot account for the expansion of wood stork breeding regions, or of the overall breeding range, in response to wood stork population growth or changes to habitat, which is a phenomenon that has been underway since the 1980s and is still occurring. Based on recent and current trends, we expect that the Southeast U.S. DPS of the wood stork will continue to grow and respond to changing environmental and habitat conditions, and to human-caused degradation, conversion, restoration, or creation of wetland habitats on small and large scales as they have in recent history. As a result, because our future condition analysis is limited to currently occupied habitat, it is conservative and likely considerably underestimates what the true condition of the Southeast U.S. DPS of the wood stork will be into the future as it continues to expand and inhabit suitable but currently unoccupied habitat.

We considered a 30- and 60-year timeframe into the future (2050 and 2080) for the future analysis. These time elements are within the predictive range of the model used to project future development for the southeastern U.S. coastal plain, and within the climate change forecasts (Sweet et al. 2017, entire) that cover the southeastern United States. These scenarios are probable representations of how the primary stressors to the species and their sources have the potential to impact wood storks rangewide.

Potential future impacts associated with changing climatic conditions (*i.e.,* estimates for precipitation, drought, temperature, and sea level rise) were based on climate model projections downscaled for Florida, Georgia, and South Carolina. However, as discussed above under *Threats,* climate metrics such as precipitation, temperature, and drying will likely be variable on regional and local scales and could result in positive and/or negative impacts on the wood stork's breeding success. As such, we cannot reliably project effects to wood storks from these climate metrics. Therefore, we have focused our future climatic impact scenarios on varying degrees of sea level rise because modeling of sea level rise impacts to occupied habitat is available throughout the range of the wood stork, and the effects on occupied habitat are reasonably predictable, although we acknowledge potential effects to wood storks due to other climatic variables as well. To model sea level rise, we used the National Oceanic and Atmospheric Administration (NOAA) sea level rise projections (Sweet et al. 2017, entire).

To forecast future urbanization/development, we considered future scenarios that incorporate the SLEUTH (Slope, Land use, Excluded area, Urban area, Transportation, Hillside area) model, which simulates patterns of urban expansion that are consistent with spatial observations of past urban growth and transportation networks (Terando et al. 2014, entire).

Biologically, the 30- and 60-year timeframes cover 7 and 15 wood stork generations, respectively, assuming a generation time of 4 years (Coulter et al. 2020, unpaginated). These multi-generational timeframes allow for adequate time to detect a downward population trend, and to subsequently formulate responses with appropriate conservation actions.

The future scenarios we assessed include varying time frames and magnitude of stressors that relate primarily to climate change and land conversion, but also to ongoing conservation actions that help to mitigate stressors. All are based on the best scientific and commercial information available at this time. Details on future scenarios can be found in the SSA report (Service 2021, chapter 6.1). Scenario 1 assumes a continuation of current land conversion trends projected into the future, a NOAA ''intermediate'' sea level rise projection, and that wetland restoration and management efforts and conservation implementation continues at least at the current rate. Scenario 2 assumes a continuation of current land conversion trends projected into the future, a NOAA ''high'' sea level rise projection, and that regulatory protections of wetlands and conservation implementation continue at least at current levels. Scenario 3 is the same as Scenario 2 in relation to the current land conversion trend and a NOAA ''high'' sea level rise projection, but it assumes a significant decrease in regulatory protections and conservation management (*e.g.,* due to changes in interpretation or implementation of wetland protection rules, lower funding levels for conservation or management, and wetland restorations not targeting benefits to wood storks specifically).

We considered three plausible future scenarios, with variations in the future influence of the primary threats, over a 30-year (to 2050) and 60-year (to 2080) projection (see table 6).

TABLE 6—THREE POTENTIAL FUTURE SCENARIOS FOR THE SOUTHEAST U.S. DPS OF THE WOOD STORK BASED ON CLIMATE CHANGE, LAND USE, AND CONSERVATION EFFORTS

Climate change	Land use change/development	Conservation actions
Scenario 1—Intermediate Sea Level Rise; No Change in Conservation		
Sea-level rise: NOAA "intermediate" projection.	SLEUTH 2050 & 2080 Nesting colony core foraging area habitat impacted by development (70 percent probability or greater) by 2050 and 2080.	Wetland habitat protections, conservation, management, acquisitions, and restoration efforts at least at current levels.
Scenario 2—High Sea Level Rise; No Change in Conservation		
Sea-level rise: NOAA "high" projection.	SLEUTH 2050 & 2080 Nesting colony core foraging area habitat impacted by development (70 percent probability or greater) by 2050 and 2080.	Wetland habitat protections, conservation, management, acquisitions, and restoration efforts at least at current levels.
Scenario 3—High Sea Level Rise; Reduced Conservation		
Sea-level rise: NOAA "high" projection.	SLEUTH 2050 & 2080 Nesting colony core foraging area habitat impacted by development (70 percent probability or greater) by 2050 and 2080.	Wetland habitat regulatory protections, conservation management, and acquisitions decreased due to changes in regulatory mechanisms and lower funding levels. Restorations: No longer target providing benefits for wood storks.

