DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R2-ES-2023-0069; FF09E21000 FXES1111090FEDR 234]

RIN 1018–BE77

Endangered and Threatened Wildlife and Plants; Endangered Species Status for Toothless Blindcat and Widemouth Blindcat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the toothless blindcat (*Trogloglanis pattersoni*) and widemouth blindcat (*Satan eurystomus*), two cavefish species from the Edwards Aquifer in Bexar County, Texas, as endangered species under the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list the toothless blindcat and widemouth blindcat. After a review of the best available scientific and commercial information, we find that listing both species is warranted. If we finalize this rule as proposed, it would extend the Act's protections to these species. We have determined that designation of critical habitat is not prudent.

DATES: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. 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 [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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

(1) *Electronically*: Go to the Federal eRulemaking Portal: *https://www.regulations.gov*. In the Search box, enter FWS-R2-ES-2023-0069, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the 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-2023-0069, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

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

Availability of supporting materials: Supporting materials, such as the species status assessment report, are available at *https://www.regulations.gov* at Docket No. FWS-R2-ES-2023-0069.

FOR FURTHER INFORMATION CONTACT: Karen Myers, Field Supervisor, U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, 1505 Ferguson Lane, Austin, TX 78754; telephone 512–937–7371. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, a species warrants listing if it meets the definition of an endangered species (in danger of extinction throughout all or a significant

portion of its range) or a threatened species (likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range). If we determine that a species warrants listing, we must list the species promptly and designate the species' critical habitat to the maximum extent prudent and determinable. We have determined that the toothless blindcat and widemouth blindcat both meet the definition of an endangered species; therefore, we are proposing to list both as such. Listing a species as an endangered or threatened species can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 et seq.).

What this document does. We propose to list the toothless blindcat and the widemouth blindcat as endangered species under the Act.

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 the toothless blindcat and widemouth blindcat are endangered due to the threat of mortality from groundwater well pumping (Factor E).

The toothless blindcat and the widemouth blindcat occupy a limited range, and populations of both species have likely been severely reduced since the introduction of groundwater wells in the late 19th to early 20th centuries. The lethal discharge of the species through groundwater wells could potentially impact the populations directly, with an estimated cumulative loss of thousands of individuals. Additionally, the assumed life history traits (such as increased age at first reproduction, lower numbers of reproductively active females, reduced numbers of eggs, slower growth rates, and longer life spans) of both species make them more susceptible to long-term impacts on demographic structure in the form of lower numbers of

sexually mature fish, reduced reproductive output, and diminished recruitment of younger individuals.

Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary), to the maximum extent prudent and determinable, to designate critical habitat concurrent with listing. We have determined that designating critical habitat for the toothless blindcat and widemouth blindcat is not prudent because the main driver of both species' status is direct mortality resulting from groundwater well pumping (Factor E). The wells constructed in blindcat habitat are not affecting the species through habitat destruction or modification; instead, it is the capture, entrainment, and death of individuals due to uptake from groundwater well pumping that threatens the species. Since we have determined that the present or threatened destruction, modification, or curtailment of both species' habitats or range is not a threat to the toothless blindcat or the widemouth blindcat, we determine that designation of critical habitat is not prudent for the species.

Information Requested

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

(1) The species' biology, ranges, 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 ranges, including distribution patterns and the locations of any additional populations of these species;

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

(e) Past and ongoing conservation measures for these species, their habitats, or both.

(2) Threats and conservation actions affecting these species, including:

(a) Factors that may be affecting 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.

(b) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to these species.

(c) Existing regulations or conservation actions that may be addressing threats to these species.

(3) Additional information concerning the historical and current status of these species.

(4) Information regarding our determination that designating critical habitat for the toothless blindcat and widemouth blindcat is not prudent.

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

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the basis of the best scientific and commercial data available, and section 4(b)(2) of the Act directs that the Secretary shall designate critical habitat on the basis of the best scientific data available.

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

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

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *https://www.regulations.gov*.

Our final determinations may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive (and, if relevant, any comments on that new information), we may conclude that one or both of these species is threatened instead of endangered, or we may conclude that one or both of these species does not warrant listing as either an endangered species or a threatened species. In our final rule, we will clearly explain our rationale and the basis for our final decisions, including why we made changes, if any, that differ from this proposal.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the *Federal Register* and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the *Federal*

Register. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

We identified the toothless blindcat and widemouth blindcat as category 2 candidates in our December 30, 1982, candidate notice of review (CNOR) (47 FR 58454). Category 2 candidates were defined as taxa for which we had information indicating that proposing to list the species was possibly appropriate, but for which substantial data were not available to biologically support a proposed rule. Both species remained so designated in subsequent CNORs (50 FR 37958, September 18, 1985; 54 FR 554, January 6, 1989; 56 FR 58804, November 21, 1991; 59 FR 58982, November 15, 1994). In our February 28, 1996, CNOR (61 FR 7596), we discontinued the designation of category 2 species as candidates; therefore, the toothless blindcat and widemouth blindcat were no longer candidate species.

In August 1995, we received a petition from the American Society of Ichthyologists and Herpetologists (ASIH) and the Desert Fishes Council. The petition was to list three species, including the toothless blindcat and widemouth blindcat (ASIH 1995, entire). Subsequently, in 1998, we published a 90-day finding that the petition did not present substantial information indicating that these species warranted listing (63 FR 48166; September 9, 1998).

On June 25, 2007, we received a petition dated June 18, 2007, from Forest Guardians (now WildEarth Guardians) to list 475 species, including the toothless blindcat and widemouth blindcat, in the southwestern United States as endangered or threatened species and to designate critical habitat under the Act (Forest Guardians 2007, entire). On December 16, 2009, we published a partial 90-day finding (74 FR 66866) on 192 species from that petition; in that document, we announced that the petition presented substantial information that listing the toothless blindcat and widemouth blindcat may be warranted.

Peer Review

A species status assessment (SSA) team prepared an SSA report for the toothless blindcat

and widemouth blindcat. 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.

In accordance with our joint policy on peer review published in the *Federal Register* on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained in the toothless blindcat and widemouth blindcat SSA report (Service 2022, entire). We sent the SSA report to six independent peer reviewers and received four responses. Results of this structured peer review process can be found at *https://www.regulations.gov* under Docket No. FWS-R2-ES-2023-0069. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed in **Peer Review**, above, we received comments from four peer reviewers on the draft SSA report. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the content of the SSA report. The peer reviewers generally concurred with our methods and conclusions, and provided additional information, clarifications, and suggestions to improve the SSA. One peer reviewer questioned assumptions related to groundwater well mortality and habitat connectivity. Our review of the best available information regarding the impact of anthropogenic mortality (such as well mortality) on fish species similar to the toothless and widemouth blindcats (that is, fish species that are subterranean, are long-lived, and have reduced reproductive capacity) supports the findings of the SSA.

I. Proposed Listing Determination

Background

A thorough review of the taxonomy, life history, and ecology of the toothless blindcat (*Trogloglanis pattersoni*) and widemouth blindcat (*Satan eurystomus*) is presented in the SSA report (Service 2022, entire).

