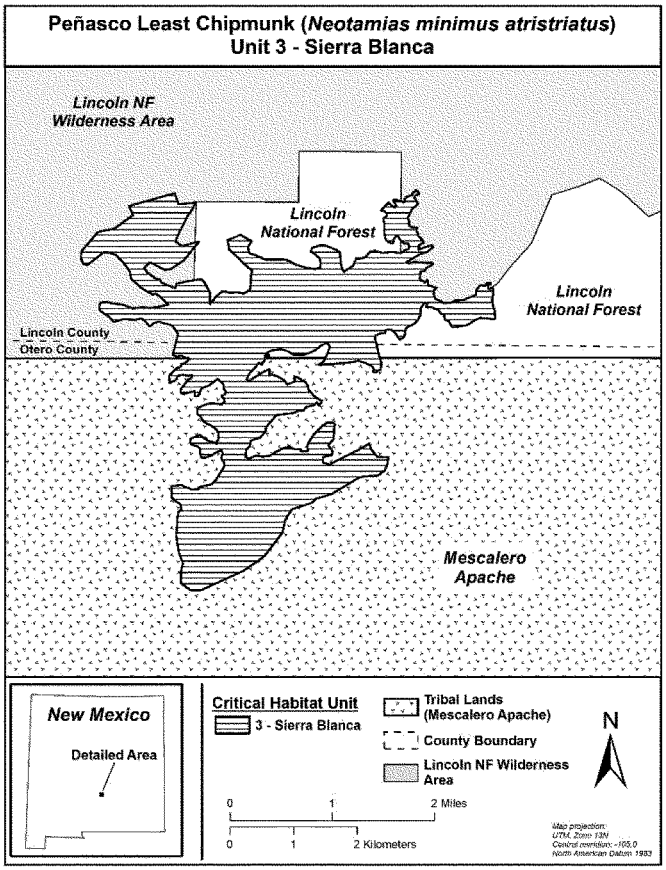

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Martha Williams,

Principal Deputy Director, Exercising the Delegated Authority of the Director, U.S. Fish and Wildlife Service.

[FR Doc. 2021–20934 Filed 9–27–21; 8:45 am]

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2020–0015; FF09E21000 FXES11110900000 212]

RIN 1018–BD20

Endangered and Threatened Wildlife and Plants; Endangered Status for South Llano Springs Moss and Designation of Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the South Llano Springs moss (*Donrichardsia macroneuron*), an aquatic moss species from Texas, as an endangered species and to designate critical habitat under the Endangered Species Act of 1973, as amended (Act). After a review of the best available scientific and commercial information, we find that listing the species is warranted. This determination also serves as our 12-month finding on a petition to list the South Llano Springs moss. Accordingly, we propose to list the South Llano Springs moss as an endangered species. If we finalize this rule as proposed, it would add this species to the list of Endangered and Threatened Plants and extend the Act's protections to the species. We also propose to designate critical habitat for the South Llano Springs moss under the Act. In total, approximately 0.19 hectares (0.48 acres) in Edwards County, Texas, fall within the boundaries of the proposed critical habitat designation. We also announce the availability of a draft economic analysis (DEA) of the proposed designation of critical habitat for the South Llano Springs moss.

DATES: We will accept comments received or postmarked on or before November 29, 2021. 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 a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by November 12, 2021.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter the docket number or RIN for this rulemaking (presented above in the document headings). For best results, do not copy and paste either number; instead, type the docket number or RIN into the Search box using hyphens. 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–R2–ES–2020–0015, U.S. Fish and Wildlife Service, MS: JAO/1N, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

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

Information Requested, below, for more information).

Availability of supporting materials: For the critical habitat designation, the draft economic analysis and the coordinates or plot points or both from which the maps are generated are included in the administrative record and are available at the Service's internet site at *https://www.fws.gov/southwest/es/AustinTexas/* and at *http://www.regulations.gov* under Docket No. FWS–R2–ES–2020–0015. Any additional tools or supporting information that we may develop for the critical habitat designation will also be available at the Service website and field office set out above, and may also be included in the preamble and/or at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Adam Zerrenner, Field Supervisor, U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, 10711 Burnet Road, Suite 200, Austin, TX 78758; telephone 512–490–0057. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, if we determine that a species may be an endangered or threatened species throughout all or a significant portion of its range, we are required to promptly publish a proposal in the **Federal Register** and make a determination on our proposal within 1 year. To the maximum extent prudent and determinable, we must designate critical habitat for any species that we determine to be an endangered or threatened species under the Act. Listing a species as an endangered or threatened species and designation of critical habitat can only be completed by issuing a rule.

What this document does. We propose to list the South Llano Springs moss as an endangered species under the Act, and we propose to designate critical habitat for the species on approximately 0.19 hectares (ha) (0.48 acres (ac)) in Edwards County, Texas.

The basis for our action. Under the Act, we may determine that a species is an endangered or 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. We have determined that increased groundwater pumping from the Edwards-Trinity aquifer that supplies water for the springs that the South Llano Springs moss is dependent on, as well as flash floods, sedimentation, invasive plant species, small population size, a single population, and lack of genetic diversity, and cumulative impacts from these threats, threaten this plant species to the degree that listing it as an endangered species under the Act is warranted.

Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary) to designate critical habitat concurrent with listing to the maximum extent prudent and determinable. Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protections; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impacts of specifying any particular area as critical habitat.

We prepared a draft economic analysis of the proposed designation of critical habitat. In order to consider economic impacts, we prepared an analysis of the economic impacts of the proposed critical habitat designation. We hereby announce the availability of the draft economic analysis and seek public review and comment.

Peer review. In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we sought the expert opinions of four appropriate specialists regarding the species status assessment report. We received a response from one specialist, which informed this proposed rule. The purpose of peer review is to ensure that our listing determination and critical habitat designation are based on scientifically sound data, assumptions, and analyses. The peer reviewers we contacted have expertise in the biology, habitat, and threats to the species.

Because we will consider all comments and information we receive during the comment period, our final determinations may differ from this proposal. Based on the new information we receive (and any comments on that new information), we may conclude that the species is threatened instead of endangered, or we may conclude that the species does not warrant listing as either an endangered species or a threatened species. Such final decisions would be a logical outgrowth of this proposal, as long as we: (a) Base the decisions on the best scientific and commercial data available after considering all of the relevant factors; (2) do not rely on factors Congress has not intended us to consider; and (3) articulate a rational connection between the facts found and the conclusions made, including why we changed our conclusion.

Information Requested

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

We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) Factors that may affect the continued existence of the species, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors.

(3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species and existing regulations that may be addressing those threats.

(4) Additional information concerning the historical and current status, range, distribution, and population size of this

species, including the locations of any additional populations of this species.