Future Condition

We measured the future condition of wood stork habitat resiliency by the changes in the current core foraging areas due to the primary influence factors (sea level rise, land conversion/urbanization, and conservation implementation). We assessed habitat condition based on the percentage of acres remaining after projected urbanization impacts on the core foraging areas; percentage of the wetlands, nesting colonies, and large persistent colonies remaining within the core foraging areas after sea level rise; and varying degrees of conservation implementation, projected over a 30- and 60-year future timeframe.

Our analysis accounts for changes to habitat within the current core foraging areas of a breeding region but does not predict the response of wood storks to changing habitat conditions (*e.g.,* relocation to other areas due to declining conditions, colonization of new sites and core foraging areas, etc.). Historical evidence from wood stork response to the ditching and draining of wetlands in the Everglades and south Florida indicates that some storks will continue to nest in areas with declining habitat conditions, and other wood storks will move and seek more optimal habitat conditions and either locate other active colony sites or pioneer new colony sites. Thus, our analysis may overestimate the loss of wood stork resiliency as a result of changing habitat in the current core foraging areas, as it cannot account for new habitat that may be colonized for breeding and foraging as conditions in currently occupied areas deteriorate.

As previously described, we measured the current condition of each breeding region by demographic metrics (population size, population trend, the number of large persistent colonies, and productivity). We then used the current condition as a proxy for the baseline habitat condition for the future condition analysis; the underlying assumption is that habitat condition reflects demographic conditions and vice versa. We considered the future under 30- and 60-year timeframes (to 2050, and to 2080). A more detailed account of how we assessed the projected effects of each of the primary influence factors on habitat in the future to determine the future condition of each breeding region can be found in the SSA report (Service 2021, chapter 6).

Future Resiliency

As mentioned previously, climatic variables such as periodicity and amounts of rainfall, drought, and hurricane frequency and intensity, will vary annually in the future and impacts to individual colony sites and foraging habitats will be dependent on an extensive range of local conditions. Thus, impacts of these climatic variables to habitat are less predictable, as is the species' response to these impacts. In general, temperature and precipitation increases are projected in each of the wood stork breeding regions. An increase in evaporative deficit can lead to drought conditions that would impact wetland habitats and foraging resources. The evaporative deficit is projected to increase at a similar rate under both RCP8.5 and RCP4.5 in the wood stork's range. Overall, this change will affect the long-term trend in wood stork resiliency. Projected drought and stronger hurricanes will directly impact wetlands and individual colony sites across the wood stork's range. This change could affect nesting both negatively and positively and will contribute to variability in annual nesting success. If available in the future, downscaled climate models for each of the breeding regions could be helpful in predicting localized impacts and developing future management options to support wood stork breeding ecology in each region.

All future scenarios in each breeding region project some impact to wetlands and colonies from sea level rise, and a reduction in the current core foraging area. However, the analysis does not account for suitable habitat created by the same sea level rise conditions that result in the loss of some currently occupied habitat (*i.e.,* we cannot project the width, breadth, or increase in elevation of salt marsh transgression upslope along the land-water interface). Further, these scenarios do not account for how wood storks respond to the changing habitat conditions. For example, while we expect that in some cases individuals displaced by lost habitat may pioneer new colony sites and foraging habitats within the same or other breeding regions, or into new unoccupied areas that contain suitable habitat, our analysis of future condition could not account for these potential outcomes. There are a limited number of wood stork colony losses that have been documented, primarily due to anthropogenic factors (*e.g.,* draining). It appears that these colony losses did not result in losses of individual storks, but rather in individuals not breeding in a given year and/or shifting to nearby sites for breeding in that same or the following year (Service 2021, chapter 6.1.1). Wood storks may shift habitat use in response to future inundation of coastal colonies from sea level rise; therefore, the projected loss of existing colony sites in the following future condition discussion may not result in an equivalent reduction in the number of actual colony sites in the future (but rather a shift in location from current to new colony sites in some cases), or in a reduction in the number of breeding pairs present rangewide.

South Breeding Region Resiliency—Currently, the total area within the South Breeding Region core foraging areas is 7,577,090 acres, which includes 3,840,486 acres (51 percent) of wetlands and 1,367,663 developed acres (18 percent). This breeding region supports 36 colonies, of which 5 are designated as large, persistent colonies.

