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Authority: Program Authority: 20 U.S.C. 1098a.

Nasser H. Paydar,

Assistant Secretary, Office of Postsecondary Education.

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FF09E21000 FXES1111090FEDR245]

Endangered and Threatened Wildlife and Plants; Seven Species Not Warranted for Listing as Endangered or Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notification of findings.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce findings that seven species are not warranted for listing as endangered or threatened species under the Endangered Species Act of 1973, as amended (Act). After a thorough review of the best available scientific and commercial information, we find that it is not warranted at this time to list Edison's ascyrum (*Hypericum edisonianum*), Florida (lowland) loosestrife (*Lythrum flagellare*), Florida pinesnake (*Pituophis melanoleucus mugitu*), mimic cavesnail (*Phreatodrobia imitata*), northern cavefish (*Amblyopsis spelaea*), smallscale darter (*Etheostoma microlepidum*), and Texas troglobitic water slater (*Lirceolus smithii*). However, we ask the public to submit to us at any time any new information relevant to the status of any of the species mentioned above or their habitats.

DATES: The findings in this document were made on November 29, 2023.

ADDRESSES: Detailed descriptions of the bases for these findings are available on the internet at *https://www.regulations.gov* under the following docket numbers:

Species	Docket No.
Edison's ascyrum	FWS–R4–ES–2023–0172
Florida (lowland) loosestrife	FWS–R4–ES–2023–0173
Florida pinesnake	FWS–R4–ES–2023–0174
Mimic cavesnail	FWS–R2–ES–2023–0175
Northern cavefish	FWS–R4–ES–2023–0176
Smallscale darter	FWS–R4–ES–2023–0177
Texas troglobitic water slater	FWS–R2–ES–2023–0178

Those descriptions are also available by contacting the appropriate person as specified under **FOR FURTHER INFORMATION CONTACT**. Please submit any new information, materials, comments, or questions concerning this finding to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**.

FOR FURTHER INFORMATION CONTACT:

Species	Contact information
Edison's ascyrum, Florida (lowland) loosestrife, and Florida pinesnake.	Lourdes Mena, Division Manager, Florida Ecological Services Field Office, *lourdes_mena@fws.gov*, 904–460–4970.
Mimic cavesnail and Texas troglobitic water slater.	Karen Myers, Field Supervisor, Austin Ecological Services Field Office, *karen_myers@fws.gov*, 512–937–7371.
Northern cavefish	Lee Andrews, Field Supervisor, Kentucky Ecological Services Field Office, *lee_andrews@fws.gov*, 502–695–0468 ext. 46108.
Smallscale darter	Dan Elbert, Field Supervisor, Tennessee Ecological Services Field Office, *daniel_elbert@fws.gov*, 931–525–4973.

Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Background

Under section 4(b)(3)(B) of the Act (16 U.S.C. 1531 *et seq.*), we are required to make a finding on whether or not a petitioned action is warranted within 12 months after receiving any petition that we have determined contains substantial scientific or commercial information indicating that the petitioned action may be warranted (''12-month finding''). We must make a finding that the petitioned action is: (1) Not warranted; (2) warranted; or (3) warranted, but precluded by other listing activity. We must publish a notification of these 12-month findings in the **Federal Register**.

Summary of Information Pertaining to the Five Factors

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations at part 424 of title 50 of the Code of Federal Regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Lists of Endangered and Threatened Wildlife and Plants (Lists). The Act defines ''species'' as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife

which interbreeds when mature. The Act defines ''endangered species'' as any species that is in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6)), and ''threatened species'' as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)). Under section 4(a)(1) of the Act, a species may be determined to be an endangered species or a threatened species because of any of the following 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.

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 of the Interior determines whether the species meets the Act's 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 Service 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.

In conducting our evaluation of the five factors provided in section 4(a)(1) of the Act to determine whether the Edison's ascyrum, Florida (lowland) loosestrife, Florida pinesnake, mimic cavesnail, northern cavefish, smallscale darter, or Texas troglobitic water slater meet the Act's definition of ''endangered species'' or ''threatened species,'' we considered and thoroughly evaluated the best scientific and commercial information available regarding the past, present, and future stressors and threats. We reviewed the petitions, information available in our files, and other available published and unpublished information for all of these species. Our evaluation may include information from recognized experts; Federal, State, and Tribal governments; academic institutions; foreign governments; private entities; and other members of the public.

In accordance with the regulations at 50 CFR 424.14(h)(2)(i), this document announces the not-warranted findings on petitions to list seven species. We have also elected to include brief summaries of the analyses on which these findings are based. We provide the full analyses, including the reasons and data on which the findings are based, in the decisional file for each of the seven actions included in this document. The following is a description of the documents containing these analyses:

The species assessment forms for the Edison's ascyrum, Florida (lowland) loosestrife, Florida pinesnake, mimic cavesnail, northern cavefish, smallscale darter, and Texas troglobitic water slater contain more detailed biological information, a thorough analysis of the listing factors, a list of literature cited, and an explanation of why we determined that these species do not meet the Act's definition of an ''endangered species'' or a ''threatened species.'' To inform our status reviews, we completed species status assessment (SSA) reports for these seven species. Each SSA report contains a thorough review of the taxonomy, life history, ecology, current status, and projected future status for each species. This supporting information can be found on the internet at *https://www.regulations.gov* under the appropriate docket number (see **ADDRESSES**, above).