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

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

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

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

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

(6) Specific information on:

(a) The amount and distribution of the South Llano Springs moss habitat;

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

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

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

(i) Regarding whether occupied areas are adequate for the conservation of the species; and

(ii) Providing specific information regarding whether or not unoccupied areas would, with reasonable certainty, contribute to the conservation of the species and contain at least one physical or biological feature essential to the conservation of the species.

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

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

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

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

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

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

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

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

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

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

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. For the immediate future, we will provide these public hearings using webinars that will be announced on the Service's website, in addition to the **Federal Register**. The use of these virtual public hearings is consistent with our regulation at 50 CFR 424.16(c)(3).

Previous Federal Actions

On June 18, 2007, we received a formal petition from Forest Guardians (later named WildEarth Guardians) to list 475 species in the southwestern United States, including the South Llano Springs moss, as endangered or threatened species under the Act. On March 19, 2008, WildEarth Guardians filed a complaint that the Service failed to comply with the mandatory duty to make a preliminary 90-day finding. On January 6, 2009, we published in the **Federal Register** (74 FR 419) a 90-day finding that the petition did not present sufficient information to indicate that listing the South Llano Springs moss may be warranted. On December 16, 2009, we published a new 90-day finding, based on a re-evaluation of the information presented in the petition and readily available in our files, that the petition provided substantial information indicating that listing of the South Llano Springs moss may be warranted based on the present or threatened destruction, modification, or curtailment of habitat or range as a result of drought or changes in hydrology (74 FR 66866).

Supporting Documents

A species status assessment (SSA) team prepared an SSA report for the South Llano Springs moss. 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 species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species. The Service sent the SSA report to four independent peer reviewers and

received one response. The Service also sent the SSA report to partners, including scientists with expertise with this species, for review. We received one review from the Texas Parks and Wildlife Department.

I. Proposed Listing Determination

Background

The South Llano Springs moss is an aquatic moss that grows on submerged or partially submerged rocks. The deep, loosely interwoven mats are blue-green to blackish-brown when shaded and yellow-green when exposed to full sun. Like all mosses, the South Llano Springs moss forms clonal colonies of leaf-bearing stems.

The South Llano Springs moss has an extremely limited range: It has only been documented in two locations and is thought to be extirpated from one of those. The remaining extant site is from Seven Hundred Springs, on the South Llano River in Edwards County, Texas. The extirpated site, referred to as the Redfearn site, was about 5 kilometers (km) (3.1 miles (mi)) downstream from Seven Hundred Springs in Kimble County, Texas, though the exact location is unknown. Both sites occur within the Edwards Plateau. Wyatt and Stoneburner (1980, pp. 514, 516) visited 10 other springs in the Llano and South Llano River watersheds in 1978 and 1979, but found no additional populations.

The South Llano Springs moss was discovered at Seven Hundred Springs in 1932, and was most recently confirmed there in 1979 (Wyatt and Stoneburner 1980, entire). When last observed, the South Llano Springs moss was abundantly dispersed in the spring outflow, partially submerged in shaded areas within an area of about 10 by 100 meters (m) (33 by 328 feet (ft)) between the springs and the river below on privately owned land (Wyatt and Stoneburner 1980, p. 516). Observation of the habitat from the opposite side of the river in 2017 indicated that the habitat appears to be in excellent condition (Service 2017, entire). This is the best available information we have for this site; consequently, we consider the Seven Hundred Springs population to be extant. The South Llano Springs moss was last documented at the Redfearn site in 1971. The two specimen labels from these collections state that they were collected ''1 mile south of Telegraph'' with one specimen collected on a dam and the other from limestone at the edge of the creek. On topographic maps, Telegraph is a location consisting of a single store that is not directly along the river; however, there is a road connecting Telegraph to the South Llano River with a bridge, and this may be the location from which Redfearn was measuring. Due to the vague location description, there is uncertainty around the exact location of the Redfearn site. In 2017, we conducted surveys along 5.7 km of the South Llano River, including the 2.25 km in which we believe Redfearn collected his specimens. All aquatic moss species encountered were collected and a sample of each of the four species encountered was sent to a bryologist at the Missouri Botanical Garden for identification. None of the species collected were found to be the South Llano Springs moss. This is the best available information we have for this site; consequently, we consider the Redfearn population to be extirpated. It is possible that the species does not occur anywhere else. However, few surveys for this species have been conducted. Consequently, it is possible that this species occurs elsewhere along Paint Creek or the South Llano River. The best available data indicate that only the Seven Hundred Springs population persists.

A thorough review of the taxonomy, life history, and ecology of the South Llano Springs moss is presented in the SSA report (version 1.1; Service 2018, entire).

Regulatory and Analytical Framework

Regulatory Framework

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 is an ''endangered species'' or a ''threatened species.'' 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.

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 expected response by the species, 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 the Services can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. ''Reliable'' does not mean ''certain''; it means sufficient to

provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

It is not always possible or necessary to define 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 status review for the species, including an assessment of the potential threats to the species. The SSA report does not represent a decision by the Service on whether the species should be proposed for listing as an endangered or threatened species under the Act. It does, however, 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. The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found on *http://www.regulations.gov* under Docket FWS–R2–ES–2020–0015.

To assess the viability of the South Llano Springs moss, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency supports the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years), redundancy supports the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation supports the ability of the species to adapt over time to long-term changes in the environment (for example, climate changes). In general, the more resilient and redundant a species is and the more representation it has, the more likely it is to sustain populations over time, even under changing environmental conditions. Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

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

Summary of Biological Status and Threats

In this section, we review the biological condition of the species and its resources, and the threats that influence the species' current and future condition, in order to assess the species' overall viability and the risks to that viability.

Based on the conditions of the only known current and historical populations, the South Llano Springs moss requires a constant flow of mineral-rich spring water or spring-fed river water over shallow limestone rocks. Seven Hundred Springs and the areas thought to contain the Redfearn sites are supported by spring flows within the Edwards-Trinity aquifer and the South Llano River watershed (Seven Hundred Springs and Big Paint Springs). These springs have never ceased flowing in recorded history. Water from these springs emerges at a very consistent temperature and is rich in travertine minerals. Rocks and plants immersed in the upper South Llano River quickly become encrusted with travertine- or tufa-like mineral deposits, to an unusual degree not seen in most springs in the Edwards-Trinity aquifer (Service 2017, p. 2). Thus, it is possible that high mineral concentrations, or the precipitation of minerals from solution, could be requirements for the establishment and growth of South Llano Springs moss individuals.