The toothless blindcat and widemouth blindcat are cavefish endemic to the San Antonio segment of the Edwards Aquifer in Bexar County, Texas. They inhabit a deep, inaccessible subterranean region of the aquifer, with all known specimens of both species having been collected from groundwater wells at depths at or greater than 308 meters (m) (1,010 feet (ft)). The toothless blindcat and the widemouth blindcat are members of the catfish (Siluriformes) family Ictaluridae, and are the only members of their respective genera, *Trogloglanis* and *Satan* (Arce-H et al. 2017, pp. 406–407, 415).

The toothless blindcat and widemouth blindcat occur in a very deep portion of the San Antonio segment of the Edwards Aquifer, where they can likely move through the groundwater flowing through a system of interconnected subterranean conduits (Ford and Williams 2007, pp. 103–106, 112–114; Culver and Pipan 2009, pp. 5–8; Veni 2012, pp. 603–608; White 2012, pp. 383–386). These caves and conduits are formed in the rock layers of the Edwards Aquifer through dissolution by groundwater (Livingston et al. 1936, pp. 72–73; Petitt and George 1956, p. 16; Maclay and Small 1986, p. 61).

Due to their deep subterranean habitat, the toothless blindcat and widemouth blindcat exhibit several stygomorphic (adaptations to subterranean conditions) characteristics, including depigmentation, absence of fully developed eyes, and short lateral line canals (Lundberg 1982, pp. 77–78; Langecker and Longley 1993, pp. 978–980; Lundberg et al. 2017, pp. 163–164). Blindcats lack scales and possess eight barbels (whisker-like sensory organs) arranged around the snout and mouth (Eigenmann 1919, p. 398; Hubbs and Bailey 1947, pp. 5, 10; Lundberg 1982, p. 16; Burr et al. 2020, p. 42). The toothless blindcat and widemouth blindcat appear to be

among the smallest known catfishes, reaching total lengths of up to 103.8 millimeters (mm) (4.1 inches (in)) and 136.9 mm (5.4 in), respectively (Hubbs and Bailey 1947, pp. 8–10, 12–14; Suttkus 1961, pp. 62–63; Lundberg 1982, pp. 10–11; Langecker and Longley 1993, p. 977; Burr et al. 2020, p. 26).

The toothless blindcat lacks teeth, and its jaw is thin and papery with a funnel-like mouth positioned ventrally below the snout (Hubbs and Bailey 1947, pp. 5, 11–12; Lundberg 1982, pp. 15–16). The widemouth blindcat possesses well-developed teeth, a robust jaw, and a larger mouth positioned transversely at the depressed and flat snout (Hubbs and Bailey 1947, p. 5). From their jaw and mouth morphology, as well as specimen stomach contents, we infer that the toothless blindcat is a detrivore that feeds on biofilm and other organic material, whereas the widemouth blindcat is likely an opportunistic predator capable of taking sizeable prey (Longley and Karnei 1978a, pp. 31, 34; Lundberg et al. 2017, pp. 160, 162).

There is documentation of toothless blindcat individuals being expelled from eight wells and widemouth blindcat individuals from five wells, with overlapping expulsions at two wells (Zara Environmental 2020, pp. 11–12; Diaz 2021, p. 30). Wells that have produced the species are relatively close, with an average distance between wells of 4.5 kilometers (km) (2.8 miles (mi)) for the toothless blindcat and 6.3 km (4.0 mi) for the widemouth blindcat (Service 2022, p. 45). Given the potential for hydrogeological connectivity, the species likely exist as single sympatric subterranean populations. Well depth ranges from 308 m (1,010 ft) to 582 m (1,909 ft) (Zara Environmental 2020, pp. 14–23), making these species some of the deepest known cavefish (Trajano 2001, p. 140; Fišer et al. 2014, p. 976). These wells are distributed along a southwest to northeast trending line through Bexar County, roughly paralleling the southeastern boundary of the aquifer's artesian zone. The artesian zone of the Edwards Aquifer is where hydraulic pressure of groundwater forces water to the surface, where the water escapes through springs, seeps, or wells drilled into the aquifer (Lindgren et al. 2004, pp. 35, 39–40).

The southeastern extent of the artesian zone represents the limit of freshwater in the

Edwards Aquifer (Hovorka et al. 1995, p. 3; Sharp and Smith 2019, pp. 151–152). Groundwater from the aquifer's artesian zone is considered high-quality with low dissolved solids ranging from 300 to 500 milligrams/liter (mg/l) (Petitt and George 1956, p. 76; Maclay et al. 1980, p. 8). To the southeast of the artesian zone, dissolved solids increase and the groundwater becomes progressively more saline (Groschen 1993, pp. 2, 7; Groschen and Buszka 1997, pp. 1–3). The contact point where freshwater (i.e., <1,000 mg/l dissolved solids) generally meets saline water (i.e., >1,000 mg/l) is termed the "freshwater/saline-water interface" (Arnow 1959, p. 40; Maclay et al. 1980, p. 10; Groschen 1993, p. 2; Groschen and Buszka 1997, pp. 1, 3). All wells where blindcats have been expelled occur just to the northwest of the freshwater/saline-water interface on the freshwater side.

Neither blindcat species has ever been directly observed in its natural subterranean habitat, but we can infer the species' needs from their location and from the life-history of other cavefish species. Subterranean habitat for the toothless blindcat and widemouth blindcat appears to be centered in an area of greater aquifer permeability in Bexar County (Maclay 1995, pp. 26–27; Hovorka et al. 1996, pp. 50, 54–57; Hovorka et al. 2004, p. 19). Concentrated groundwater flow in this area has likely resulted in the formation of enlarged faults, fractures, and cavernous openings that provide suitable physical habitat for the blindcats (Lindgren et al. 2004, pp. 16).

The area along the freshwater/saline-water interface is likely an area of focused groundwater movement due to greater porosity and permeability in that area (Maclay and Small 1986, p. 66; Hovorka et al. 1996, pp. 50, 54–57; Worthington 2003, pp. 16, 20, 23–24; Hovorka et al. 2004, pp. 19, 42; Lindgren et al. 2004, pp. 11, 15, 17–21, 26). We infer the importance of this location for these species from the hydraulic connectivity and the existence of aquifer food resources at great depth near this interface (Birdwell and Engel 2009, pp. 153–155; Engel and Randall 2011, pp. 313–314, 318; Hutchins et al. 2013, pp. 254–255; Bishop et al. 2014, pp. 90–91; Hutchins et al. 2016, pp. 1535–1539). Due to the historical absence of human-related contamination, we also infer that the toothless blindcat and widemouth blindcat are adapted to

and require groundwater of a certain quality from the Edwards Aquifer that is relatively free of anthropogenic contaminants.

Longevity and reproduction of the toothless blindcat and widemouth blindcat is not known but can be inferred from other cavefish species. Cavefishes are generally characterized by life history traits such as increased age at first reproduction, lower numbers of reproductively active females, reduced numbers of eggs, slower growth rates, and longer life spans (Poulson 1963, pp. 266, 268, 275; Trajano 1997, p. 367; Trajano 2001, pp. 152–153; Trajano and Bichuette 2007, p. 114; Niemiller and Poulson 2010, pp. 220–227, 232–235; Secutti and Trajano 2021, p. 103). Estimated lifespans of other cavefish range from 8 to 45 years (Niemiller and Poulson 2010, p. 226; Trajano 1997, p. 367; Trajano 2001, pp. 151–152; Trajano and Bichuette 2007, p. 114; Secutti and Trajano 2021, p. 103).