Edison's Ascyrum

Previous Federal Actions

On April 20, 2010, we received a petition from the Center for Biological Diversity, Alabama Rivers Alliance, Clinch Coalition, Dogwood Alliance, Gulf Restoration Network, Tennessee Forests Council, and West Virginia Highlands to list 404 aquatic, riparian, and wetland species, including Edison's ascyrum, as endangered or threatened species under the Act. On September 27, 2011, we published in the **Federal Register** (76 FR 59836) a 90-day finding that the petition contained substantial information indicating that listing may be warranted for Edison's ascyrum. This document constitutes our 12-month finding on the 2010 petition to list Edison's ascryum under the Act.

Summary of Finding

Edison's ascyrum is a small colonial shrub in the St. John's wort family (Hypericaceae) that can grow to 1.5 meters (m) (5 feet (ft)) tall. The species occurs most abundantly in seasonal ponds (*i.e.,* depression marshes), but

also inhabits flatwoods, wet prairies, cutthroat grass seeps, lake margins, and occasionally roadsides and semi-native pastures. Edison's ascyrum is confined mostly to the southern Lake Wales Ridge in central peninsular Florida. The Lake Wales Ridge is a 186-kilometer (km) (116-mile (mi)) long, major geomorphological feature stretching from just south of Lake Harris in Lake County to near the Highlands/Glades County line. The species was historically known from only Highlands and Glades Counties, and it currently occurs in abundance in these two counties. Additional vouchered counties include DeSoto, Polk, and Collier.

Edison's ascyrum can flower year-round but usually reproduces via clonal propagation. Genets (genetically distinct individuals) are usually composed of several ramets that sprout from underground rhizomes. Edison's ascyrum is able to rapidly regenerate ramets following disturbances such as fire and prolonged inundation, which likely enhances both genet fitness and persistence.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the Edison's ascyrum, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats identified for Edison's ascyrum's biological status include habitat loss and degradation, changes in fire patterns, and hydrological changes. Habitat loss and degradation are expected to be driven by development, which, along with climate change, will potentially cause hydrological changes. However, approximately 77 percent of the known occurrences are on conservation lands, which are managed in ways that benefit the species and its habitat. Since recent estimates of population size were not available for most features, we used a habitat-based approach to assess the resiliency of each analysis unit. Specifically, we considered four factors: area of available habitat, percentage of incompatible land use, habitat protection, and habitat management. Thirteen of the 22 analysis units (AUs) identified throughout the species' range have moderate to high resiliency. Through this resiliency assessment, we found that AUs that exhibit a moderate or high rank for habitat management are distributed throughout the range. There is some risk from development, altered hydrology, and altered fire patterns due to the localized nature of this species' range, but the species is thriving in several areas under long-term protection and management. Although the species has a narrow range, four of the AUs of high-moderate to high resiliency are distributed from north to south across Avon Park Air Force Range, Archbold Biological Station, and Fisheating Creek Wildlife Management Area. Thus, after assessing the best available information, we conclude that the Edison's ascyrum is not in danger of extinction throughout all of its range.

We then considered whether the species is likely to become in danger of extinction within the foreseeable future throughout its range. Habitat loss and degradation, fire exclusion, and hydrological changes are the biggest threats to the species in the future. Habitat loss and degradation in the future is expected to be driven by population growth and development in the species' habitat, as well as hydrological changes due to development and climate change. We evaluated the future condition of the species under two future scenarios at two timesteps (2040 and 2070). In the future, resiliency is projected to vary between AUs, but the species is projected to be represented by moderate to high resiliency populations throughout its range. The distribution of moderate to high resiliency populations across the range on protected lands may minimize the likelihood of a catastrophic event affecting the species rangewide. Additionally, under both scenarios and for both timesteps, AUs not expected to decrease in resiliency remain spread across the range of the species. Under scenario 1, resiliency is projected to decrease in 8 AUs by 2040, and 12 AUs by 2070. Under scenario 2, under both timesteps, resiliency is projected to decrease in 5 AUs. Overall, the species will remain represented across the range. In addition, 77 percent of the known occurrences are on conservation lands. Thus, after assessing the best available information, we conclude that Edison's ascyrum is not in danger of extinction throughout all of its range now, or within the foreseeable future.

We also evaluated whether the Edison's ascyrum is endangered or threatened in a significant portion of its range. We did not find any portions of the Edison's ascyrum's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion, either now or within the foreseeable future. Thus, after assessing the best available information, we conclude that the Edison's ascyrum is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that Edison's ascyrum is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the Edison's ascyrum as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the Edison's ascyrum species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R4–ES–2023–0172 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the Edison's ascyrum SSA report. The Service sent the SSA report to eight independent peer reviewers and received two responses. Results of this structured peer review process can be found at *https://www.regulations.gov.* We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

Florida (Lowland) Loosestrife

Previous Federal Actions

On April 20, 2010, we received a petition from the Center for Biological Diversity, Alabama Rivers Alliance, Clinch Coalition, Dogwood Alliance, Gulf Restoration Network, Tennessee Forests Council, and West Virginia Highlands to list 404 aquatic, riparian, and wetland species, including lowland (Florida) loosestrife, as endangered or threatened species under the Act. On September 27, 2011, we published in the **Federal Register** (76 FR 59836) a 90-day finding that the petition contained substantial information indicating that listing may be warranted for Florida (lowland) loosestrife. This document constitutes our 12-month finding on the 2010 petition to list Florida loosestrife under the Act.