Under Scenario 1, sea level rise is projected to impact 11 and 14 percent of the wetlands in the core foraging areas by 2050 and 2080, respectively; the area impacted by (and potentially lost to) sea level rise will include 8 (22 percent) of the 36 colony sites. None of the five large, persistent colonies will be impacted by sea level rise in either timeframe. Land conversion will increase from 18 percent to 24 and 30 percent of the core foraging areas under the 2050 and 2080 timeframe projections, respectively; however, as stated previously, habitat does not appear to be a limiting factor for wood stork resiliency. Conservation efforts, such as wetland conservation easements and regulatory mechanisms to avoid/minimize/mitigate impacts to wetlands, remain at least at current levels under Scenario 1, making wood stork resiliency at these colony sites under Scenario 1 similar to that under Scenario 2, and better than that under Scenario 3.

Under Scenario 2, sea level rise is projected to result in loss of 16 and 18 percent of wetlands in the core foraging areas by 2050 and 2080, respectively. Of 36 colony sites, 9 (25 percent) will be impacted by (and potentially lost to) sea level rise in both the 2050 and 2080 timeframe projections. None of the five large, persistent colonies will be impacted by sea level rise in either timeframe. Land conversion in the core foraging areas will increase from 18 percent to 24 percent and 30 percent by 2050 and 2080, respectively. Conservation efforts are maintained under Scenario 2 and reduced under Scenario 3. However, in this breeding region the conservation efforts under Scenario 2 would not likely counteract the other negative influence factors considered (*e.g.,* habitat loss due to sea level rise and development trends); therefore, conservation efforts would be unlikely to significantly affect the overall future condition of the South Breeding Region between Scenarios 2 and 3. Overall, we expect resiliency in this breeding region to decline to some degree under all three future scenarios.

Central Breeding Region Resiliency—Currently, the total area within the Central Breeding Region core foraging areas is 8,270,482 acres, which includes 2,302,543 acres (28 percent) of wetlands and 2,045,622 developed acres (25 percent). This breeding region includes 48 colonies, of which 3 are designated as large, persistent colonies.

Under Scenario 1, sea level rise is projected to impact 7 and 9 percent of the wetlands in the core foraging areas by the 2050 and 2080 future timeframe projections, respectively; the area impacted (and therefore potentially lost to) by sea level rise will include 10 (21 percent) of the 48 colony sites in the 2050 projection, and 13 (27 percent) of the 48 colony sites in the 2080 projection. One of the three large, persistent colonies (33 percent) will be impacted by (and potentially lost to) sea level rise in both future timeframe projections. Land conversion will increase from 25 percent to 32 and 39 percent of the core foraging areas under the 2050 and 2080 timeframe projections, respectively. Conservation efforts are maintained at least at current levels under Scenario 1, making wood stork resiliency at these colony sites under Scenario 1 similar to that under Scenario 2 and better than that under Scenario 3.

Under Scenario 2, sea level rise is projected to result in losses of 10 and 12 percent of wetlands in the core foraging areas by 2050 and 2080, respectively. Of the 48 colony sites, 13 (27 percent) and 16 (33 percent) are projected to be impacted by (and potentially lost to) sea level rise by 2050 and 2080, respectively. One of the three large, persistent colonies will be impacted by (and potentially lost to) sea level rise in both future timeframe projections. Land conversion in the core foraging areas will increase from 25 percent to 32 percent and 39 percent by 2050 and 2080, respectively. Conservation efforts are maintained under Scenario 2 and reduced under Scenario 3. In the Central Breeding Region, conservation efforts under Scenario 2 would partially offset negative influence factors, resulting in slightly better wood stork resiliency at colony sites under Scenario 2 when compared with Scenario 3. Overall, we expect resiliency in this breeding region to decline to some degree under future Scenarios 1 and 2, and slightly more so under future Scenario 3.

Northwest Breeding Region Resiliency—Currently, the total area within the Northwest Breeding Region core foraging areas is 5,306,878 acres, which includes 1,286,773 acres (24 percent) of wetlands and 397,523 developed acres (7 percent). This breeding region includes 30 colonies, of which one is designated a large, persistent colony.

Under Scenario 1, sea level rise is projected to impact 4 and 6 percent of the wetlands in the core foraging areas by 2050 and 2080, respectively; the area impacted by sea level rise will not include any of the 30 colony sites in either future timeframe projection. The one large, persistent colony in this region will not be impacted by sea level rise in either future timeframe projection. Land conversion will increase from 8 percent to 15 and 22 percent of the core foraging areas under the 2050 and 2080 timeframe projections, respectively. Conservation efforts are at least at current levels under Scenario 1, making wood stork resiliency at these colony sites under Scenario 1 similar to that under Scenario 2 and better than that under Scenario 3.