Because the blindcats are cavefish, we assume that age at first reproduction for the toothless blindcat and widemouth blindcat is likely older than 2 years of age, and the age at reproductive maturity is likely 6 years of age or older; this is older than the age at first reproduction for surface catfish species and similar to or older than the age of reproductive maturity for the northern cavefish (Niemiller and Poulson 2010, p. 221). Also, like other cavefishes (Niemiller and Poulson 2010, pp. 221–222), we assume that only a fraction (3 percent to 13 percent) of female toothless blindcats and widemouth blindcats produce offspring on an annual basis. Clutch size is likely comparable to the small clutches produced by *Noturus* species (fewer than 200 eggs). Adult toothless blindcats and widemouth blindcats probably reach significant ages for catfishes, with maximum ages of multiple decades (more than 25 years). The toothless blindcat and widemouth blindcat inhabit a subterranean system that is well-buffered from immediate seasonal changes. However, seasonality of reproduction cannot be dismissed, as these fish may respond to periods of high or low groundwater flow in relation to aquifer recharge.

Regulatory and Analytical Framework

Regulatory Framework

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

The Act defines an "endangered species" as a species that is in danger of extinction throughout all or a significant portion of its range, and a "threatened species" as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether any species is an endangered species or a threatened species because of any of the following factors:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and

conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

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

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

The Act does not define the term "foreseeable future," which appears in the statutory definition of "threatened species." Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term "foreseeable future" extends only so far into the future as we can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable

future is the period of time in which we can make reliable predictions. “Reliable” does not mean “certain”; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

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

Analytical Framework

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

To assess the viability of the toothless blindcat and the widemouth blindcat, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency is the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years), redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified these 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 both individual species' life-history needs. The next stage involved an assessment of the historical and current condition of each 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. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time which we then used to inform our regulatory decision.

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS-R2-ES-2023-0069 on *https://www.regulations.gov*.

Summary of Biological Status and Threats

In this discussion, we review the biological condition of the toothless blindcat and the widemouth blindcat and their resources, and the threats that influence these species' current and future condition, in order to assess these species' overall viability and the risks to that viability.

Species Needs

Adequate Population Size

Both species of blindcats are assumed to have potentially numbered in the tens of thousands of individuals historically (Trajano 2001, pp. 145–146; Service 2022, pp. 43–44). Due to the toothless blindcat being in a lower trophic level as a detrivore and the widemouth blindcat being in a higher trophic level as a predator, we assume the population of the widemouth blindcat is smaller than that of the toothless blindcat (Trajano 2001, p. 145). Adequate population size at sufficient density is needed for both species to access mates for reproduction and withstand stochastic events. Mortality events in long-lived, reproductively constrained fish

populations can have prolonged impacts on population demographics, including reduced numbers of sexually mature fish, reduced reproductive output, and diminished recruitment of younger individuals (Adams 1980, p. 7; Heppell et al. 2005, pp. 213–214, 217; Graening et al. 2010, pp. 74–75; Whiterod et al. 2018, pp. 622–626). Representation among various age-classes is needed to support recruitment of sexually mature adults to maintain adequate population sizes (Adams 1980, pp. 2–7; Poulson 2001, pp. 354–357; Hsieh et al. 2010, pp. 167–176).

Intact and Interconnected Subterranean Void Space

The toothless blindcat and widemouth blindcat inhabit subterranean voids of sufficient size and connectivity within the Edwards Aquifer. The species' occurrence from multiple wells along a southwest to northeast trending line in Bexar County suggests that the ranges of both species might be relatively continuous. Subterranean networks of water-filled conduits can facilitate gene flow through the water-filled voids of aquifers (Chippindale 2009, pp. 8–9; Vörös et al. 2018, p. 217; Corbin 2020, p. 75; Falniowski et al. 2021, pp. 4979–4980, 4985–4986; Grego and Pešić 2021, pp. 68, 73–74). Both fish species use these connected areas for dispersal, foraging, and reproduction (Service 2022, pp. 29–37, 44–45).

Adequate Groundwater Quantity

Sufficient volumes of groundwater are needed to fill subterranean void space and provide dispersal corridors for the species within a narrow band of the Edwards Aquifer. The region of the aquifer these species inhabit is an area of significant groundwater flow (Maclay and Small 1986, p. 66; Hovorka et al. 1996, pp. 50, 54–57; Worthington 2003, pp. 16, 20, 23–24, 31–32; Hovorka et al. 2004, pp. 19, 42; Lindgren et al. 2004, pp. 11, 15, 17–21, 26).

Suitable Water Quality

Over millions of years, both the toothless blindcat and widemouth blindcat have evolved to very deep aquifer conditions, including the water quality at these depths. Thus, they likely need water quality that matches natural aquifer conditions, including a pH of 7–8, a consistent temperature around 28 degrees Celsius (°C) (82 degrees Fahrenheit (°F)), specific conductivity

between 465–482 microsiemens per centimeter (μS/cm), and relatively free of contaminants (Karnei 1978, pp. 115–116; Service 2022, pp. 37–41).

Chemolithoautotrophic Food Web

Subterranean systems at great depths and without direct connections to the surface are often isolated from surface sources of organic matter (Akob and Küsel 2011, p. 3534; Hubalek et al. 2016, pp. 2447–2448; Itävaara et al. 2016, pp. 4, 6–8). Instead, food webs in these settings may be based on microbial production of organic carbon from inorganic materials in a process termed chemolithoautotrophy (Engel 2007, pp. 187–188). Microbes involved in chemolithoautotrophy include a wide range of bacteria and fungi adapted to the extreme conditions (such as high pressure and high salinity) of the deep subsurface (Amend and Teske 2005, pp. 145–147; Engel 2007, p. 188; Akob and Küsel 2011, pp. 3534, 3236; Itävaara et al. 2016, pp. 3–4, 20–22). The toothless blindcat is believed to be a detrivore that feeds on bacterial biofilms. The widemouth blindcat is hypothesized to be a predator that feeds on groundwater invertebrates and potentially suitably sized toothless blindcats. For both species to persist, they need a functional chemolithoautotrophic food web in an undegraded condition. Because groundwater in the Edwards Aquifer originates from precipitation and stream runoff, infusion of surface-borne nutrients to toothless blindcat and widemouth blindcat habitat cannot be discounted and may play some role in the deep aquifer food web. However, no accounts detailing surface-borne nutrient presence at great aquifer depth have been published to date.