Summary of Finding

Florida loosestrife is a perennial herb endemic to the subtropical zone of Florida, largely on the western side of the State. The species occurs in seasonally inundated open areas and can tolerate moderate levels of

disturbance. For example, it can be found in roadside ditches and disturbed wetlands along with swamps, marshes, and wet prairies. The species can be very abundant where it occurs, often numbering in the thousands, forming dense mats and dominating the groundcover. Both the historical and current distribution of Florida loosestrife is not fully known. Vouchered counties include Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Hernando, Hillsborough, Lee, Manatee, Okeechobee, Orange, and Sarasota. However, the species has also been documented in Broward and Citrus Counties and reported in Palm Beach County.

Little is known about the life history of Florida loosestrife. It is reported that it flowers year-round, but it likely most reliably flowers in spring. Plants that experience seasonal flooding beginning in late spring to early summer must flower and set seed before they are inundated. Florida loosestrife seeds likely disperse within floodplains via sheet flow. Pollinators are not known.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the Florida loosestrife, and we evaluated all relevant factors under the five factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats identified for Florida loosestrife include direct and indirect impacts of development and sea level rise (SLR). The species' range is moderately restricted, occurring in 12 counties and 35 watersheds, with many of the records occurring in the last few years as efforts to locate the species have increased.

Current threats to the species are largely related to habitat conversion associated with urbanization and other development (*e.g.,* agriculture); however, the species continues to occur in urbanized and other developed areas, albeit in highly altered habitats. The species' ability to survive in different settings is reflected in the species' resiliency; as documented in the SSA report, 22 of the 35 units have at least moderate resiliency. Given the apparent resiliency of the plants in developed areas, the high number of units with moderate to very high resiliency, and the species' ability to adapt to disturbed environments, the species is not in danger of extinction throughout all of its range.

Next, we considered whether the Florida loosestrife is likely to become endangered within the foreseeable future throughout all of its range. For the Florida loosestrife, habitat loss and degradation (from urban and agricultural development) and SLR are projected to be the biggest threats to the species in the future. To evaluate the future condition of the species, we developed two plausible future scenarios to project the outcomes of future urban and agricultural development and SLR at two timesteps (2040 and 2070). However, even under higher projected development and SLR scenarios, the species is expected to have sufficient redundancy with several moderate to high resiliency populations distributed across the range of the species. We, therefore, determined that the scale of impacts projected in the future will not affect the species such that it is likely to become an endangered species in the foreseeable future. Thus, after assessing the best available information, we conclude that Florida loosestrife is not in danger of extinction now, or within the foreseeable future throughout all of its range.

We also evaluated whether the Florida loosestrife is endangered or threatened in a significant portion of its range. We did not find any portions of the Florida loosestrife's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion, either now or within the foreseeable future. Thus, after assessing the best available information, we conclude that the Florida loosestrife is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that Florida loosestrife is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the Florida loosestrife as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the Florida loosestrife species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R4–ES–2023–0173 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the Florida loosestrife SSA report. The Service sent the SSA report to six independent peer reviewers and received two responses. Results of this structured peer review process can be found at *https://www.regulations.gov.* We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

Florida Pinesnake

Previous Federal Actions

On July 11, 2012, the Service was petitioned by the Center for Biological Diversity, Thomas Lovejoy, Kenney Krysko, C. Kenneth Dodd, Jr., Allen Salzberg, Edward O. Wilson, and Michael J. Lannoo to list 53 amphibians and reptiles in the United States, including the Florida pinesnake, as endangered or threatened species under the Act. In response to the petition, on September 18, 2015, the Service published in the **Federal Register** (80 FR 56423) a 90-day finding that the petition contained substantial information indicating the Florida pinesnake may warrant listing. This document constitutes our 12-month finding on the 2012 petition to list the Florida pinesnake under the Act.

Summary of Finding

The Florida pinesnake is a large, non-venomous, diurnal, and highly fossorial constrictor endemic to the Coastal Plains of the southeastern United States. Its recognized range spans from southeastern South Carolina, through central and south Georgia, to south Florida and west into the Florida panhandle and the southern part of Alabama. This subspecies exhibits a strong preference for pine forests with open-canopy, well-drained, sandy soil, and frequent fires. Five main habitat elements that appear to be essential to the survival and reproductive success of individuals are well-drained soils, suitable vegetation structure and composition, low nearby road density, an appropriate fire return interval, and presence of prey. Pinesnakes are active foragers that hunt a variety of prey both above and below ground. As accomplished burrowers, they can tunnel through loose soil, dig nests, and excavate rodents for food. They also use existing underground burrows and tunnels created by other species, such as the southeastern pocket gopher (*Geomys pinetis*), for refugia.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the Florida pinesnake, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. Florida

pinesnakes are associated with various actions that are associated with the loss and degradation of habitat. Habitat loss is due to a number of factors, including fire suppression, historical and incompatible silvicultural practices, SLR, conversion of land to agriculture, and urbanization. The current constraints on the ability to manage pine habitat through prescribed fire may be exacerbated by urbanization and climate change in the future. It is possible that several of these factors are acting synergistically to impact the Florida pinesnake.

Although there is still uncertainty surrounding the evaluated stressors and their synergistic effects, habitat loss and modification, due to the effects of both urban development and climate change, were considered in the assessment of Florida pinesnake populations and the subspecies' overall viability. Currently, across the subspecies' range, there are no documented impacts at the population level from invasive species, persecution or increased harassment, overcollection for the pet trade, or disease. While habitat loss and modification are the primary factor influencing the subspecies, many Florida pinesnake populations have moderate to high resiliency in the face of these threats.