Under Scenario 2, sea level rise is projected to result in the loss of 8 percent of wetlands in the core foraging areas in both future time projections. Of the 30 colony sites, none are projected to be impacted by sea level rise by 2050, and one is projected to be impacted by (and potentially lost to) sea level rise by 2080. The one large, persistent colony will not be impacted by sea level rise in either future timeframe projection. Land conversion in the core foraging areas will increase from 8 percent to 15 percent and 22 percent by 2050 and 2080, respectively; though suitable habitat is widely available, and it does not appear that habitat is a limiting factor for wood stork resiliency. Conservation efforts are maintained at least at current levels under Scenario 1 and Scenario 2, and reduced under Scenario 3. However, in this breeding region conservation efforts would not likely counteract the other negative influence factors considered (*e.g.,* habitat loss due to sea level rise and development trends), and, therefore, conservation efforts would be unlikely to significantly affect the overall future condition of the Northwest Breeding Region among the three future scenarios. Overall, we expect resiliency in this breeding region to remain stable under future Scenario 1, and to decline to a minor degree under future Scenarios 2 and 3.

Northeast Breeding Region Resiliency—Currently, the total area within the Northeast Breeding Region core foraging areas is 9,204,711 acres, which includes 3,607,715 acres (39 percent) of wetlands and 1,034,357 developed acres (11 percent). This breeding region includes 76 colonies, of which 6 are designated large, persistent colonies.

Under Scenario 1, sea level rise is projected to impact 33 and 37 percent of the wetlands in the core foraging areas by 2050 and 2080, respectively; the area impacted by (and potentially lost to) sea level rise will include 4 (5 percent) of the 76 colony sites in the 2050 projection, and 15 (20 percent) of the 76 colony sites in the 2080 projection. None of the large, persistent colonies in this region will be impacted by sea level rise in either future timeframe projection. Land conversion will increase from 11 percent to 16 and 21 percent of the core foraging areas under the 2050 and 2080 timeframe projections, respectively. Conservation efforts are maintained at least at current levels under Scenario 1, making wood stork resiliency at these colony sites under Scenario 1 similar to that under Scenario 2 and better than that under Scenarios 3.

Under Scenario 2, sea level rise is projected to result in losses of 37 and 41 percent of wetlands in the core foraging areas by 2050 and 2080, respectively; the area impacted by (and therefore potentially lost to) sea level rise will include 15 (20 percent) of the 76 colony sites in the 2050 projection, and 43 (57 percent) of the 76 colony sites in the 2080 projection. None of the large, persistent colonies will be impacted by sea level rise by 2050, but 2 of the 6 (33 percent) will be impacted by (and potentially lost to) sea level rise by the 2080 future timeframe projection. Land conversion in the core foraging areas will increase from 11 percent to 16 percent and 21 percent by 2050 and 2080, respectively. Conservation efforts are maintained under Scenario 2 and reduced under Scenario 3. However, in this breeding region, the conservation efforts under Scenario 2 would not likely counteract the other negative influence factors considered (*e.g.,* habitat loss due to sea level rise and development trends); therefore, conservation efforts would be unlikely to significantly affect the overall future condition in the Northeast Breeding Region between Scenarios 2 and 3. Overall, we expect resiliency to decline to some degree in this breeding region under future Scenario 1, and more so under future Scenarios 2 and 3.

Future Redundancy

Overall, the future scenarios project either the continuation of current conditions or some deteriorated conditions within each of the four breeding regions. We project that overall wood stork breeding conditions will be adequate and all of the breeding regions (as currently defined) will be maintained despite varying degrees of potential habitat loss, conversion, or degradation; effects from climate change, such as changing precipitation patterns and prolonged droughts; reduced reproductive success; and increased mortality in eggs and young. We expect that each breeding region will maintain at least one large, persistent nesting colony and several other colonies, and that there will be no major reduction in the wood stork's overall range even with some habitat loss due to sea level rise. No extirpation of any of the breeding regions is anticipated. Local losses of current core foraging habitat due to environmental, anthropogenic, or stochastic changes at currently occupied colony sites and foraging areas are likely to continue to displace some individuals (as has occurred in the past). However, we expect that the Southeast U.S. DPS of the wood stork will also likely continue its trend of population growth and range shift or expansion into existing nearby suitable habitat and to new colony sites to replace colonies that are impacted or otherwise rendered unsuitable, leading to the continuation of all four existing breeding regions into the future. Thus, despite lowered resiliency at some occupied sites given certain future scenarios under consideration, we expect that the wood stork will maintain its current level of redundancy in the Southeast U.S. DPS.