Summary of Threats

We reviewed the potential threats that could be currently affecting the toothless blindcat and the widemouth blindcat. In this proposed rule, we will discuss only those threats in detail that could meaningfully impact the status of either species (a more in-depth analysis of all potential threats can be found in the SSA report (Service 2022, pp. 54–61, 87–95). We conducted a thorough analysis of threats to groundwater quality in terms of degradation due to pollutants and other contaminants and threats to groundwater quantity in the form of pumping and climate

change. We found that while these threats may impact the species, they are not likely to have effects at the population or species level. For example, groundwater contamination has the potential to impact the toothless blindcat and widemouth blindcat (Service 2022, pp. 60–61). However, because of the depth of the species' habitat and the thick impermeable rock layer covering it, groundwater contamination is not a primary threat for the status of the toothless blindcat or the widemouth blindcat. Similarly, because of the depth of the species' habitat, groundwater quantity to support habitat for the fishes has not experienced change from historical conditions. Aquifer water levels where the blindcats reside show no evidence of long-term decline, even at times of prolonged drought and unregulated pumping (Maclay 1995, pp. 48, 52; Lindgren et al. 2004, 40–41, 45). In addition, management of groundwater withdrawals from the San Antonio segment has been in place since the late 1990s (National Research Council 2015, pp. 24–27, 29, 32–36; National Academies of Sciences, Engineering, and Medicine 2018, pp. 7–8, 109, 152; Hardberger 2019, pp. 193–194; Payne et al. 2019, p. 199) and pumped volumes have decreased since 2008 (Service 2022, pp. 80–81). Flow protection measures are in place that principally protect the two largest spring systems in the region (Comal Spring and San Marcos Spring systems), but those measures also benefit water levels deeper in the aquifer. We also note that, while competition with exotic species was identified in our 90-day finding (74 FR 66866; December 16, 2009) as a potential threat, a thorough review of the literature and consultation with experts revealed no evidence of exotic species competing with or otherwise impacting either species. The primary threat affecting the status of the toothless blindcat and the widemouth blindcat is mortality through groundwater well uptake (Factor E).

Groundwater Wells

Prior to well drilling and extraction of groundwater from the Edwards Aquifer in the late 19th century, the toothless blindcat and widemouth blindcat were unaffected by anthropogenic surface activities given the substantial depth of their habitat and the layers of impermeable rock that separated that habitat from the surface. Extraction of groundwater from wells represented a

new and nearly constant stressor impacting both species' populations. Well mortality is currently the most direct and observable anthropogenic agent of mortality for both species. No toothless blindcat or widemouth blindcat expelled from groundwater wells has survived for any extended period, and many specimens are ejected mangled and dead due to battering as they are forced to the surface.

In Bexar County, the drilling of wells to meet public supply and irrigation demands began in the late 1880s (Livingston et al. 1936, p. 87; Petitt and George 1956, p. 44). The existence of the toothless blindcat and widemouth blindcat was only documented through individual fish expelled from groundwater wells in the early 20th century (Eigenmann 1919, pp. 397, 399–400; Hubbs and Bailey 1947, pp. 1, 4–11). More than 1,500 wells were drilled in Bexar County by 1953, with 250 wells being large capacity (i.e., 25–76 centimeters (cm) (10–30 in) in diameter) (Petitt and George 1956, p. 44; Maclay 1995, p. 43), with additional large capacity wells drilled during the 1950s across the City of San Antonio and Bexar County (Petitt and George 1956, p. 47; Arnow 1959, pp. 24, 29). Until 1996, groundwater extraction in Bexar County was completely unregulated, with no restrictions on well capacity, volumes of water discharged, or groundwater waste (Miller 2005, pp. 172–173; Gulley 2015, p. 2; Mace 2019, p. 208). From 1939 to 2000, annual groundwater withdrawals increased by an average of 5,550,660 cubic meters (m^3) (4,500 acre-feet (ac-ft)) per year(Lindgren et al. 2004, pp. 35–36). As of September 28, 2022, the Texas Water Development Board (2022, unpaginated) lists 307 active wells, at depths of more than 300 m (984 ft), that access the artesian zone of the Edwards Aquifer in Bexar County.

The additive effect of anthropogenic mortality on cavefishes has been studied for only a few taxa. Cavefish exhibit delayed maturity, reduced fecundity, low mortality, and longer lifespans (Pianka 1970, p. 592; Bichuette and Trajano 2021, p. 2). Because cavefish have few offspring, the loss of individuals can have a substantial effect on the population; any fish that is killed does not survive to reproduce and contribute individuals to the population in the future.

The Ozark cavefish (*Amblyopsis rosae*) is one example of the long-lasting impact of anthropogenic mortality. After the impact of human threats, populations of this species skewed towards older individuals with few younger fish present (Service 1989, p. 7; Graening et al. 2010, pp. 74–75). It was not until the 2000s, after a multi-decade period of recovery following the legal prohibition against collection, that a larger proportion of younger Ozark cavefish began to appear in populations, indicating the cessation of adult capture and the successful recruitment of juvenile fish (Graening et al. 2010, pp. 74–75).

Several deep-sea fishes also have similar life-history traits as cavefishes, including production of fewer and larger eggs, delayed sexual maturity, extended longevities, and roles as top predators in their respective systems (Poulson 2001, pp. 350, 357). Deep-sea fishes have been better studied regarding their response to anthropogenic mortality in the form of fishing (Adams 1980, pp. 1–2). Taxa such as orange roughy (*Hoplostethus atlanticus*), Patagonian toothfish (*Dissostichus eleginoides*), and other deep-sea species are very sensitive to overfishing (Adams 1980, pp. 4–5; Heppell et al. 2005, pp. 211–212). Fishing operations often target adult size classes that are slow to recruit into populations, which can lead to decreased egg production (Heppell et al. 2005, pp. 213–214, 217). As a result, deep-sea fish populations are slow to recover (i.e., multiple decades) from harvesting pressure due to reduced reproductive capacity (Adams 1980, p. 7; Whiterod et al. 2018, pp. 622–626).

The toothless blindcat and widemouth blindcat are among the oldest cavefishes in North America (Arce-H et al. 2017, pp. 421, 425). Both species, which are some of the deepest dwelling among known cavefishes, evolved over millions of years to inhabit very deep aquifer conditions (Trajano 2001, p. 140; Fišer et al. 2014, p. 976). The environmental stressors that typically affect and influence shallow subterranean systems (such as flooding, drying of cave passages/streams, and reduced surface nutrient input) are presumed to not operate, or are muted, at the depths where the blindcats occur. The deep artesian zone of the Edwards Aquifer provides a stable nutrient source (chemolithoautotrophy), consistent water quality (decades old

groundwater), and very attenuated responses to climatic changes (temperature changes) on the surface. Given their long evolutionary history, the toothless blindcat and widemouth blindcat have life history traits that make them comparable to, if not more sensitive than, most other cavefishes in their response to increased loss of individuals from their populations.

While cavefish collection and deep-sea fishing removes larger size-class fish, loss of toothless blindcats and widemouth blindcats to groundwater pumping is plausibly size-indiscriminate. Wells extracting groundwater have the potential to remove blindcats at all life stages given that motile life stages move through water-saturated voids and are thus likely pelagic. Blindcats observed or collected from groundwater wells have been juveniles to adults. No eggs or smaller size classes (e.g., larvae or fry) of either species have been reported to date. It is unlikely that eggs or larvae are not expelled from wells along with juveniles and adults. Rather, as larger individuals of both species are often severely mangled as they are forced up wells, it is probable that similarly transported eggs and larvae are physically destroyed and not visually discernable.