It is estimated that Florida pinesnakes have likely lost 30.8 percent (41 of 133 populations) of their historical populations due to loss and degradation of habitat, representing 9 percent of the total occupied range of the subspecies. The remaining 69.2 percent of the populations, covering 90.4 percent of the total historical range, have a greater than 50 percent probability of persisting, and are considered extant as of 2021. Of the extant populations, 71.2 percent of populations (66 populations) covering 93.2 percent of the current occupied range are very likely or extremely likely to persist as of 2021, and they have moderate to high resiliency. Thirty-one and half percent of populations covering 77.1 percent of the current occupied range are considered to have high resiliency. We estimate that all seven representative units have likely lost at least one historic, delineated population. Despite this decrease from the historical number of populations, all representative units have multiple populations, which meets our criteria for high redundancy. Because two representative units do not have populations in the highest persistence category, and those units are on the northern and western portions of the subspecies range, we consider the current representation to be moderate. We, therefore, conclude that the Florida pinesnake is not in danger of extinction throughout all of its range.

In considering the foreseeable future as it relates to the status of the Florida pinesnake, we considered the relevant risk factors (*i.e.,* threats/stressors) affecting the subspecies and whether we could draw reliable predictions about the subspecies' response to these factors. We considered whether we could reliably assess the risk posed by the threats to the subspecies, recognizing that our ability to assess risk is limited by the variable quantity and quality of available data about effects to the Florida pinesnake and its response to those threats.

In the future, land-use change and other anthropogenic activities may impact Florida pinesnake habitat through loss of habitat and fragmentation. Our analysis of two future scenarios until 2080 encompasses the best available information for future projections of levels of urbanization, and it uses two different representative concentration pathways (RCPs) for climate change (*i.e.,* A1B and B2) to look at the effects of SLR and prescribed burn windows. We determined that that timeframe enables us to consider the threats/stressors acting on the subspecies and to draw reliable predictions about the subspecies' response to these threats/stressors.

Loss of habitat and fragmentation threats associated with urbanization and climate change are projected to occur throughout the subspecies' range. The importance of protected lands and managing habitats through burning will continue to play an important role for this subspecies. Given the future scenarios, the resiliency of Florida pinesnake populations are projected to decline in the future. Under both scenarios, in 2040, 30 populations are projected to have moderate or high resiliency, covering 73 percent of the occupied range. Under both scenarios, at 2080, 11 populations are projected to have moderate or high resiliency, covering 62 percent of the occupied range. Subspecies' representation and redundancy are projected to decrease from moderate and high, respectively, in current condition levels to moderate in the future. The number of representative units with populations in moderate and high resiliency are projected to decrease under all scenarios and timesteps. However, the subspecies is projected to maintain broad occurrence across its range even under the projected future threats, with five of seven representation units containing populations of moderate or high resiliency into the future. Although the total number of populations is projected to decline by 2080, 62 percent of the current range of the Florida pinesnake remains occupied by multiple populations with greater than 80 percent probability of persistence (moderate and high resiliency); therefore, the subspecies is projected to have moderate redundancy, providing the subspecies the ability to withstand catastrophic events. These populations cover a large geographic area and maintain high or moderate resiliency due to adequate suitable habitat coverage, high proportion of area within protected areas, sufficient connectivity, and low impact of threats in the future. Thus, after assessing the best available information, we determine that the Florida pinesnake is not in danger of extinction now or likely to become so within the foreseeable future throughout all of its range.

We also evaluated whether the Florida pinesnake is endangered or threatened in a significant portion of its range. We did not find any portions of the Florida pinesnake's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion either now or in the future. Thus, after assessing the best available information, we conclude that the Florida pinesnake is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that the Florida pinesnake is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the Florida pinesnake as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the Florida pinesnake species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R4–ES–2023–0174 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the Florida pinesnake SSA report. The Service sent the SSA report to seven independent peer reviewers and received six responses. Results of this structured peer review process can be found at *https://www.regulations.gov.* We incorporated the results of these

reviews, as appropriate, into the SSA report, which is the foundation for this finding.

Mimic Cavesnail

Previous Federal Actions

On June 25, 2007, the Service received a petition from Forest Guardians (*i.e.,* WildEarth Guardians) requesting that the Service list 475 species, including the mimic cavesnail, as endangered or threatened species and designate critical habitat under the Act. All 475 species occur within the Southwestern Region and were ranked as G1 or G1G2 species by NatureServe at the time. On December 16, 2009, the Service published in the **Federal Register** (74 FR 66866) a partial 90-day finding on the mimic cavesnail and 191 other species, stating that the petition presented substantial scientific information indicating that listing may be warranted for 67 of the 192 species, including the mimic cavesnail. This document constitutes our 12-month finding on the 2007 petition to list the mimic cavesnail under the Act.

Summary of Finding

The mimic cavesnail is a freshwater snail endemic to a deep portion of the karstic Edwards Aquifer in Bexar County, Texas. It is a very small snail, with average shell height of about 1.0 millimeter (mm) (0.04 inch (in)), a thin operculum, and trapezoidal radula. Freshwater gastropods are broadly characterized by rapid growth and short lifespans, which result in high reproduction rates and short rates of population turnover. Species may reproduce a single or multiple generations per year.