The water temperature of Seven Hundred Springs was consistently 21.5 degrees Celsius (°C) (70.7 degrees Fahrenheit (°F)) in June, and the pH ranged from 7.0 to 7.2 (Wyatt and Stoneburner 1980, p. 516). The species occurred in both shaded and exposed niches at Seven Hundred Springs (Wyatt and Stoneburner 1980, p. 516). Associated vascular plant species included maidenhair fern (*Adiantum capillus-veneris*), southern shield fern (*Thelypteris kunthii*), watercress (*Nasturtium officinale*), and members of the mint family (Lamiaceae) and composite family (Asteraceae) (Wyatt and Stoneburner 1980, p. 516). Associated moss species included *Hygroamblystegium tenax* and *Eucladium verticillatum* (Wyatt and Stoneburner 1980, p. 517).

Mosses closely related to the South Llano Springs moss reproduce both sexually and asexually. However, there is no evidence that sexual reproduction is occurring in the single remaining known site of occurrence, as no plants with female reproductive structures were observed in the wild population or during a 16-month propagation study in 1978 and 1979 (Wyatt and Stoneburner 1980, p. 517). The plants cultivated in captivity produced only male reproductive structures. It is possible that the known population may be a clone of a single or a few male individuals and that sexual reproduction is no longer possible for the species.

In addition to the habitat requirements described above, resilient populations of South Llano Springs moss need to be large enough that local stochastic events do not eliminate all individuals, allowing the overall population to recover from any one event. The larger a population is, the greater the chances that a portion of the population will survive. The minimum viable population size is not known for this species. However, the geographic extent is provided from the observations of Wyatt and Stoneburner (1980, p. 516). When last observed, the South Llano Springs moss grew in the spring outflow partially submerged in shaded areas within a 10 m (33 ft) zone between the springs and the river below (Wyatt and Stoneburner 1980, p. 516). We assume that the population could be as large as the spring flow and substrate allow in this zone. The area occupied by a moss population is a practical surrogate for abundance, provided that it is understood that this does not address the number of genetically unique individuals.

Recruitment is also needed for populations to be resilient. The colony at Seven Hundred Springs may be a clone of a single individual, or only male individuals, and is presumed incapable of sexual reproduction (Wyatt and Stoneburner 1980, p. 520). Unless female individuals are present, the colony of South Llano Springs moss at Seven Hundred Springs can persist and grow only through vegetative budding or through the establishment of

fragments that happen to lodge in suitable niches. These mats can expand to occupy new habitats while the portion that established earlier dies. An individual remains alive as long as old stems die no faster than new stems develop. The same individual could migrate back and forth through available habitats for an unlimited period of time, and it is not inconceivable that the individuals we see today arose from spores that germinated many thousands of years ago. For the species to persist, the recruitment of new individuals must equal or exceed mortality.

Wyatt and Stoneburner (1980, pp. 519–520) estimated that the species' range may have been more extensive 10,000 years ago, and subsequently became restricted to this single location as the climate warmed and other springs periodically stopped flowing. To assess the climate changes that could affect this species into the future, we examined the climate parameters using both the representative concentration pathway (RCP) 4.5 and RCP 8.5 scenarios to provide a range of projected values. These models predict that by 2074 climate changes could result in a reduction of aquifer recharge and an increased duration and severity of droughts and heavy rainfall, thereby increasing the threats of interrupted spring flows and flash floods. Annual precipitation is highly variable in central Texas, and severe, multi-year droughts occurred during the 1950s and from 2006 through 2012. During these historical periods of drought, only the largest springs along the South Llano River, including Seven Hundred Springs, continued flowing, but at lower rates. Prolonged drought in combination with increased pumping from the Edwards-Trinity aquifer could increase the probability of interrupted flows of these springs and, consequently, the extirpation or extinction of the South Llano Springs moss. Despite the frequency of prolonged drought, the region is also subject to extremely heavy rainfall, often resulting from tropical storms in the Gulf of Mexico as well as the Pacific Ocean. All of these factors contribute to flash floods (high intensity, low duration floods) that can drastically change stream beds and the surrounding vegetation, potentially scouring the South Llano Springs moss from its rock substrate along the edge of the stream, or burying it beneath deposits of silt, sand, and gravel.

The amount of pumping from the Edwards-Trinity aquifer is one of the most important factors influencing storage in the aquifer and spring flows. Aquifer water levels are stable or have declined slightly over most of the Edwards-Trinity aquifer, but in some areas, heavy pumping has led to long-term declines in aquifer levels and diminished or interrupted spring flows (George *et al.* 2011, p. 35; Region F Water Planning Group 2015, pp. 1–34, 3–15; Plateau Region Water Planning Group 2016, pp. 7–11). These sources project relatively little growth in the human population in Edwards and Kimble Counties during the next 50 years. Conversely, population growth is projected to increase for five central Texas counties, which include the metropolitan areas of San Antonio, New Braunfels, San Marcos, Austin, Round Rock, and Georgetown, by 32 percent between 2017 and 2037, and by 53 percent between 2017 and 2050 (Texas Demographic Center 2017, p. 1). It is reasonably foreseeable that increased pumping may occur from the Edwards-Trinity aquifer for transfer to other regions to supply increased municipal water demands. This increased pumping could reduce water storage in the Edwards-Trinity aquifer and spring flows in the South Llano River. Loss of spring flows, even for a short time, would likely reduce or extirpate the only known remaining population of the South Llano Springs moss because the species requires constant immersion in flowing spring water to persist.

The Upper Llano River Watershed Protection Plan (Broad *et al.* 2016, pp. 51, 64–66, 86) identifies increased runoff, evapotranspiration, and sediment loading as impacts to the upper Llano River watersheds due to the encroachment of woody species. Recharge into the Edwards-Trinity aquifer in Edwards County has been reduced during prior periods of vegetation loss from overgrazing, resulting in increased runoff and the drying of some smaller springs (Brune 1981, p. 173). Aquifer recharge may also have been reduced by the encroachment of brush into formerly grass-dominated uplands (South Llano Watershed Alliance 2012, p. 9; Broad *et al.* 2016, pp. 40–41, 51). Aquifer recharge would also be reduced by an increase in evapotranspiration, due to increased temperatures.

Small populations are less able to recover from losses caused by random fluctuations in recruitment (demographic stochasticity) or variations in spring outflow (environmental stochasticity) (Service 2015, p. 12). In addition to population size, it is likely that population density also influences population viability, as sexual reproduction, if it occurs at all in the species' current situation, requires male and female mosses to be in close proximity. Small, reproductively isolated populations are also susceptible to the loss of genetic diversity, to genetic drift, and to inbreeding (Barrett and Kohn 1991, pp. 3–30). The loss of genetic diversity may reduce the ability of a species or population to resist pathogens and parasites, to adapt to changing environmental conditions, or to colonize new habitats. The combined demographic and genetic consequences of small population sizes may reduce population recruitment, leading to even smaller populations and greater isolation, and further decreasing the viability of the species. These factors may already have contributed to the decline of the South Llano Springs moss to its current state of extreme endemism in the upper South Llano River. All of the above stressors are exacerbated by the fact that the South Llano Springs moss likely consists of only one, small population.