Future Representation

No behavioral, genetic, morphological, or observable variations have been described within or among the breeding regions in the Southeast U.S. DPS of the wood stork. However, current representation is thought to be high due to the wood stork's historically demonstrated ability to continuously respond to changing habitat conditions and maintain and increase abundance while expanding its range northward. If current trends continue, it would be expected that the wood stork's range will continue to shift and expand. The large majority of the breeding range, which extends across four States, is predicted to maintain resiliency into the future, and thus we expect that the wood stork will continue to be represented within the southeastern U.S. coastal plain within the current range of Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina. However, any decrease in future resiliency in populations could translate to a modest loss of representation (*i.e.,* decreased resiliency may result in fewer individuals, which provide less opportunity for diversity). Regardless, the wood stork has exhibited a proclivity to respond to historical changes, so despite potential losses in resiliency within the four breeding regions and the associated implications for representation, we expect that representation will remain relatively high among breeding regions in each of the future scenarios we considered.

Determination of the Southeast U.S. DPS of the Wood Stork's 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 an endangered species or a threatened species. The Act defines an ''endangered species'' as a species in danger of extinction throughout all or a significant portion of its range, and a ''threatened species'' as a species 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 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.

Status Throughout All of Its Range

After evaluating threats to the wood stork and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that, based on the best available information, the wood stork in the Southeast U.S. DPS is not in danger of extinction now throughout all of its range.

Currently, all four wood stork breeding regions are either increasing or stable in the number of nesting pairs and are in an overall moderate to high condition based on demographic measures including productivity; large, persistent colonies; and abundance. Thus, the wood stork exhibits adequate resiliency in all of the breeding regions.

There are more than 3.5 times the number of wood stork breeding colonies in existence today as there were at the time of listing (103 now compared to 29 in 1984), indicating that redundancy in the population has been increasing over time. There are currently over 100 colonies spread throughout the Southeast U.S. DPS of the wood stork's historical range and beyond, making it unlikely that a single catastrophic event could threaten the existence of the species in this DPS, and indicating that redundancy in the wood stork population is adequate.

The shift in concentration of the wood stork population from primarily south Florida northward into Georgia, South Carolina, and North Carolina since the 1980s makes the population more resilient, as it is now less dependent on one geographical area and ecotype. Further, wood storks are now exploiting many more types of foraging and breeding habitats than they did historically, including coastal salt marsh and manmade wetlands in addition to inland freshwater wetlands, and they are using both native and exotic vegetation as nesting substrate, and foraging on native, exotic, and novel prey items. Coastal salt marsh is abundant throughout the southeastern United States and provides a more consistently reliable food source year-round than does the inland freshwater wetland habitat upon which the population was dependent historically. The wood stork's shift from dependence primarily on freshwater wetlands during the breeding season to use of coastal salt marsh as well means that it is less reliant on favorable climate and weather patterns, and less vulnerable to unfavorable anthropogenic influences, all which influence the seasonal hydrological cycles that dictate prey availability in inland freshwater wetland ecosystems. All of these factors indicate high adaptive capacity and, therefore, adequate representation within the population.

Further, conservation and favorable management have increased since the time of listing in 1984, and many regulated wetlands are now being managed in ways that allow for public water management goals to be met while also providing suitable conditions for wood stork breeding and foraging. With moderate to high resiliency in each breeding region, and adequate redundancy and representation in the Southeast U.S. DPS of the wood stork, the wood stork is not currently in danger of extinction throughout the DPS's range.

We next considered whether the Southeast U.S. DPS of the wood stork is likely to become in danger of extinction throughout its range in the foreseeable future. We determined the foreseeable future to be 60 years from present because that is the timeframe in which we can reliably predict both the threats to the wood stork and the wood stork's response. Two time-steps (30 years from present and 60 years from present) were considered for the future condition analysis. These time-steps are within the predictive range of the model used to project future development for the southeastern U.S. coastal plain (Terando et al. 2014, entire) and are also within the climate change forecasts (Sweet et al. 2017, entire) that cover the southeastern United States. Biologically, the 30- and 60-year timeframes cover 7 and 15 wood stork generations, respectively, and thus allow for adequate time to predict a population response to the influence factors we analyzed.

Climate change (Factor E) is likely to lead to increased hurricane intensity and changes to precipitation patterns in the future, but these impacts are likely to vary locally and the wood stork's response to these changes could be positive, negative, or both. Projections of increased temperature may lead to increased evaporative deficit and greater potential for drought-like conditions, which over time would likely reduce resiliency of wood stork populations to some degree, although these effects would likely vary locally. In addition, sea level rise will displace wood storks from some of their currently occupied habitat in the future. However, sea level rise will also create new salt marsh habitat that wood storks will be able to exploit. Further, habitat does not appear to be a limiting factor, as there is an abundance of suitable freshwater wetland and salt marsh habitat available that is not yet being used by the expanding wood stork population. The southeastern United States has nearly 48 million acres of palustrine and estuarine wetlands; this is by far more than any other region of the country and accounts for more than 43 percent of the nation's palustrine and estuarine wetlands (Sucik and Marks 2015, p. 11). Most of these wetland acres in the southeastern U.S. are located in the coastal plain, and currently the core foraging areas that support the active wood stork colonies include over 11 million acres of suitable foraging wetland habitat (Service 2021, p. 129). Thus, while sea level rise will render some currently occupied habitat unusable for wood storks, there will likely be an adequate amount of additional unoccupied suitable habitat available for use even under scenarios of future sea level rise.