The range of the mimic cavesnail is situated at the southwestern extent of the San Antonio-New Braunfels metropolitan area in Bexar County, Texas. The distribution of the mimic cavesnail is dependent upon the availability and connectivity of suitable aquatic subterranean habitat; this habitat has sufficient water quality and quantity within deep karstian spaces. Prior to 1986, the mimic cavesnail was known from only two groundwater wells, O.R. Mitchell (State Well Number 6843601) and Verstraeten Wells (State Well Number 6843607). In 2021, the species was discovered at Aldridge 209 Well (State Well Number 6843802), which is 5 km (3 mi) to the southwest of O.R. Mitchell and Verstraeten Wells. All mimic cavesnail wells occur just to the northwest of the freshwater/saline-water interface.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the mimic cavesnail, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats affecting the mimic cavesnail's biological status include mortality from groundwater wells, reductions in groundwater quantity (including reductions via climate change), and groundwater contamination.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we found that well mortality, groundwater quantity, and groundwater contamination are not currently affecting the mimic cavesnail at the population level. Direct mortality through expulsion from groundwater wells is occurring, but the species' benthic lifestyle, high reproductive rate, and short lifespan result in this mortality being unlikely to affect the population's resiliency. In addition, two of the three wells that ejected mimic cavesnails are inactive, which removes those as sources of mortality for the species. Because it is a benthic species, it is less susceptible to entrainment and expulsion from wells, and species with life-history traits like the mimic cavesnail's are unlikely to be affected by the mortality observed at the groundwater wells where it has been found. Further, groundwater quantity at the depths where mimic cavesnail occurs has not been affected by groundwater withdrawals, and we have no information indicating that will change in the future. Finally, we have no evidence of groundwater contamination at these depths. Thus, we conclude that the mimic cavesnail is not in danger of extinction throughout all of its range.

To assess the future conditions of the mimic cavesnail, we evaluated climate change and land-use projections under only the most plausible future scenario from 2022 to 2100. No new wells have been drilled in the immediate area analysis unit since 1995. We assume that this trend will continue and be accompanied by an increase in the capping or plugging of older groundwater wells. We expect that well mortality will decline through 2100.

In the future, the area surrounding mimic cavesnail habitat is projected to have increased human population growth and exurban and suburban development; increased demands for water; and a warming, more drought-prone climate. Climate change will also impact the area, with increasing average and extreme temperatures, but no substantial change in precipitation is expected.With little change in rainfall and increased temperatures, evapotranspiration could increase reducing surface run-off and ultimately aquifer recharge. During drought years, recharge could be reduced by 21–33 percent, and flows at Comal Springs could decrease by 10–24 percent, which would initiate groundwater withdrawal reductions under current State and local regulations. We project that climate change will result in less groundwater extraction from the Edwards Aquifer given existing regulations to protect species listed under the Act in the Comal and San Marcos Springs Systems, as well as limit water withdrawals from the Edwards Aquifer. We would also expect less dependence on groundwater in the future due to ongoing and planned efforts to conserve and augment water resources in the San Antonio-New Braunfels metropolitan area. Given this and historically small declines in water levels, we expect that aquifer levels would not decline and cavesnail habitat would be maintained.

The potential for groundwater contamination in the San Antonio segment will continue into the future. New contaminant sources are expected to be added to the region with increased human populations and expanded development; many existing contaminant sources will persist. There is an ongoing effort by the City of San Antonio to protect sensitive areas of the contributing and recharge zones in Bexar, Medina, and Uvalde Counties. Existing protected lands will potentially aid in reducing transport of contaminants to the San Antonio segment. The mimic cavesnail is also somewhat buffered from the immediate effects of contaminants at least in the near-term future. Deeper portions of that aquifer segment have historically been less impacted by contaminants, but that could change over several decades with increasing urbanization. Furthermore, the San Antonio segment has a great capacity to assimilate and dilute contaminants due to the massive volumes of water transported through the aquifer. The best available information does not allow us to determine whether contaminants would ever reach concentrations that would impair mimic cavesnail habitat. Thus, after assessing the best available information, we conclude that the mimic cavesnail is not likely to become endangered within the foreseeable future throughout all of its range.

We also evaluated whether the mimic cavesnail is endangered or threatened in a significant portion of its range. We did not find any portions of the mimic

cavesnail's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion either now or in the foreseeable future. Thus, after assessing the best available information, we conclude that the mimic cavesnail is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that mimic cavesnail is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the mimic cavesnail as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the mimic cavesnail species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R2–ES–2023–0175 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the mimic cavesnail SSA report. The Service sent the SSA report to five independent peer reviewers and received two responses. Results of this structured peer review process can be found at *https://www.regulations.gov.* We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

Northern Cavefish

Previous Federal Actions

On April 20, 2010, we received a petition from the Center for Biological Diversity, Alabama Rivers Alliance, Clinch Coalition, Dogwood Alliance, Gulf Restoration Network, Tennessee Forests Council, and West Virginia Highlands Conservancy to list 404 aquatic, riparian, and wetland species, including the northern cavefish, as endangered or threatened species under the Act. On September 27, 2011, we published in the **Federal Register** (76 FR 59836) a 90-day finding that the petition contained substantial information indicating listing may be warranted for the northern cavefish. This document constitutes our 12-month finding on the 2010 petition to list the northern cavefish under the Act.