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 species, 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 species. Our assessment of the current and future conditions encompasses and incorporates the threats individually and cumulatively. Our current and future condition assessment is iterative because it accumulates and evaluates the effects of all the factors that may be influencing the species, 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 species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative effects analysis.

Determination of Status for the South Llano Springs Moss

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of ''endangered species'' or ''threatened species.'' The Act defines an ''endangered species'' as 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 a species meets the definition of ''endangered species'' or ''threatened

species'' because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) Overutilization for commercial, recreational, scientific, or educational purposes; (C) Disease or predation; (D) The inadequacy of existing regulatory mechanisms; or (E) Other natural or manmade factors affecting its continued existence.

Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the section 4(a)(1) factors, we propose listing the South Llano Springs moss as an endangered species throughout all of its range. Only two very small populations of South Llano Springs moss have been documented, which were last observed in 1971 and 1979. One is now extirpated and the other is restricted to a 10 by 100 m (33 by 328 ft) zone between Seven Hundred Springs and the South Llano River (Wyatt and Stoneburner 1980, p. 516). Therefore, the species has an extremely low level of representation, and no redundancy, making it vulnerable to catastrophic events such as flash floods and droughts. During historic droughts, such as in the 1950s and 2006–2012, many regional springs ceased flowing and the flow of Seven Hundred Springs was greatly reduced. Projected climate changes include an increased frequency, duration, and severity of droughts (Factor E), thereby increasing the risk of interrupting the flow of Seven Hundred Springs and the desiccation and mortality of this obligately aquatic moss (Factor A). The amount of pumping from the Edwards-Trinity aquifer is one of the most important factors influencing storage in the aquifer and the spring flows on which the South Llano Springs moss relies. Groundwater pumping is likely to increase as the human population grows and as the severity and duration of droughts increases. Prolonged drought (Factor E), in combination with increased pumping from the Edwards-Trinity aquifer (Factor E), further increase the probability of interrupting the flow of Seven Hundred Springs (Factor A) and, consequently, the probability of extinction of the South Llano Springs moss.

The South Llano Springs moss has little or no genetic diversity (Factor E) because this species likely consists of clones of one or a few male individuals and is no longer capable of sexual reproduction (Factor E). Consequently, the species has very low representation and likely has very little ability to adapt to environmental changes. In addition the South Llano Springs moss has poor redundancy because there is only one small population remaining. One drought event that reduced the flow of Seven Hundred Springs could result in the extirpation of this species.

We find that the South Llano Springs moss is presently in danger of extinction throughout its entire range based on the small remaining single population that is likely genetically compromised. This status puts the species on the brink of extinction where normal stochastic events, such as drought, flooding, or a human-caused drop in the aquifer level could lead to further decline or loss of the species entirely. The only other known population has not been observed since 1971 and is considered likely extirpated. This one remaining population could be affected by a variety of threats acting in combination to reduce the overall viability of the species. The risk of extinction is high because the remaining population is small, with no known potential for natural recolonization. We find that a threatened species status is not appropriate for the South Llano Springs moss because of the species' current precarious condition due to its contracted range, small population size, and likely compromised genetics, because these stressors are severe, ongoing, and expected to continue into the future.

Therefore, after assessing the best available information, we determine that the South Llano Springs moss is in danger of extinction 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. We have determined that the South Llano Springs moss is in danger of extinction throughout all of its range, and accordingly, did not undertake an analysis of any significant portion of its range. Because we have determined that the South Llano Springs moss warrants listing as an endangered species throughout all of its range, our determination is consistent with the decision in *Center for Biological Diversity* v. *Everson,* 2020 WL 437289 (D.D.C. Jan. 28, 2020), in which the court vacated the aspect of the 2014 Significant Portion of its Range Policy that provided the Services do not undertake an analysis of significant portions of a species' range if the species warrants listing as threatened throughout all of its range.

Determination of Status

Our review of the best available scientific and commercial information indicates that the South Llano Springs moss meets the definition of an endangered species. Therefore, we propose to list the South Llano Springs moss as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and conservation by Federal, State, tribal, and local agencies, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

Recovery planning consists of preparing draft and final recovery plans, beginning with the development of a recovery outline and making it available to the public within 30 days of a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery plan also identifies recovery criteria for review of when a species may be ready

for reclassification from endangered to threatened (''downlisting'') or removal from protected status (''delisting''), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outline, draft recovery plan, and the final recovery plan will be available on our website (*http://www.fws.gov/endangered*), or from our Austin Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (*e.g.,* restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and tribal lands.

If this species is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the State of Texas would be eligible for Federal funds to implement management actions that promote the protection or recovery of the South Llano Springs moss. Information on our grant programs that are available to aid species recovery can be found at: *http://www.fws.gov/grants.*

Although the South Llano Springs moss is only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for this species. Additionally, we invite you to submit any new information on this species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as an endangered or threatened species and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Federal agency actions within the species' habitat that may require conference or consultation or both as described in the preceding paragraph include management and any other landscape-altering activities on Federal lands, management and conservation projects conducted on private lands with support from the U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program; issuance of section 404 Clean Water Act (33 U.S.C. 1251 *et seq.*) permits by the U.S. Army Corps of Engineers; construction and maintenance of roads or highways by the Federal Highway Administration; construction and maintenance of railways by the Federal Railroad Administration; and discharge permits from the Environmental Protection Agency.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to endangered plants. The prohibitions of section 9(a)(2) of the Act, codified at 50 CFR 17.61, make it illegal for any person subject to the jurisdiction of the United States to: Import or export; remove and reduce to possession from areas under Federal jurisdiction; maliciously damage or destroy on any such area; remove, cut, dig up, or damage or destroy on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law; deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity; or sell or offer for sale in interstate or foreign commerce an endangered plant. Certain exceptions apply to employees of the Service, the National Marine Fisheries Service, other Federal land management agencies, and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered plants under certain circumstances. Regulations governing permits are codified at 50 CFR 17.62. With regard to endangered plants, a permit may be issued for scientific purposes or for enhancing the propagation or survival of the species. There are also certain statutory exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of the species proposed for listing. Based on the best available information, the following actions are unlikely to result in a violation of section 9, if these activities are carried out in accordance with existing regulations and permit requirements; this list is not comprehensive:

(1) Recreational use of the streams, such as fishing, swimming, and canoeing, as these activities normally take place in the river or on the river bank and not in the spring itself, and;

(2) Normal residential landscaping activities as these activities do not take place in the spring, nor do they affect the quantity or quality of water in the spring.