Additionally, unlike discrete collection and fishing events, groundwater pumping operates over much longer and sustained time frames given demands for groundwater. On an annual basis, wells may operate for several continuous months during the growing season for agricultural irrigation or nearly year-round for industrial and public water supply. The operational lifespan of many Bexar County wells is several decades long (e.g., more than 60 years; Service 2022, pp. 70–80). Consequently, there has likely been very limited opportunity for cessation of this stressor where wells intercept toothless blindcat and widemouth blindcat habitat. In essence, groundwater wells may constitute near-permanent population sinks that can result in the mortality of most blindcats at all life stages. Loss of immature and adult individuals would constrain population growth through reductions in egg production and recruitment of mature adults. The impact of groundwater well mortality on toothless blindcat and widemouth blindcat populations could be substantial, with the potential to expel substantial numbers of toothless

blindcats and widemouth blindcats over their operational lifespans (see *Current Condition*, below; Longley and Karnei 1978a, p. 36; Longley and Karnei 1978b, p. 39; Service 2022, pp. 74–79).

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have analyzed the cumulative effects of identified threats and conservation actions on these species. To assess the current and future condition of these species, we evaluate the effects of all the relevant 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.

Conservation Efforts and Regulatory Mechanisms

In the early 1990s, federal litigation (*Sierra Club* v. *Secretary of the Interior*, No. MO-91-CA-069, U.S. District Court for the Western District of Texas) directed the Service to make determinations regarding minimum spring flows and aquifer levels necessary to support listed species occurring in the Comal Spring and San Marcos Spring systems. The Service produced a recovery plan with that guidance in 1996 (Service 1996, entire). Another outcome of litigation was the creation, in 1993, of the Edwards Aquifer Authority by the State of Texas to manage groundwater withdrawals (by nonexempt wells) from the San Antonio segment of the Edwards Aquifer (National Research Council 2015, pp. 24–26; Hardberger 2019, pp. 193–194; Payne et al. 2019, p. 199). The regulatory area of the Edwards Aquifer Authority includes all or a portion of Bexar, Comal, Hays, Medina, and Uvalde Counties.

The Edwards Aquifer Authority developed a habitat conservation plan, approved by the Service in 2013, which provides measures to minimize and mitigate take of the nine listed species related to covered activities (National Research Council 2015, pp. 27, 29, 32–36; RECON Environmental, Inc. 2021, pp. 3-55–3-67). Covered activities include groundwater

withdrawals for drinking water supplies and irrigation as well as recreational activities (National Research Council 2015, pp. 32–36; RECON Environmental, Inc. 2021, pp. 2-1–2-16).

The voluntary minimization and mitigation measures of the plan are based on maintaining sufficient minimum flows at Comal Spring and San Marcos Spring to sustain listed species during a reoccurrence of prolonged drought conditions (National Research Council 2015, pp. 32–36; National Academies of Sciences, Engineering, and Medicine 2018, pp. 67–68; Service 2022, p. 64). A review of the Edwards Aquifer Habitat Conservation Plan suggests that flow protection measures, including groundwater modeling efforts, appear to be effective in meeting flow requirements of covered species (National Academies of Sciences, Engineering, and Medicine 2018, pp. 7–8, 109, 152). Additionally, volumes of groundwater pumped from the San Antonio segment of the Edwards Aquifer have decreased since 2008 (Service 2022, pp. 64–65).

The toothless blindcat and widemouth blindcat are not included in the habitat conservation plan because the plan's actions are most applicable to spring-dwelling species that inhabit upper portions of the Edwards Aquifer (RECON Environmental, Inc., pp. 1–9). However, protection of sustained flow at the Comal Spring and San Marcos Spring systems does provide overarching protection for species that inhabit deep portions of the San Antonio segment. Persistence of surface discharge at those spring systems suggests that deeper levels of the aquifer have not been appreciably reduced and remain water-saturated (Maclay 1995, pp. 48, 52; Lindgren et al. 2004, 40–41, 45).

An additional conservation measure is land protection efforts by the City of San Antonio's Edwards Aquifer Protection Program (Stone and Schindel 2002, pp. 38–39; Carnett 2022, unpaginated). In 2000, San Antonio passed Proposition 3, an initiative to fund the acquisition (fee-simple and conservation easements) of open space to protect the contributing and recharge zones of the aquifer in Bexar County (Romero 2018, p. 2). That program was reapproved in 2005, 2010, and 2015, with additional funds to acquire open space (Reilly and

Carter 2018, pp. 1-3–1-5). The effort was later expanded to acquire lands in Medina and Uvalde Counties that contain larger portions of the Edwards Aquifer's contributing and recharge zones (Romero 2018, pp. 5–6, 8). The dedicated sales tax expired in 2021, with 97,124 hectares (240,000 acres) acquired under the Edwards Aquifer Protection Program (Carnett 2022, unpaginated). The City of San Antonio recently approved an alternative funding stream to support land acquisitions through the commitment of $100 million over 10 years (Carnett 2022, unpaginated). Protection of open space has the potential to reduce the impacts of development (for example, run-off from impervious cover, fertilizer applications, and wastewater) and maintain aquifer recharge (Reilly and Carter 2018, pp. 3-2, 3-6; Romero 2018, pp. 5–6).

Several other entities also have measures to protect groundwater from contamination. These entities include the Edwards Aquifer Authority's Aboveground Storage Tank Program, Agricultural Secondary Containment Assistance Program, and Abandoned Well Program, among others (Edwards Aquifer Authority 2022, unpaginated). The San Antonio Water System implemented several water quality protection measures including development regulations (City of San Antonio Code of Ordinances, chapter 34, article VI, division 6, Aquifer Protection Ordinance No. 81491) for properties over the contributing and recharge zones, review of building permits and master development plans, regulation of underground storage tanks, and commercial/industrial compliance (San Antonio Water System 2022, unpaginated).

Current Condition

To assess the current conditions of the toothless blindcat and widemouth blindcat, we established analysis units immediately around well sites with documented records of the toothless blindcat or widemouth blindcat ("immediate area analysis units"), as well as a larger area encompassing these smaller units ("potential area of occurrence") in order to assess threats to the fishes in a more spatially extensive area with a potentially contiguous subterranean system of voids within the aquifer. Neither of these units define populations but rather geographic areas we presume are areas of potential occupancy or areas that are important to or could influence

both species' survival. The SSA report further details the methodology and rationale for creating these units (Service 2022, pp. 67–68).

Eight wells that historically produced toothless blindcat (six wells) and widemouth blindcat (four wells; two of which overlap with the toothless blindcat wells) have either been capped, plugged, or destroyed. Three wells that produced toothless blindcats (one of which also produced widemouth blindcats) are presumed to still operate, as we do not have access to the wells to confirm, nor do we have evidence to the contrary. Including these three wells, the immediate area analysis units contain a combined total of 27 active groundwater wells. Most of these wells are for agricultural irrigation or public water supply. The average age of these wells is 68 years, with the oldest well drilled in 1933 and the latest in 1985. Seventeen wells in the analysis units have been abandoned, plugged, or destroyed, including historical blindcat wells. Besides the documented blindcat wells in the analysis units, only 1 of the 24 active wells has ever been sampled for blindcats due to lack of access.

In the larger potential area of occurrence, a total of 82 active groundwater wells are established, including the active blindcat wells. Most of these wells are used for irrigation, public water supply, and industrial purposes. Primary water uses of the remaining wells are for aquaculture, domestic purposes, and livestock. Average age of active wells is 66 years, with the earliest wells drilled in 1915 and most recent in 2020. There are 36 abandoned, plugged, or destroyed wells in the potential area of occurrence. The four wells that have been sampled in this area showed no evidence of either blindcat species (Karnei 1978, pp. 68–70; Zara Environmental 2010, p. 68; 2020, p. 10).