Summary of Finding

Native to central Kentucky, the northern cavefish is a small, cave-dwelling fish found only in subterranean drainages. It is characterized by its rudimentary eyes; lack of skin pigment; large, flat head; and tubular, non-streamlined body. The standard length (tip of nose to end of last vertebra) of adult northern cavefish ranges from approximately 60 to 80 mm (2.4 to 3.1 in). The maximum known age for northern cavefish is 10 years, but the lifespan may be 20 to 40 years. The species has four life stages: egg, protolarva, juvenile, and adult. Eggs and protolarvae are held in the female's gill chamber until reaching the juvenile stage, when they swim freely apart from the mother. Age at reproductive maturity (adulthood) is around 6 years.

Northern cavefish occur in subterranean streams in Meade, Breckinridge, Hardin, Hart, and Edmonson Counties, Kentucky, south of the Ohio River. In Kentucky, this area is characterized as a karst ecosystem with underground drainage systems comprised of sinkholes and caves. The closely related Hoosier cavefish (*Amblyopsis hoosieri*) is restricted to Indiana north of the Ohio River. Formerly, the Hoosier cavefish was recognized as the northern cavefish, but the Hoosier cavefish is now known to be a distinct taxon based on morphological and genetic differences. Because northern cavefish inhabit underground stream networks that cannot be mapped or surveyed, the species likely occurs at sites that are inaccessible, and the true distribution and number of populations within the range of the northern cavefish is unknown.

Individuals of all northern cavefish life stages need generally cool water temperatures, sufficient dissolved oxygen, low salinity, and flowing water. The species needs slow-flowing pools or shoals, a food supply of invertebrates (may occasionally consume other northern cavefish), and substrates composed of fine particles. Floods are important for juveniles and adults as they provide detritus and food resources. At the population level, floods are important for reproduction (renewing generations) and maintaining connectivity, likely allowing passive transport between sites.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the northern cavefish, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats affecting the northern cavefish's biological status include water pollution, agriculture and forest loss, municipal and industrial development, and impoundment of surface waters.

Historically, there were at least six metapopulations (single population with subpopulations at different sites and some connectivity between sites) of northern cavefish. Two of those populations have no records since the 1990s and cannot be confirmed to be extant or extirpated. Based on occurrence records since 2000, the other four northern cavefish metapopulations are known to remain extant in two representation units. The representation units are separated by the Rough Creek Fault Zone, which is likely a barrier to cavefish dispersal. Population resiliency was not directly assessed; however, the number of individuals encountered during surveys of most sites is 20 or fewer, but some sites (subpopulations) have documented hundreds of northern cavefish.

Northern cavefish may be negatively impacted by groundwater contamination via storm runoff or intentional disposal of wastes in sinkholes, which are a predominant landscape feature in the species' range. While there is risk of a spill or surface release of contaminants to groundwater, there have been no documented cases of northern cavefish being harmed by such an event. In addition, it is unlikely contamination events would affect all populations, as the two representation units are separated by a fault zone barrier. Further, there is redundancy of subpopulations within at least two of the four known extant metapopulations (at least one metapopulation in each representation unit has multiple populations). Because there is redundancy of subpopulations within three of the four known, extant metapopulations (at least one metapopulation in each representation unit has multiple subpopulations) there are multiple populations distributed across a wide area (which buffers the impacts of adverse events), the current risk of extinction is low. Therefore, we find that the species is not in danger of extinction throughout all of its range.

Our future conditions analysis for the northern cavefish used projections of land uses and climate to assess potential groundwater contamination and changes in stream discharge and water temperature, respectively, to 30- and 50-year time horizons. It is reasonable to rely on these time horizons because they correspond to the range of available urbanization and land use change model forecasts. Furthermore, approximately

30 and 50 years represent timeframes for the species to respond to potential changes on the landscape. Two scenarios were projected, one under which human population growth and economic development is slow, and another under which such growth and development is more rapid. Climate in the species' range is expected to be warmer and wetter, but is unlikely to be a major threat to the species at the time horizons considered in our analysis. Likewise, under both scenarios and time horizons, the portion of developed land is expected to change very little. Given the projected small changes in threats and land use to 2070, we expect the northern cavefish will maintain species' redundancy and representation similar to current levels. In addition, the best scientific information indicates the species' population conditions have not substantially changed over time and are not expected to change within the foreseeable future given the projected lack of change in land uses and threats. Thus, after assessing the best available information, we conclude that the northern cavefish is not likely to become an endangered species within the foreseeable future throughout all of its range.

We also evaluated whether the northern cavefish is endangered or threatened in a significant portion of its range. We did not find any portions of the northern cavefish's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion either now or within the foreseeable future. Thus, after assessing the best available information, we conclude that the northern cavefish is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that northern cavefish is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the northern cavefish as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the northern cavefish species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R4–ES–2023–0176 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the northern cavefish SSA report. The Service sent the SSA report to seven independent peer reviewers and received no responses. Although we received no peer review responses, we received input from species experts during development of the SSA, which is incorporated into and cited in the SSA report. Results of this structured peer review process can be found at *https://www.regulations.gov.* We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

Smallscale Darter

Previous Federal Actions

On April 20, 2010, we received a petition from the Center for Biological Diversity, Alabama Rivers Alliance, Clinch Coalition, Dogwood Alliance, Gulf Restoration Network, Tennessee Forests Council, and West Virginia Highlands to list 404 aquatic, riparian, and wetland species, including the smallscale darter, as endangered or threatened species under the Act. On September 27, 2011, we published in the **Federal Register** (76 FR 59836) a 90-day finding that the petition contained substantial information indicating listing may be warranted for the smallscale darter. This document constitutes our 12-month finding on the 2010 petition to list the smallscale darter under the Act.