We now know that there is a fair amount of plasticity that exists within this species, with some individuals readily responding to environmental conditions by employing facultative migration and optimizing use of breeding and foraging habitat within and among colony sites, breeding regions, and breeding years. This behavioral flexibility suggests that the species will have the ability to adjust to changing habitat conditions into the future, just as they do now and have done historically in response to anthropogenic changes to the Everglades. Thus, wood storks in the Southeast U.S. DPS are expected to be able to tolerate future shifts in suitable habitat caused by climate change.

Besides climate change, habitat conversion due to urbanization (Factor A) is the other population-level threat to the wood stork. Land use modeling shows that urban expansion and development will continue to impact currently occupied habitat to a similar degree throughout the range of the wood stork. However, conservation efforts are expected to help to mitigate this threat.

Regulatory and voluntary conservation programs are currently underway that benefit wood stork foraging and breeding habitat, and include efforts to maintain and protect existing wetlands, acquire new wetland habitat for maintenance and protection, create new wetland habitat, and restore previously impacted habitat. There are many Federal laws and regulations for the restoration, management, and protection from degradation and destruction of wetland resources (Votteler and Muir 2002, entire), including, but not limited to, the Clean Water Act, National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd–668ee), North American Wetlands Conservation Act of 1989 (16 U.S.C. 4401 *et seq.*), and Coastal Zone Management Act of 1972 (16 U.S.C. 1451 *et seq.*).

Even in the absence of the Act's protections, as a wetland dependent species, wood storks will continue to benefit from wetland restoration and protection. For example, the Comprehensive Everglades Restoration Plan (CERP), authorized by the Water Resources Development Act of 2000 (33 U.S.C. 2201 *et seq.*), remains among the highest national conservation priorities for the Service. The CERP includes performance goals for wood storks, such as achieving 1,500 to 3,000 nesting pairs annually and ensuring that the initiation of breeding is no later than January each year (to maximize productivity). As such, this unique Federal/State partnership drives Everglades and Big Cypress restoration efforts, and we anticipate will continue to facilitate an increasingly robust wood stork breeding population in the future.

The wood stork's past and continued recovery is owed in part to conservation efforts to protect and restore wetlands. Because many of these conservation efforts are aimed at wetland protection and restoration, and therefore unrelated to species-specific protections, we expect that they will continue to benefit the Southeast U.S. DPS of the wood stork into the foreseeable future regardless of its status under the Act.

Further, the wood stork's increased use of urban and suburban environments, and human-made and -altered wetlands, indicates that the wood stork is more likely to tolerate at least some degree of urbanization more than species that rely more exclusively on relatively unaltered natural ecosystems.

We anticipate that the wood stork's positive population growth rate will continue into the near future. We expect wood storks will continue to pioneer new colonies within the four breeding regions, and the expansion of the breeding range will continue. As such, we expect that the wood stork will maintain robust (sufficiently resilient) breeding colonies comparable in size and distribution to those that exist today in each of the breeding regions, across and beyond its historical range (redundancy), and continue to demonstrate high adaptive capacity (representation) by making use of ecological and behavioral plasticity in order to optimize survival and productivity now and into the future despite varying degrees of threats due to habitat loss and climate change. Thus, after assessing the best available information, we conclude that the wood stork is not in danger of extinction now or likely to become so in the foreseeable future throughout all of its range.

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. Having determined that the wood stork is not in danger of extinction or likely to become so in the foreseeable future throughout all of its range, we now consider whether it may be in danger of extinction (*i.e.,* endangered) or likely to become so in the foreseeable future (*i.e.,* threatened) in a significant portion of its range—that is, whether there is any portion of the wood stork's range for which it is true that both (1) the portion is significant; and (2) the species is in danger of extinction or likely to become so in the foreseeable future 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 wood stork's range.

In undertaking this analysis for the listed entity of wood stork, we choose to address the status question first. We began by identifying portions of the range where the biological status of the species may be different from its biological status elsewhere in its range. For this purpose, we considered information pertaining to the geographic distribution of (a) individuals of the species, (b) the threats that the species faces, and (c) the resiliency condition of populations.

We evaluated the range of the wood stork to determine if it is in danger of extinction now or likely to become so in the foreseeable future in any portion of its range. Because the range of a species can theoretically be divided into portions in an infinite number of ways, we focused our analysis on the four wood stork breeding regions described in the SSA report (Northwest, Northeast, Central, and South) (Service 2021, chapter 3.2).