Based on the best available information, the following activities may potentially result in a violation of section 9 of the Act if they are not authorized in accordance with applicable law; this list is not comprehensive:

(1) Removing, cutting, digging up, or damaging or destroying the South Llano Springs moss in knowing violation of any law or regulation of the state of Texas or in the course of any violation of a State criminal trespass law;

(2) Importing the South Llano Springs moss into, or exporting from, the United States;

(3) Delivering, receiving, carrying, transporting, or shipping the South Llano Springs moss in interstate or foreign commerce, by any means and in the course of a commercial activity, and;

(4) Selling or offering the South Llano Springs moss for sale in interstate or foreign commerce.

Questions regarding whether specific activities would constitute a violation of

section 9 of the Act should be directed to the Austin Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

II. Critical Habitat

Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

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

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Designation also does not allow the government or public to access private lands, nor does designation require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the Federal agency would be required to consult with the Service under section 7(a)(2) of the Act. However, even if the Service were to conclude that the proposed activity would result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement ''reasonable and prudent alternatives'' to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features that occur in specific occupied areas, we focus on the specific features that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more-complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. When designating critical habitat, the Secretary will first evaluate areas occupied by the species. The Secretary will only consider unoccupied areas to be essential where a critical habitat designation limited to geographical areas occupied by the species would be inadequate to ensure the conservation of the species. In addition, for an unoccupied area to be considered essential, the Secretary must determine that there is a reasonable certainty both that the area will contribute to the conservation of the species and that the area contains one or more of those physical or biological features essential to the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information from the SSA report and information developed during the listing process for the species. Additional information sources may include any generalized conservation strategy, criteria, or outline that may have been developed for the species; the recovery plan for the species; articles in peer-reviewed journals; conservation plans developed by States and counties; scientific status surveys and studies; biological assessments; other unpublished materials; or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the

species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Prudency Determination

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

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

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

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

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

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

As discussed above under Proposed Listing Determination, there is currently no imminent threat of collection or vandalism identified under Factor B for this species, and identification and mapping of critical habitat is not expected to initiate any such threat. In our SSA and this proposed listing determination, we determined that the present or threatened destruction, modification, or curtailment of habitat or range is a threat to the South Llano Springs moss and that those threats in some way can be addressed by section 7(a)(2) consultation measures. The species occurs wholly in the jurisdiction of the United States, and we are able to identify an area that meets the definition of critical habitat. Therefore, because none of the circumstances enumerated in our regulations at 50 CFR 424.12(a)(1) have been met, and because there are no other circumstances the Secretary has identified for which this designation of critical habitat would be not prudent, we have determined that the designation of critical habitat is prudent for the South Llano Springs moss.

Critical Habitat Determinability

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

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

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

When critical habitat is not determinable, the Act allows the Service an additional year to publish a critical habitat designation (16 U.S.C. 1533(b)(6)(C)(ii)).

We reviewed the available information pertaining to the biological needs of the species and habitat characteristics where this species is located. This and other information represent the best scientific data available and led us to conclude that the designation of critical habitat is determinable for the South Llano Springs moss.

Physical or Biological Features Essential to the Conservation of the Species

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological features that are essential to the conservation of the species and that may require special management considerations or protection. The regulations at 50 CFR 424.02 define ''physical or biological features essential to the conservation of the species'' as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkali soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, the Service may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of the species. These characteristics include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

Summary of Essential Physical or Biological Features

We derive the specific physical or biological features essential to the

conservation of the South Llano Springs moss from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the SSA report available at *http://www.regulations.gov* under Docket No. FWS–R2–ES–2020–0015. We have determined that the following physical or biological features are essential to the conservation of the South Llano Springs moss:

(1) The uninterrupted flow of spring water supplied by the Edwards-Trinity aquifer within the South Llano watershed.

(2) Relatively constant water temperature due to proximity to the point of spring outflow.

(3) A substrate of calcareous or travertine rock not more than 15 centimeters (cm) (6 inches (in)) below the surface of the water.

(4) Contaminant and sediment levels that do not exceed the tolerance limits of South Llano Springs moss and associated plant and animal species.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protection.

The features essential to the conservation of this species may require special management considerations or protection to reduce the following stressors: Reduction or loss of spring flow, erosion, and sedimentation. Management activities that could ameliorate these stressors include (but are not limited to): Prescribed fire, brush management, and grazing management to increase infiltration into the Edwards-Trinity aquifer and reduce runoff and subsequent flooding.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify specific areas within the geographical area occupied by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat. We are not currently proposing to designate any areas outside the geographical area occupied by the species because we have not identified any unoccupied areas that meet the definition of critical habitat. While we acknowledge that the conservation of the species will depend on increasing the number of sites, we are unable at this time to delineate any specific unoccupied areas that are essential to the species' conservation. For an area to be considered essential unoccupied habitat, we must have reasonable certainty both that the area will contribute to the conservation of the species and that the area contains one of more of the physical or biological features essential to the conservation of the species. The exact location of the Redfearn site is unknown and, although there are a number of other large springs emerging from the Edwards-Trinity aquifer, it is unknown if these sites would be biologically suitable for the species. In addition, there is uncertainty that the species could be transplanted successfully if suitable sites existed for reintroduction. Finally, the specific areas needed for conservation may depend in part on landowner willingness to restore and maintain the species' habitat in these areas.

In summary, for areas within the geographic area occupied by the species at the time of listing, we delineated critical habitat unit boundaries by evaluating the area of spring flow and submerged limestone within the geographic area occupied at the time of listing.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for the South Llano Springs moss. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical or biological features in the adjacent critical habitat.

We propose to designate as critical habitat lands that we have determined are occupied at the time of listing (*i.e.,* currently occupied) and contain one or more of the physical or biological features that are essential to support life-history processes of the species.

We propose one unit for designation based on one or more of the physical or biological features being present to support the South Llano Springs moss' life-history processes. This unit contains all of the identified physical or biological features and supports multiple life-history processes.

The critical habitat designation is defined by the map, as modified by any accompanying regulatory text, presented at the end of this document under Proposed Regulation Promulgation. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We will make the coordinates or plot points or both on which the map is based available to the public at *http://www.regulations.gov* under Docket No. FWS–R2–ES–2020–0015, on our internet site at *https://www.fws.gov/southwest/es/AustinTexas/,* and at the field office responsible for the designation (see **FOR FURTHER INFORMATION CONTACT**).

Proposed Critical Habitat Designation

We propose to designate one unit of approximately 0.19 ha (0.48 ac) as critical habitat for the South Llano Springs moss, labeled Upper South Llano River Unit in Table 1 (below). The critical habitat area we describe below constitutes our current best assessment of areas that meet the definition of critical habitat for the South Llano Springs moss.

TABLE 1—PROPOSED CRITICAL HABITAT UNIT FOR THE SOUTH LLANO SPRINGS MOSS

[Area estimates reflect all land within critical habitat unit boundaries]

Unit	Land ownership by type	Size of unit in hectares (acres)	Occupied?
Upper South Llano River	Private	0.19 (0.48)	Yes.

We present a brief description of the proposed unit, and the reasons why it meets the definition of critical habitat for the South Llano Springs moss, below.