Well Mortality Estimates

Researchers who have sampled groundwater wells for the toothless blindcat and widemouth blindcat have developed catch-per-unit-effort estimates for their sampling efforts (Longley and Karnei 1978a, pp. 35–36; 1978b, pp. 36, 38–40; Zara Environmental 2020, pp. 23–27). Catch per unit effort was expressed as volume of groundwater exiting a well to produce one

individual of either species. Available estimates were based on surveys of toothless blindcat and widemouth blindcat populations that had already been subjected to several decades of unregulated groundwater extraction. The status of both blindcat species' populations prior to groundwater pumping is unknown, although it is known that both species experienced mortality once wells were established. It is plausible that, at the time of survey efforts (late 1970s and 2008 to 2014), toothless blindcat and widemouth blindcat population resiliency had already been diminished to some extent from past well mortality.

We assume that a higher catch per unit effort at a well, or lower volume of groundwater required to produce a single individual, may reflect larger blindcat populations. The highest catch per unit effort for both the toothless blindcat and widemouth blindcat comes from estimates for the Artesia Pump Station Well, with one toothless blindcat caught with every 65,000 m^3 (53 ac-ft) of groundwater and one widemouth blindcat caught with every 129,515 m^3 (105 ac-ft) of groundwater (see Table 1 below; Longley and Karnei 1978a, pp. 35–36; 1978b, pp. 36, 38–40).

We apply those estimates of catch per unit effort to estimate blindcat well mortality. These estimates of blindcat well mortality do not account for variability in distribution and extent of suitable blindcat habitat, fish abundances by site, well size and discharge capacity, periods of discharge (intermittent or constant), location of well casing relative to potential habitat, and reporting of discharged volumes. Complete data on those and other variables are not available.

Estimates of well mortality also only apply to assumed losses of larger juvenile and adult fishes. Catch per unit effort has never been developed for larvae and very small juveniles. The following estimates of well mortality will therefore be underestimates, as no data exist on loss of those life stages. Research on other cavefishes and deep-sea fishes with similar life history traits suggests that sustained loss of individuals, especially sexually mature fish, can result in reduced population sizes and changes in demographic structure.

To estimate average annual mortality, we examined pumped groundwater volume data available for 51 wells in the potential area of occurrence between the years of 2010 to 2017

(Edwards Aquifer Authority 2021, unpaginated). Using the annual average volume of groundwater pumped from all 51 wells, 10,401,411 m^3 (8,433 ac-ft), multiplied by the estimated catch per unit effort, 159 toothless blindcats and 80 widemouth blindcats may have been expelled from wells annually. This is likely an underestimate of losses, as it does not include losses of other immature stages, such as larvae or fry. These numbers could be higher still considering the remaining active wells for which pumped data are not available. Abandoned and plugged wells would have also contributed to past mortality during their operational lifespans.

Most wells in the potential area of occurrence have been in operation for multiple decades (average age of 66 years). To illustrate the potential total loss of blindcats to wells operated over several decades, we assigned the average annual volume discharged (calculated from three wells from 2010 to 2017) to all wells for all years between the completion of a well to 2021 (the latest year for which data were available). As we assume the blindcats have long lifespans, the likelihood that individuals will encounter the capture zone of an active groundwater well increases over time. Wells operating over several decades, and discharging relatively moderate volumes of groundwater, could result in the loss of over a thousand toothless blindcats and several hundred widemouth blindcats per individual well (see Table 1 below, Service 2022, p. 77).

TABLE 1.—Estimated potential loss of toothless blindcats and widemouth blindcats to groundwater wells. Estimates are for the wells within the potential area of occurrence with water volume data (n=51), given operational lifespan (average age of 66 years), and catch per unit effort reported for Artesia Pump Station Well (Longley and Karnei 1978a, pp. 35–36; 1978b, pp. 36, 38–40).

Species	**Volume to Produce One Individual**	**Individuals Lost Per Year Per Well**	**Total Estimated Number of Individuals Lost in 51 Wells within Potential Area of Occurrence**
Toothless blindcat	65,000 m^3 (53 ac-ft)	159	535,194
Widemouth blindcat	129,515 m^3 (105 ac-ft)	80	269,280

In addition to the estimated loss from moderate capacity wells, greater capacity wells have been drilled in or near the potential area of occurrence, but data are lacking regarding their historical discharge volumes. The following mortality estimates for larger capacity wells further illustrate the potential impact high volume wells could have on blindcat numbers over decades of operation.

In 1941, San Antonio Public Service Company Well 4 was drilled to a depth of 314 m (1,032 ft) (Livingston 1942, p. 1; Petitt and George 1956, p. 47). That well is approximately 2.4 km (1.5 mi) to the northeast of Bexar Metropolitan Water District Well (a widemouth blindcat locality) and 7.5 km (4.7 mi) to the southwest of the Artesia Pump Station Well (a toothless blindcat and widemouth blindcat locality). It is conceivable that blindcat habitat extended to that location, although the well has never been sampled for either fish species.

Flow at San Antonio Public Service Company Well 4 has been recorded at 1.05 m^3 per second (m^3/sec) (37 cubic feet per second (ft^3/sec)) (Livingston 1942, pp. 3–4). Flow at that rate over 12 months would result in discharge of 33,134,800 m^3 (26,863 ac-ft) of groundwater and potentially 507 toothless and/or 266 widemouth blindcats per year. If that well operated at that capacity over its 81-year operational lifespan, 41,055 toothless blindcats and 20,723 widemouth blindcats could have potentially been expelled from the well. Well 4 is still in operation based on Texas Water Development Board records.

In 1891, the first of a series of 20 to 30 cm (8 to 12 in) diameter wells were drilled in what would become the Market Street Pump Station (Ewing 2000, pp. 13, 15, 22; Eckhardt 2016, unpaginated). The 1891 well was 271 m (890 ft) deep and produced 4,144,499 m^3 (3,360 ac-ft) of groundwater per year (Ewing 2000, pp. 13, 22). Three additional wells were drilled in 1894, one well with an annual pumped capacity of 7,598,248 m^3 (6,160 ac-ft) and two wells at 4,144,499 m^3 (3,360 ac-ft) (Ewing 2000, p. 22). The total annual pumping capacity of these four wells would have been 20,031,745 m^3 (16,240 ac-ft). If blindcats entered the capture zones of

these wells, 305 toothless blindcats and 155 widemouth blindcats could have been discharged per year.

By 1924, the Market Street pump station had 12 wells with a combined capacity of pumping 59,404,485 m^3 (48,160 ac-ft) per year (Ewing 2000, p. 15). The pump station's 1924 capacity of 59,404,485 m^3 (48,160 ac-ft) could have resulted in the discharge of 9,086 toothless blindcats and 4,587 widemouth blindcats over a 10-year period. At that same rate, from 1924 to 2022, 89,051 toothless blindcats and 44,491 widemouth blindcats would have been expelled from wells over that 98-year period. The Market Street pump station is still in operation today with several large capacity wells (Eckhardt 2016, unpaginated).