At the outset we note that, while the wood stork recovery targets originally established in the recovery plan have been met or exceeded in the Northwest, Northeast, and Central breeding regions, they have not all been met in the South Breeding Region. However, these recovery targets were developed at a time when it was believed that the status of the Southeast U.S. DPS of the wood stork as a whole largely depended on this region. As previously described, we now know that the wood stork is much less dependent on the South Breeding Region, and, as such, these targets may no longer represent the best available science now that the wood stork has expanded its range substantially and is thriving in more abundant habitat types such as salt marsh. Further, even though productivity in the South Breeding Region is slightly under the target identified in the recovery plan, this metric is stable and would not indicate a different status for the individuals that breed in the South Breeding Region (*i.e.,* would not indicate that the individuals that breed in that portion of the range would be at risk of extinction now or in the foreseeable future).

We also considered whether the threats or their effects on the wood stork are greater in any portion of its range than in other portions such that the wood stork is in danger of extinction now or likely to become so in the foreseeable future in that portion. We examined the following threats and influence factors: climate change, urbanization (land conversion), and regulatory and voluntary conservation efforts, including cumulative effects.

Climate change is projected to result in warmer temperatures, increased precipitation, increased evaporative deficits (drought-like conditions), and increased intensity of hurricanes, but the effects of these factors on the resiliency of the wood stork are expected to vary locally depending on ecological conditions and landscape attributes at each colony site. While downscaled climate models may in some cases provide higher confidence projections for localized effects, they are not available for comparison across all of the wood stork's distribution. Instead, projections for climate variables that are available for comparison across all colony sites are at the scale of the South Atlantic–Gulf Region, which includes the entirety of the wood stork's current U.S. distribution. We consider this regional climate projection to be the best available scientific information regarding the potential effects of climate change that may affect the wood stork in this region. As such, our analysis of these projections does not indicate that any one portion of the wood stork's range will be more impacted by the effects of increasing temperatures, changes in precipitation patterns, and drought-like conditions than any other.

Sea level rise projections are similar across the range of the wood stork, with an increase of 1 to 2 or 3 feet expected by 2050 across all breeding regions, and 3 to 5 or 6 feet expected by 2080 across all breeding regions, depending on whether the intermediate or high sea level rise scenario is considered. While sea level rise projections may be similar throughout the wood stork's range, impacts to wood stork resiliency are expected to be most pronounced in the Northeast Breeding Region, as it is in closer proximity to the coastline when compared to the other breeding regions. Tidal freshwater marshes will shift and possibly decline in size as saltwater intrudes and brackish marshes migrate inland to replace them. Some currently occupied wood stork habitat will be lost as sea level rises, but new habitat may also become available. Given the wood stork's tendency to shift both geographically and behaviorally in order to take advantage of optimum breeding and foraging conditions, and the abundance of unoccupied suitable habitat that still exists in this region, it is likely that the Northeast Breeding Region will remain sufficiently resilient, and a valuable and productive part of the wood stork's distribution into the future. As such, despite changes to habitat that result from sea level rise, we do not expect individuals in this breeding region to be in danger of extinction now or in the foreseeable future.

Models project that urbanization and land conversion will continue to occur into the future across the range of the wood stork, and impacts will be relatively evenly distributed among breeding regions. Specifically, the urbanization model projects that under the worst-case future scenarios and over the longest timeframe (to 2080), developed areas within the core foraging areas will increase by a maximum of 10 to 14 percentage points depending on the breeding region (*i.e.,* increasing from 18 to 30 percent in the South Breeding Region, from 25 to 39 percent in the Central Breeding Region, from 8 to 22 percent in the Northwest Breeding Region, and from 11 to 21 percent in the Northeast Breeding Region). As such, no one area of the wood stork's range will be impacted significantly more by urbanization than any other. Regulatory and voluntary conservation efforts that help mitigate the impacts of urbanization are also well distributed across the range of the wood stork, and multiple examples of ongoing efforts in all four breeding regions can be found in the SSA report (Service 2021, chapter 5.1.4).

In general, while the degree to which threats such as sea level rise and urbanization will impact the wood stork varies to some extent at different locations, the populations within the various locations are stable or increasing, and we project these trends to continue in the foreseeable future. Additionally, the Southeast U.S. DPS of the wood stork consists of a single, genetically undifferentiated population where a proportion of the individuals move between and among breeding colonies and breeding regions, both inter- and intra-annually. The fluid nature of the wood stork population across its range means that even if certain colony sites or geographical areas experience an increase in exposure to a certain threat at a given time and location, the movement of individuals among colony sites throughout the range would prevent any one group of individuals from being disproportionately affected.