Upper South Llano River Unit

The Upper South Llano River Unit consists of 0.19 ha (0.48 ac) within the outflow area of Seven Hundred Springs, in northeastern Edwards County, Texas. This unit extends from the points of discharge about 10 m (33 ft) downslope to the South Llano River, and spans a length of about 100 m (328 ft) along the river. The species was last documented at this site in 1979, and the unit is considered occupied. This entire unit is on privately owned land. This unit contains all of the physical or biological features essential to the conservation of the species. The physical or biological features in this unit may require special management consideration due to groundwater pumping causing loss or reduction of springflow flood-control projects; and development of areas adjacent to or within proposed critical habitat.

Effects of Critical Habitat Designation

Section 7 Consultation

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

We published a final rule with a revised definition of destruction or adverse modification on August 27, 2019 (84 FR 44976). Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat—and actions on State, tribal, local, or private lands that are not federally funded, authorized, or carried out by a Federal agency—do not require section 7 consultation.

Compliance with the requirements of section 7(a)(2) is documented through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define ''reasonable and prudent alternatives'' (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Service Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 set forth requirements for Federal agencies to reinitiate formal consultation on previously reviewed actions. These requirements apply when the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law) and, subsequent to the previous consultation, we have listed a new species or designated critical habitat that may be affected by the Federal action, or the action has been modified in a manner that affects the species or critical habitat in a way not considered in the previous consultation. In such situations, Federal agencies sometimes may need to request reinitiation of consultation with us, but the regulations also specify some exceptions to the requirement to reinitiate consultation on specific land management plans after subsequently listing a new species or designating new critical habitat. See the regulations for a description of those exceptions.

Application of the ''Destruction or Adverse Modification'' Standard

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

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may violate 7(a)(2) of the Act by destroying or adversely modifying such habitat, or that may be affected by such designation.

Activities that the Services may, during a consultation under section 7(a)(2) of the Act, find are likely to destroy or adversely modify critical habitat include, but are not limited to, actions that would impact the Edwards-Trinity aquifer and the springs and streams within the Hydrologic Unit Code (HUC)-12 watersheds of Paint Creek, Bluff Creek, and Little Paint Creek or within the upper South Llano River HUC–8 watershed. Depending on the activity and location, these actions could include, but are not limited to, groundwater pumping; discharge of contaminants; discharge of dredge or fill material; construction and maintenance of roads, railroads, and pipelines; and conservation and habitat management, which may include thinning of ashe juniper (*Juniperus ashei*), prescribed burning, and control of invasive aquatic plants, such as elephant ear (*Colocassia esculenta*). Potential effects of these activities include reduced spring flow at Seven Hundred Springs, increased runoff, flash flooding and scouring along the South Llano River, and contamination of the aquifer with toxic substances or excessive nutrient levels.

Exemptions

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

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

Consideration of Impacts Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making the determination to exclude a particular area, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

The first sentence in section 4(b)(2) of the Act requires that we take into consideration the economic, national security, or other relevant impacts of designating any particular area as critical habitat. We describe below the process that we undertook for taking into consideration each category of impacts and our analyses of the relevant impacts.

Consideration of Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. Accordingly, we have prepared a draft economic analysis concerning the proposed critical habitat designation, which is available for review and comment (see **ADDRESSES**, above). To assess the probable economic impacts of a designation, we must first evaluate specific land uses or activities and projects that may occur in the area of the critical habitat. We then must evaluate the impacts that a specific critical habitat designation may have on restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the areas proposed. We then identify which conservation efforts may be the result of the species being listed under the Act versus those attributed solely to the designation of critical habitat for this particular species. The probable economic impact of a proposed critical habitat designation is analyzed by comparing scenarios both ''with critical habitat'' and ''without critical habitat.''

The ''without critical habitat'' scenario represents the baseline for the analysis, which includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat (*e.g.,* under the Federal listing as well as other Federal, State, and local regulations). The baseline, therefore, represents the costs of all efforts attributable to the listing of the species under the Act (*i.e.,* conservation of the species and its habitat incurred regardless of whether critical habitat is designated). The ''with critical habitat'' scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts would not be expected without the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat, above and beyond the baseline costs. These are the costs we use when evaluating the benefits of inclusion and exclusion of particular areas from the final designation of critical habitat should we choose to conduct a discretionary 4(b)(2) exclusion analysis.

For this particular designation, we developed an incremental effects memorandum (IEM) considering the probable incremental economic impacts that may result from this proposed designation of critical habitat. The information contained in our IEM was then used to develop a screening analysis of the probable effects of the designation of critical habitat for the South Llano Springs moss (IEc. 2020, entire).

We began by conducting a screening analysis of the proposed designation of critical habitat in order to focus our analysis on the key factors that are likely to result in incremental economic impacts. The purpose of the screening analysis is to filter out particular geographic areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. In particular, the screening analysis considers baseline costs (*i.e.,* absent critical habitat designation) and includes probable economic impacts where land and water use may be subject to conservation plans, land management plans, best management practices, or regulations that protect the habitat area as a result of the Federal listing status of the species. Ultimately, the screening analysis allows us to focus our analysis on evaluating the specific areas or sectors that may incur probable incremental economic impacts as a result of the designation. The screening analysis also assesses whether units are unoccupied by the species and may require additional management or conservation efforts as a result of the critical habitat designation for the species; these additional efforts may incur incremental economic impacts.

This screening analysis combined with the information contained in our IEM are what we consider our draft economic analysis (DEA) of the proposed critical habitat designation for the South Llano Springs moss; our DEA is summarized in the narrative below.

Executive Orders (E.O.s) 12866 and 13563 direct Federal agencies to assess the costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Consistent with the E.O. regulatory analysis requirements, our effects analysis under the Act may take into consideration impacts to both directly and indirectly affected entities, where practicable and reasonable. If sufficient data are available, we assess to the extent practicable the probable impacts to both directly and indirectly affected entities. As part of our screening analysis, we considered the types of economic activities that are likely to occur within the areas likely affected by the critical habitat designation. In our evaluation of the probable incremental economic impacts that may result from the proposed designation of critical habitat for the South Llano Springs moss, first we identified, in the IEM dated January 7, 2020, probable incremental economic impacts associated with the following categories of activities: (1) Discharge permits (Environmental Protection Agency and U.S. Army Corps of Engineers); (2) stream dams and diversions, and dredge and fill of waterways (Environmental Protection Agency and U.S. Army Corps of Engineers); (3) transportation (U.S. Department of Transporation, Federal Highway Administration, and Federal Railroad Administration); and (4) conservation and habitat management (U.S. Fish and Wildlfie Service). We considered each industry or category individually. Additionally, we considered whether their activities have any Federal involvement. Critical habitat designation generally will not affect activities that do not have any Federal involvement; under the Act, designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies. If we list this species, in areas where the South Llano Springs moss is present, Federal agencies would be required to consult with the Service under section 7 of the Act on activities they fund, permit, or implement that may affect the species. If, when we list this species, we also finalize this proposed critical habitat designation, consultations to avoid the destruction or adverse modification of critical habitat would be incorporated into the existing consultation process.