While these scenarios of blindcat losses due to wells are hypothetical estimates, they provide insight into the scale of well mortality for the toothless blindcat and widemouth blindcat. We know that both species are ejected by groundwater wells and die. It is evident that wells extracting water from the artesian zone remove blindcats and that large capacity wells have the potential to expel thousands of individuals over a well's operational lifespan. However, the location and depth of wells influence their ability to affect blindcat populations; only certain wells will intercept areas occupied by toothless and/or widemouth blindcats. That said, very productive groundwater wells likely intercept larger water-filled voids that would serve as blindcat habitat (Maclay 1995, p. 43).

Conclusions

The most significant stressor to populations of the toothless and widemouth blindcats is mortality due to groundwater pumping. Individuals of both species are forced up artesian and pumped wells where they are physically damaged and killed. Wells with long operational lifespans could have resulted in the deaths of thousands to tens of thousands of individuals. All life stages of the blindcats are expected to experience mortality due to the action of groundwater wells. The greatest loss of blindcats potentially occurred from the early 1940s into the early

1960s, when the largest number of groundwater wells were drilled in the potential area of occurrence within the Edwards Aquifer.

The widemouth blindcat has not been observed from any well since 1984. Due to groundwater pumping, the species may have declined to undetectable numbers (Ferretti et al. 2008, pp. 960–962) or become functionally extinct (i.e., permanent reproductive failure prior to true extinction; Ricciardi et al. 1998, p. 617; Delord 2007, p. 659; Bull et al. 2009, p. 419; Roberts et al. 2017, p. 1193). Toothless blindcats, however, have been taken from the Aldridge 209 Well most years between 2008 and 2013 and from 2020 to 2022. The species appears to be persisting in this area but seemingly in low numbers. Between 2008 and 2013, material potentially representing 13 individual toothless blindcats was taken from the Aldridge 209 Well (Zara Environmental 2020, pp. 11, 18–20). Between 2021 and 2022, material potentially comprising four toothless blindcats was taken from the same well (Diaz 2021, p. 29). Whether abundance of the species at that site has declined over the well's 67-year operational lifespan is unknown. We assume that numbers of the toothless blindcats at the Aldridge 209 Well are likely lower than prior to 1955, when the well was first drilled. The next most recent records for the toothless blindcat are at Tschirhart Well in 2010. The status of both species at other wells is unknown, as they remain unsampled since the late 1970s to 1980s due to lack of sampling access.

While pumping has resulted in the directly mortality of both species, groundwater quantity to support habitat for the fishes has not experienced change from historical conditions. In contrast to surface aquifer levels, which occasionally decline, the exceedingly deep aquifer water levels where the fishes reside show no evidence of long-term decline, even at times of prolonged drought and unregulated pumping (Maclay 1995, pp. 48, 52; Lindgren et al. 2004, 40–41, 45). In addition, management of groundwater withdrawals from the San Antonio segment has been in place since the late 1990s (Service 2022, pp. 62–66) and pumped volumes have decreased since 2008 (Service 2022, pp. 64–65). Flow protection measures are in place that

principally protect the Comal Spring and San Marcos Spring systems, but those measures also benefit water levels deeper in the aquifer. Groundwater contamination does not appear to have been a widespread or prevalent stressor for either species. In terms of drinking water standards, contaminants in the San Antonio segment occur in relatively low concentrations. The presence of contaminants also decreases with depth in the aquifer where older water is less affected by contamination. Complete analyses of the impact of the threats of groundwater quantity, climate change, and contamination on the toothless blindcat and the widemouth blindcat can be found in the SSA report (Service 2022, pp. 81–85).

Based on available information, we expect that the resiliency of both species' populations has been reduced from pre-1950 levels, the period of new groundwater well establishment in the analysis unit. Although populations of the toothless blindcat and widemouth blindcat have been postulated as large (Longley and Karnei 1978a, p. 36; 1978b, p. 39; Trajano 2001, pp. 145–146), the extensive estimated mortality from groundwater wells has likely taken a toll on those potential numbers. Additionally, because the toothless blindcat and the widemouth blindcat exist as single sympatric subterranean populations, both species effectively lack redundancy and have limited representation. This places the toothless and widemouth blindcats at greater risk from stochastic events and anthropogenic stressors, such as groundwater well mortality. Well mortality has likely reduced the abundance of both blindcats. Furthermore, the life history traits of both species suggest that sustained loss of individuals, especially sexually mature fish, can result in reduced population sizes and changes in demographic structure in the form of lower numbers of sexually mature fish, reduced reproductive output, and diminished recruitment of younger individuals.

Future Condition

As part of the SSA, we evaluated the future conditions of the toothless blindcat and widemouth blindcat by examining the most plausible future projections for human population growth, groundwater demands, and climate change. Our projections show ongoing well mortality

through groundwater pumping, but no significant change to toothless blindcat and widemouth blindcat habitat due to groundwater quality and quantity (Service 2022, pp. 81–86). Because we determined that the current conditions of both species are consistent with an endangered species (see **Determination of the Toothless Blindcat's and Widemouth Blindcat's Status**, below), we are not presenting the results of the future scenarios in this proposed rule. Please refer to the SSA report (Service 2022, pp. 86–95) for the full analysis of future scenarios.

Determination of the Toothless Blindcat's and Widemouth Blindcat's Status

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

Status Throughout All of Their Ranges

We find that mortality resulting from the pumping of groundwater wells (Factor E) is the primary threat to both species. The species occupy a limited range, and populations of both species have likely been severely reduced since the introduction of groundwater wells in the late 19th to early 20th century. There are currently 82 active groundwater wells in the potential area of occurrence (Service 2022, p. 72). No toothless blindcat or widemouth blindcat expelled from groundwater wells has survived for any extended period, and many specimens are ejected mangled and dead due to battering as they are forced to the surface. Discharge and sampling data

indicate an individual well operating over several decades (that is, since the 1950s), and discharging relatively moderate volumes of groundwater could conservatively result in losses of over a thousand toothless blindcats and several hundred widemouth blindcats.

These losses of individual fish to groundwater wells over time suggest that both species were, and will continue to be, impacted from actively pumped wells. Although population sizes for the toothless blindcat and widemouth blindcat may have historically been large, we project that thousands to tens of thousands of fish have been lost to groundwater wells since the early 1900s, and that the resiliency of both species' populations has been reduced. Both the toothless blindcat and the widemouth blindcat are long-lived and pelagic, and thus more likely to encounter a well over their lifespan and be captured by well uptake. These species have life-history traits that limit reproductive capacity and recruitment, as documented in other cavefish species. These same traits make the blindcats more susceptible to long-lasting population impacts from well mortality losses.

The widemouth blindcat has not been observed at a well since the mid-1980s, and toothless blindcat has only been expelled from a single groundwater well multiple times between 2008 and 2013 and from 2020 to 2022. The toothless blindcat thus appears to be persisting at this location in low numbers. Well mortality has likely reduced the abundances of both blindcats along with effects on demographic structure in the form of lower numbers of sexually mature fish, reduced reproductive output, and diminished recruitment of younger individuals. Given these impacts and the limited range of both species, it is unlikely that even relatively robust populations of the toothless blindcat and widemouth blindcat could indefinitely sustain continued losses from well mortality. Both species have limited redundancy and representation, making the loss of resiliency from well mortality particularly detrimental.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we conclude that both species have experienced and continue to experience the deleterious impacts of well mortality to such an extent that both

species are currently in danger of extinction, rather than at some point in the foreseeable future. Therefore, both species meet the Act's definition of an endangered species rather than that of a threatened species. Thus, after assessing the best available information, we determine that both the toothless blindcat and the widemouth blindcat are in danger of extinction throughout all of their ranges.