We found no portion of the wood stork's range where threats are impacting individuals differently from how they are affecting individuals elsewhere in its range, such that the status of the wood stork in that portion differs from its status in any other portion of its range. Therefore, we find that the wood stork is not in danger of extinction now or likely to become so in the foreseeable future in any significant portion of its range. This does not conflict with the courts' holdings in *Desert Survivors* v. *Department of the Interior,* 321 F. Supp. 3d 1011, 1070–74 (N.D. Cal. 2018) and *Center for Biological Diversity* v. *Jewell,* 248 F. Supp. 3d, 946, 959 (D. Ariz. 2017) because, in reaching this conclusion, we did not apply the aspects of the Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species" (79 FR 37578; July 1, 2014), including the definition of "significant" that those court decisions held to be invalid.

Determination of Status

Our review of the best available scientific and commercial information indicates that the Southeast U.S. DPS of the wood stork does not meet the definition of an endangered species or a threatened species in accordance with sections 3(6) and 3(20) of the Act. In accordance with our regulations at 50 CFR 424.11(e)(2) currently in effect, the Southeast U.S. DPS of the wood stork does not meet the definition of an endangered or a threatened species. Therefore, we propose to remove the Southeast U.S. DPS of the wood stork from the Federal List of Endangered and Threatened Wildlife.

Effects of This Proposed Rule

This proposal, if made final, would revise 50 CFR 17.11(h) by removing the Southeast U.S. DPS of the wood stork from the Federal List of Endangered and Threatened Wildlife. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would no longer apply to this DPS. Federal agencies would no longer be required to consult with the Service under section 7 of the Act in the event that activities they authorize, fund, or carry out may affect the wood stork. There is no critical habitat designated for the wood stork, so there would be no effect to 50 CFR 17.95.

Post-Delisting Monitoring

Section 4(g)(1) of the Act requires us, in cooperation with the States, to implement a monitoring program for not less than 5 years for all species (which includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature; see 16 U.S.C. 1532(16)) that have been delisted due to recovery. Post-delisting monitoring (PDM) refers to activities undertaken to verify that a species delisted due to recovery remains secure from the risk of extinction after the protections of the Act no longer apply. The primary goal of PDM is to monitor the species to ensure that its status does not deteriorate, and if a decline is detected, to take measures to halt the decline so that proposing it as endangered or threatened is not again needed. If at any time during the monitoring period data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing.

Section 4(g) of the Act explicitly requires that we cooperate with the

States in development and implementation of PDM programs. However, we remain ultimately responsible for compliance with section 4(g) and, therefore, must remain actively engaged in all phases of PDM. We also seek active participation of other entities that are expected to assume responsibilities for the species' conservation after delisting.

We will coordinate with other Federal agencies, State resource agencies, interested scientific organizations, and others as appropriate to develop and implement an effective PDM plan for the wood stork. The PDM plan will build upon current research and effective management practices that have improved the status of the wood stork since listing. Ensuring continued implementation of proven management strategies that have been developed to sustain the wood stork will be a fundamental goal for the PDM plan. The PDM plan will identify measurable management thresholds and responses for detecting and reacting to significant changes in wood stork numbers, distribution, and persistence. If declines are detected equaling or exceeding these thresholds, the Service, in combination with other PDM participants, will investigate causes of these declines. The investigation will be to determine if the wood stork warrants expanded monitoring, additional research, additional habitat protection, or resumption of Federal protection under the Act. We will draft the PDM plan and will notify the public on our website, *https://www.fws.gov/office/florida-ecological-services,* when it is available. Copies will also be available from the U.S. Fish and Wildlife Service, Florida Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**, above). We anticipate finalizing a PDM plan at the time of making a final determination on this proposed delisting rule.

Required Determinations

Clarity of the Rule

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

(1) Be logically organized;
(2) Use the active voice to address readers directly;
(3) Use clear language rather than jargon;
(4) Be divided into short sections and sentences; and
(5) Use lists and tables wherever possible.

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

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

On June 20, 2019, the Service published in the **Federal Register** (84 FR 28850) a notice of initiation of a 5-year review for the U.S. breeding population of the wood stork and requested new information that could have a bearing on the status of this DPS. On November 21, 2019, the Service informed the affected Tribes that we had initiated the SSA process, and we invited them to participate in the development of the wood stork SSA. On February 1, 2021, the Service contacted the affected Tribes with an opportunity to review the draft SSA report. We will continue to work with Tribal entities during the development of a final listing determination for the wood stork.

References Cited

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

Authors

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

List of Subjects in 50 CFR Part 17

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

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.

§ 17.11 [Amended]

■ 2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife by removing the entry for ''Stork, wood [Southeast U.S. DPS]'' under ''Birds''.

Stephen Guertin,

Acting Director, U.S. Fish and Wildlife Service.

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