Summary of Finding

The smallscale darter is a member of the Class Actinopterygii (ray-finned fishes), Order Perciformes, Family Percidae (perches), in the subfamily Etheostomatinae (darters). This midsized darter reaches a maximum length of 93 mm (3.6 in). The species is native to the Stones River, Harpeth River, Red River, and Little River tributaries of the Cumberland River System in Kentucky and Tennessee. The Harpeth River and Stones River populations are in the greater Nashville area of Tennessee, while the Little River population is in Kentucky. The Red River population straddles the border of Kentucky and Tennessee. The smallscale darter is extant throughout its historical range.

Stream reaches occupied by smallscale darters tend to have stable banks, intact riparian areas, and clean cobble and boulder substrate. These stream characteristics support the reproduction of smallscale darters, in which females attach eggs under a rock, and males protect the eggs until they hatch. Juveniles may inhabit areas where the current is slower, water is shallower, and substrate is finer than areas inhabited by adults. At the microhabitat level, smallscale darters use deeper and faster flowing parts of riffles than other darters in the species' range.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the smallscale darter, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats affecting the smallscale darter's biological status include habitat destruction and degradation resulting from urbanization, agricultural land use, impoundments, and impaired water quality. We concluded in our analyses that impacts of isolated populations and climate change are not likely to negatively influence the species' viability. The smallscale darter is present throughout its historical range in four populations exhibiting moderate to moderate-high resiliency. This moderate to moderate-high resiliency of smallscale darter populations, combined with the species' presence throughout its historical area, provides moderate redundancy and representation rangewide. Given the moderate to moderate-high resiliency populations distributed across the historical range, the species is not currently in danger of extinction throughout its range. Thus, we find that the species is not in danger of extinction throughout all of its range.

The smallscale darter is expected to maintain at least moderate resiliency across its range for the foreseeable future in all but one scenario for one population. For the smallscale darter, we identified the foreseeable future as 30 years, the time period for which we could reliably predict both relevant land cover change and the species' response to these changes. In all three future scenarios, we project the species to be extant in the entirety of its known range, with moderate resiliency for all populations in two of the three scenarios. We determined that the magnitude and scale of impacts projected in the future will not impact the species such that it is likely to become an endangered species within the foreseeable future. Thus, after assessing the best available information, we conclude that the smallscale darter is not likely to become an endangered species within the foreseeable future throughout all of its range.

We also evaluated whether the smallscale darter is endangered or threatened in a significant portion of its range. We did not find any portions of the smallscale darter's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion either now or within the foreseeable future. Thus, after assessing the best available information, we conclude that the smallscale darter is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that smallscale darter is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the smallscale darter as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the smallscale darter species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R4–ES–2023–0177 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the smallscale darter SSA report. The Service sent the SSA report to five independent peer reviewers and received three responses. Results of this structured peer review process can be found at *https://www.regulations.gov*. We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

Texas Troglobitic Water Slater

Previous Federal Actions

On June 25, 2007, the Service received a petition from Forest Guardians (*i.e.,* WildEarth Guardians) requesting that the Service list 475 species, including the Texas troglobitic water slater, as endangered or threatened species and designate critical habitat under the Act. All 475 species occur within the Southwestern Region and were ranked as G1 or G1G2 species by NatureServe at the time. On December 16, 2009, the Service published in the **Federal Register** (74 FR 66866) a partial 90-day finding on the Texas troglobitic water slater and 191 other species, stating that the petition presented substantial scientific information indicating that listing may be warranted for 67 of the 192 species, including the Texas troglobitic water slater. This document constitutes our 12-month finding on the 2007 petition to list the Texas troglobitic water slater under the Act.

Summary of Finding

The Texas troglobitic water slater is a small, aquatic subterranean crustacean located in the artesian zone of the southern segment (also referred to as the San Antonio segment) of the Edwards Aquifer in Hays County, Texas. Texas troglobitic water slaters are expelled from the artesian zone of the Edwards Aquifer through artesian wells and springs. Because of its primarily non-photosynthetic diet and high well mortality relative to other collected subterranean taxa (which may indicate a longer distance traveled to the surface), the Texas troglobitic water slater likely occupies depths somewhere between 60 m (197 ft) and 152 m (498 ft) below the surface. This species of water slater has been collected from three discharge sites: the San Marcos artesian well, Diversion Spring, and the training area well. These sites are all within 600 m (2,000 ft) of each other and in close proximity (less than approximately 100 m (330 ft)) to the freshwater/saline-water zone of the Edwards Aquifer.

The Texas troglobitic water slater lives in water-filled voids within the aquifer, although the species has never been directly observed in its natural subterranean habitat and, thus, its specific habitat preferences are not known. Observations of congeneric species indicate the capacity for high rates of reproduction and benthic (crawling) movement of the species. Stable isotope data suggest the Texas troglobitic water slater is relatively low on the food web, serving as a benthic forager and/or scraper. The primary type of food consumed by the Texas troglobitic water slater is produced at the freshwater/saline-water interface, which likely necessitates that the species lives within close proximity to this interface.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the Texas troglobitic water slater, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats affecting the Texas troglobitic water slater's biological status include reductions in water quantity through groundwater pumping and development, reductions in water quality, the effects of climate change, and mortality from groundwater wells.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we found that the best available information does not indicate direct negative effects from environmental or anthropogenic factors to the Texas troglobitic water slater population, nor is there evidence indicating a change to demographic factors from historical levels. The primary driving factors of Texas troglobitic water slater viability are water quantity (*e.g.,* groundwater pumping and development) and water quality (*e.g.,* development and impervious cover). The Texas troglobitic water slater has survived significant drought periods (including the drought of record from the late 1940s to mid-1950s) and despite the examined factors, the population has maintained resiliency for more than a century. Additionally, the best available information does not indicate that any groundwater contamination is affecting the species. Finally, direct mortality through expulsion from groundwater wells is occurring, but the species' benthic lifestyle and likely high reproductive rate result in this level of mortality being unlikely to affect the population's current resiliency.