Status Throughout a Significant Portion of Their Ranges

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 toothless blindcat and widemouth blindcat are in danger of extinction throughout all of their ranges and accordingly did not undertake an analysis of any significant portion of their ranges. Because the toothless blindcat and widemouth blindcat warrant listing as endangered throughout all of their ranges, our determination does not conflict with the decision in *Center for Biological Diversity* v. *Everson*, 435 F. Supp. 3d 69 (D.D.C. 2020), which vacated the provision of the Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species" (79 FR 37578; July 1, 2014) providing that if the Service determines that a species is threatened throughout all of its range, the Service will not analyze whether the species is endangered in a significant portion of its range.

Determination of Status

Our review of the best available scientific and commercial information indicates that both the toothless blindcat and widemouth blindcat meet the Act's definition of an endangered species. Therefore, we propose to list both the toothless blindcat and the widemouth blindcat as 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 as a listed species, planning and implementation of 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, including the Service, 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 goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

The recovery planning process begins with development of a recovery outline made available to the public soon after a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions while a recovery plan is being developed. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) may be established to develop and implement recovery plans. The recovery planning process involves the identification of actions that are necessary to halt and reverse the species' decline by addressing the threats to its survival and recovery. The recovery plan 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. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery outline, draft recovery plan, final recovery plan, and any revisions will be available on our website as they are completed (*https://www.fws.gov/program/endangered-species*), 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 ranges 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 these species are 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 toothless blindcat and widemouth blindcat. Information on our grant programs that are available to aid species recovery can be found at: *https://www.fws.gov/service/financial-assistance*.

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

Section 7 of the Act is titled Interagency Cooperation and mandates all Federal action agencies to use their existing authorities to further the conservation purposes of the Act and to ensure that their actions are not likely to jeopardize the continued existence of listed species or adversely modify critical habitat. Regulations implementing section 7 are codified at 50 CFR part 402.

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Each Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. If a determination is made that the action may affect listed species or critical habitat, formal consultation is required (see 50 CFR 402.14(a)), unless the Service concurs in writing that the action is not likely to adversely affect listed species or critical habitat. At the end of a formal consultation, the Service issues a biological opinion, containing its determination of whether the Federal action is likely to result in jeopardy or adverse modification.

In contrast, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any 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 critical habitat proposed to be designated for such species. Although the conference procedures are required only when an action is likely to result in jeopardy or adverse modification, action agencies may voluntarily confer with the Service on actions that may affect species proposed for listing or critical habitat proposed to be designated. In the event that the subject species is listed or the relevant critical habitat is designated, a conference opinion may be adopted as a biological opinion and serve as compliance with section 7(a)(2) of the Act.

Examples of discretionary actions for the toothless blindcat and the widemouth blindcat that may be subject to conference and consultation procedures under section 7 are land

management or other landscape-altering activities on Federal lands administered by the U.S. Department of Agriculture as well as 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. Federal agencies should coordinate with the local Service field office (see **FOR FURTHER INFORMATION CONTACT**, above) with any specific questions on section 7 consultation and conference requirements.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to endangered wildlife. The prohibitions of section 9(a)(1) of the Act, codified at 50 CFR 17.21, make it illegal for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or to cause to be committed any of the following: (1) Import endangered wildlife into, or export from, the United States; (2) take (which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) endangered wildlife within the United States or on the high seas; (3) possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such wildlife that has been taken illegally; (4) deliver, receive, carry, transport, or ship in interstate or foreign commerce in the course of commercial activity; or (5) sell or offer for sale in interstate or foreign commerce. Certain exceptions to these prohibitions apply to employees or agents 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 wildlife under certain circumstances. Regulations governing permits for endangered wildlife are

codified at 50 CFR 17.22. With regard to endangered wildlife, a permit may be issued for scientific purposes, for enhancing the propagation or survival of the species, or for take incidental to otherwise lawful activities. The statute also contains certain exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

It is the policy of the Services, as published in the *Federal Register* on July 1, 1994 (59 FR 34272), to identify, to the extent known at the time a species is listed, specific activities that will not be considered likely to result in violation of section 9 of the Act. To the extent possible, activities that will be considered likely to result in violation will also be identified in as specific a manner as possible. 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.

At this time, we are unable to identify specific activities that would or would not be likely to result in a violation of section 9 of the Act beyond what is already clear from the descriptions of prohibitions or already excepted through our regulations at 50 CFR 17.21 (e.g., any person may take endangered wildlife in defense of his own life or the lives of others). As discussed above, certain activities that are prohibited under section 9 may be permitted under section 10 of the Act. 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 each Federal action agency 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 designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Rather, designation requires that, where a landowner requests Federal agency funding or authorization for an action that may affect an area designated as critical habitat, the Federal agency consult with the Service under section 7(a)(2) of the Act. If the action may affect the listed species itself (such as for occupied critical habitat), the Federal agency would have already been required to consult with the Service even absent the designation because of the

requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to 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 data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat).

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.

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 the 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, or other species conservation planning efforts if new information available at the time of those 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, there are no significant habitat-based threats that currently, or would in the future, limit habitat for the toothless blindcat and the widemouth blindcat. The present or threatened destruction, modification, or curtailment of the blindcats' habitat or range is not a threat to the species. In light of the particular circumstances of these two species, we have determined that designation of critical habitat is not prudent. We reach this conclusion largely because of the nature of the main threat for these species: direct mortality resulting from groundwater well pumping (Factor E). The wells constructed in these blindcats' habitat are not affecting the species through habitat destruction or modification; instead, it is the capture,

entrainment, and death of individuals due to the pumping of groundwater wells that is a threat to the species. Designation of critical habitat would not provide any additional protective measures or benefits that address this specific threat. In addition, the designation of critical habitat would not provide otherwise unavailable information to guide conservation efforts for these species. Therefore, a designation of critical habitat would not be advantageous for these species.

Since we have determined that the present or threatened destruction, modification, or curtailment of both species' habitat or range is not a threat to the toothless blindcat and the widemouth blindcat, in accordance with 50 CFR 424.12(a)(1), we determine that designation of critical habitat is not prudent for the toothless blindcat and the widemouth blindcat

Required Determinations

Clarity of the Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

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

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), E.O. 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 federally recognized Tribes on a government-to-government basis. In accordance with Secretary's 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. No Tribal lands were identified within the range of the toothless blindcat or widemouth blindcat.

References Cited

A complete list of references cited in this proposed rule is available on the internet at *https://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, Plants, Reporting and recordkeeping requirements, Transportation, Wildlife.

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife by adding entries for “Blindcat, toothless” and “Blindcat, widemouth” in alphabetical order under FISHES to read as follows:

§ 17.11 Endangered and threatened wildlife.

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(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
* * * * * * *				
FISHES				
* * * * * * *				
Blindcat, toothless	*Trogloglanis pattersoni*	Wherever found	E	[*Federal Register* citation when published as a final rule].
Blindcat, widemouth	*Satan eurystomus*	Wherever found	E	[*Federal Register* citation when published as a final rule].
* * * * * * *				

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

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