In our IEM, we attempted to clarify the distinction between the effects that will result from the species being listed and those attributable to the critical habitat designation (*i.e.,* difference between the jeopardy and adverse modification standards) for the South Llano Springs moss' critical habitat. Because the designation of critical habitat for the South Llano Springs moss is proposed concurrently with the listing, it has been our experience that it is more difficult to discern which conservation efforts are attributable to the species being listed and those which will result solely from the designation of critical habitat. However, the following specific circumstances in this case help to inform our evaluation: (1) The essential physical or biological features identified for critical habitat are the same features essential for the life requisites of the species, and (2) any actions that would result in sufficient harm or harassment to constitute jeopardy to the South Llano Springs moss would also likely adversely affect the essential physical or biological features of critical habitat. The IEM outlines our rationale concerning this limited distinction between baseline conservation efforts and incremental impacts of the designation of critical habitat for this species. This evaluation of the incremental effects has been used as the basis to evaluate the probable incremental economic impacts of this proposed designation of critical habitat.

The proposed critical habitat designation for the South Llano Springs moss includes one unit of occupied critical habitat, totaling 0.19 ha (0.48 ac), on private land. Because this area is occupied, any actions that may affect the species or its habitat would also affect designated critical habitat. As such, all activities with a Federal nexus occurring within the proposed critical habitat would be subject to section 7 consultation requirements regardless of critical habitat designation due to the presence of the listed species. Project modifications requested to avoid adverse modification are also likely to be the same as those needed to avoid jeopardy to the South Llano Springs moss. Therefore, only administrative costs are expected when considering adverse modification in section 7 consultations due to the proposed critical habitat designation. While this additional analysis would require time and resources by both the Federal action agency and the Service, we believe that these costs would be administrative in nature and would not be significant. Based upon past consultations in the area, it is conservatively estimated that three or fewer section 7 consultation actions (approximately one formal consultation, one informal consultation, and one technical assistance request) will occur annually in the proposed critical habitat area. These may include consultations with the U.S. Army Corps of Engineers, U.S. Department of Transportation, U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service for fish passage projects, riparian restoration, upland habitat restoration, prescribed fire, and brush management. The total annual incremental costs of critical habitat designation for the South Llano Springs moss are anticipated to be approximately $8,100 per year. Current development or other projects are not planned in the proposed critical habitat area. Therefore, future probable incremental economic impacts are not likely to exceed $100 million in any single year, and impacts that are concentrated in any geographic area or sector are not likely as a result of this critical habitat designation.

As we stated earlier, we are soliciting data and comments from the public on the DEA, as well as all aspects of this proposed rule and our required determinations. During the development of a final designation, we will consider the information presented in the DEA and any additional information on economic impacts received during the public comment period to determine whether any specific areas should be excluded from the final critical habitat designation on the basis of economic impacts under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19. In particular, we may exclude an area from critical habitat if we determine that the benefits of excluding the area outweigh the benefits of including the area, provided the exclusion will not result in the extinction of this species.

Consideration of National Security Impacts

Section 4(a)(3)(B)(i) of the Act may not cover all DoD lands or areas that pose potential national-security concerns (*e.g.,* a DoD installation that is in the process of revising its INRMP for a newly listed species or a species previously not covered). If a particular area is not covered under section 4(a)(3)(B)(i), national-security or homeland-security concerns are not a factor in the process of determining what areas meet the definition of ''critical habitat.'' Nevertheless, when designating critical habitat under section 4(b)(2), the Service must consider impacts on national security,

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

We cannot, however, automatically exclude requested areas. When DoD, DHS, or another Federal agency requests exclusion from critical habitat on the basis of national-security or homeland-security impacts, it must provide a reasonably specific justification of an incremental impact on national security that would result from the designation of that specific area as critical habitat. That justification could include demonstration of probable impacts, such as impacts to ongoing border-security patrols and surveillance activities, or a delay in training or facility construction, as a result of compliance with section 7(a)(2) of the Act. If the agency requesting the exclusion does not provide us with a reasonably specific justification, we will contact the agency to recommend that it provide a specific justification or clarification of its concerns relative to the probable incremental impact that could result from the designation. If the agency provides a reasonably specific justification, we will defer to the expert judgment of DoD, DHS, or another Federal agency as to: (1) Whether activities on its lands or waters, or its activities on other lands or waters, have national-security or homeland-security implications; (2) the importance of those implications; and (3) the degree to which the cited implications would be adversely affected in the absence of an exclusion. In that circumstance, in conducting a discretionary 4(b)(2) exclusion analysis, we will give great weight to national-security and homeland-security concerns in analyzing the benefits of exclusion.

In preparing this proposal, we have determined that the land within the proposed designation of critical habitat for the South Llano Springs moss is not owned, managed, or used by DoD or DHS, and, therefore, we anticipate no impact on national security or homeland security. However, during the development of a final designation we will consider any additional information received through the public comment period on the impacts of the proposed designation on national security or homeland security to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Consideration of Other Relevant Impacts

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

In preparing this proposal, we have determined that there are currently no HCPs or other management plans for the South Llano Springs moss, and the proposed designation does not include any tribal lands or trust resources. We anticipate no impact on tribal lands, partnerships, or HCPs from this proposed critical habitat designation. Additionally, as described above, we are not proposing to exclude any particular areas on the basis of impacts to national security or economic impacts.

During the development of a final designation, we will consider any additional information received through the public comment period regarding other relevant impacts to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Required Determinations

Clarity of the Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

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

Regulatory Planning and Review (Executive Orders 12866 and 13563)

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

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.,* small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. To determine whether potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term ''significant economic impact'' is meant to apply to a typical small business firm's business operations.

Under the RFA, as amended, and as understood in the light of recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking only on those entities directly regulated by the rulemaking itself and, therefore, are not required to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies would be directly regulated if we adopt the proposed critical habitat designation. There is no requirement under the RFA to evaluate the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities would be directly regulated by this rulemaking, the Service certifies that, if made final as proposed, this critical habitat designation will not have a significant economic impact on a substantial number of small entities.