Our two plausible future scenarios for the species use projections out to 2050 and 2100. The primary factors driving the Texas troglobitic water slater population's future viability are water quantity and water quality. Increases in development lead to increases in impervious cover, altered recharge rates, and degraded water quality. The lands directly above Texas troglobitic water slater habitat are categorized as developed, and all anthropogenic factors already exist and will continue to influence the species' viability into the future. Projected land-use changes occurring over the recharge zone will also inhibit opportunities for surface water to enter the aquifer and for enough discharging water to effectively clear anthropogenic contaminants. Longer residence times of contaminants in groundwater and lack of photodegradation of constituents in the aquifer are not well understood, and it is uncertain how these changes will affect the Texas troglobitic water slater population into the future. There is no information assessing the environmental tolerance of the Texas troglobitic water slater or how degradation in water

quality can affect the species. Likewise, at this time, there are no appropriate isopod surrogates occupying a similar habitat with more information from which we could extrapolate for the Texas troglobitic water slater.

While climate change and other anthropogenic influences (*e.g.,* vegetation removal and urbanization) cause the surface to warm, a lag in increased groundwater temperature may occur. For ectothermic animals like the Texas troglobitic water slater, overall vulnerability to climate change will depend on thermal sensitivity and how quickly the buffered environment changes, and we do not have this information to inform our future scenarios. The southern segment of the Edwards Aquifer has a great capacity to assimilate and dilute contaminants as massive volumes of water transport these materials through the aquifer. However, contaminants in groundwater can be diluted over distance and time and flushed through discharge points more frequently than older groundwater at a greater depth. We have no information indicating whether contaminants would ever reach concentrations that would impair or kill Texas troglobitic water slaters in either scenario.

Current water planning does not account for climate change, although climate change will be considered in the upcoming Edwards Aquifer Habitat Conservation Plan (HCP). There remains a possibility that current State and local regulations on groundwater use may not be enough to maintain aquifer levels and springflows if conditions become worse than the drought of record. The Edwards Aquifer Authority is committed to improving their HCP, and funding was allocated to predict droughts and climate change impacts on the aquifer. Land in Hays County over the recharge zone was purchased or protected through easements, and partners are committed to purchasing more land in the future, in addition to implementing other conservation efforts. If current management of the southern segment of the Edwards Aquifer continues into the future, aquifer levels should not decline to a level where Texas troglobitic water slater habitat would not be maintained.

For both the lower and upper plausible future scenarios, the best available information does not project a negative impact from environmental or anthropogenic factors directly to the known Texas troglobitic water slater population at the depth at which they occur, nor is there evidence indicating a negative change to demographic factors historically. We expect that under both future scenarios, resiliency, redundancy, and representation of the species will be maintained into the foreseeable future. Neither future scenario projections point to evidence indicating any threat to the Texas troglobitic water slater population under current groundwater management implementation, which we anticipate will continue into the future. Thus, after assessing the best available information, we conclude that the Texas troglobitic water slater is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range.

We also evaluated whether the Texas troglobitic water slater is endangered or threatened in a significant portion of its range. We did not find any portions of the Texas troglobitic water slater's range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion either now or in the foreseeable future. Thus, after assessing the best available information, we conclude that the Texas troglobitic water slater is not in danger of extinction in a significant portion of its range now, or within the foreseeable future.

After assessing the best available information, we concluded that Texas troglobitic water slater is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the Texas troglobitic water slater as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the Texas troglobitic water slater species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R2–ES–2023–0178 (see **ADDRESSES**, above).

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994) and the Service's August 22, 2016, Director's Memo on the Peer Review Process, we solicited independent scientific reviews of the information contained in the Texas troglobitic water slater SSA report. The Service sent the SSA report to three independent peer reviewers and received two responses. Results of this structured peer review process can be found at *https://www.regulations.gov.* We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

New Information

We request that you submit any new information concerning the taxonomy of, biology of, ecology of, status of, or stressors to the Edison's ascyrum, Florida (lowland) loosestrife, Florida pinesnake, mimic cavesnail, northern cavefish, smallscale darter, or Texas troglobitic water slater to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**, whenever it becomes available. New information will help us monitor these species and make appropriate decisions about their conservation and status. We encourage local agencies and stakeholders to continue cooperative monitoring and conservation efforts.

References

A complete list of the references used in these petition findings is available in the relevant species assessment form, which is available on the internet at *https://www.regulations.gov* in the appropriate docket (see **ADDRESSES**, above) and upon request from the appropriate person (see **FOR FURTHER INFORMATION CONTACT**, above).

Authors

The primary authors of this document are the staff members of the Species Assessment Team, Ecological Services Program.

Authority

The authority for this action is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Martha Williams,

Director, U.S. Fish and Wildlife Service.

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