In summary, we have considered whether the proposed designation would result in a significant economic impact on a substantial number of small entities. For the above reasons and based on currently available information, we certify that, if made final, this critical habitat designation will not have a significant economic impact on a substantial number of small business entities. Therefore, an initial regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. In our economic analysis, we did not find that the designation of this proposed critical habitat would significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following finding:

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

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

(2) We do not believe that this rule would significantly or uniquely affect small governments because the unit is very small and is entirely on private land. Small governments would be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions would not adversely affect the designated critical habitat. The designation of critical habitat imposes no obligations on State or local governments. Therefore, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for the South Llano Springs moss in a takings implications assessment. The Act does not authorize the Service to regulate private actions on private lands or

confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed for the proposed designation of critical habitat for the South Llano Springs moss, and it concludes that, if adopted, this designation of critical habitat does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this proposed critical habitat designation with, appropriate State resource agencies. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the proposed rule does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The proposed designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical or biological features of the habitat necessary for the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist State and local governments in long-range planning because they no longer have to wait for case-by-case section 7 consultations to occur.

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) of the Act would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this proposed rule identifies the elements of physical or biological features essential to the conservation of the species. The proposed area of designated critical habitat is presented on a map, and the proposed rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) is not required. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Government-to-Government Relationship With Tribes

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

References Cited

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

Authors

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

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

■ 2. Amend § 17.12, in paragraph (h), the List of Endangered and Threatened Plants, by:

■ a. Adding the heading ''**MOSSES**'' to the end of the table; and

■ b. Adding an entry for ''*Donrichardsia macroneuron*'' under the new heading ''**MOSSES**''.

The additions read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
*	*	*	*	*
MOSSES				
Donrichardsia macroneuron.	South Llano Springs moss.	Wherever found	E	[**Federal Register** citation when published as a final rule]; 50 CFR 17.96(c).[CH]

■ 3. Amend § 17.96 by adding paragraph (c) to read as follows:

§ 17.96 Critical habitat—plants.

* * * * *

(c) *Mosses.* Family Brachytheciaceae: *Donrichardsia macroneuron.*

(1) Critical habitat is depicted for Edwards County, Texas, on the map in this entry.

(2) Within this area, the physical or biological features essential to the conservation of the South Llano Springs moss consist of the following components:

(i) The uninterrupted flow of spring water supplied by the Edwards-Trinity aquifer within the South Llano watershed;

(ii) Relatively constant water temperature due to proximity to the point of spring outflow;

(iii) A substrate of calcareous or travertine rock not more than 15 cm (6 in) below the surface of the water; and

(iv) Contaminant and sediment levels that do not exceed the tolerance limits of South Llano Springs moss and associated plant and animal species.

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

(4) *Critical habitat map units.* Data layers defining the map unit were created on a base of U.S. Geological Survey digital ortho-photo quarter-quadrangles, and the critical habitat unit was then mapped using Geographic Information System (GIS) mapping. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service's internet site at *https://www.fws.gov/southwest/es/AustinTexas/,* at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2020–0015, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Upper South Llano River Unit, Edwards County, Texas.

(i) *General description:* The Upper South Llano River Unit consists of 0.19 hectares (0.48 acres) in Edwards County and is located on private land along the upper South Llano River.

(ii) Map of Upper South Llano River Unit follows:

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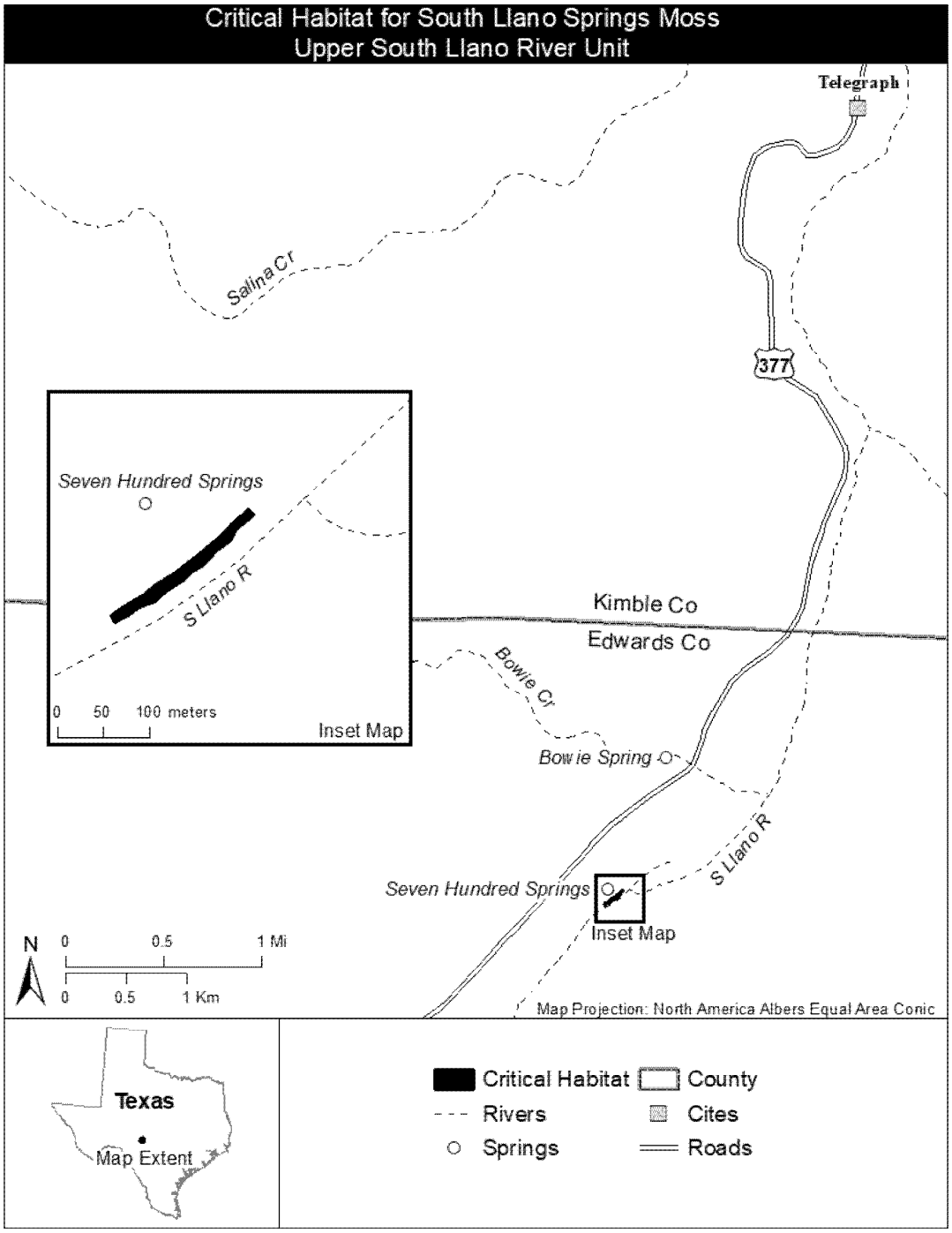

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Martha Williams,

Principal Deputy Director, Exercising the Delegated Authority of the Director, U.S. Fish and Wildlife Service.

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