DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS-R2-ES-2008-0060]

[1111-FY06-MO-B2]

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Tucson Shovel-Nosed Snake (Chionactis occipitalis klauberi) as Threatened or Endangered with Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 90-day petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the Tucson shovel-nosed snake (Chionactis occipitalis klauberi) as threatened or endangered under the Endangered Species Act of 1973, as

amended (Act). We find that the petition presents substantial scientific or commercial information indicating that listing the Tucson shovel-nosed snake may be warranted. Therefore, with the publication of this notice, we are initiating a status review of the subspecies, and we will issue a 12-month finding to determine if listing the subspecies is warranted. To ensure that the status review of the Tucson shovel-nosed snake is comprehensive, we are soliciting scientific and commercial information regarding this subspecies.

DATES**:** To allow us adequate time to conduct a status review, we request that information be submitted on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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

- Federal eRulemaking Portal: http://www.regulations.gov. Follow the instructions for submitting comments.
- U.S. mail or hand-delivery: Public Comments Processing, Attn: FWS-R2-ES-2008-0060; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all information received on http://www.regulations.gov. This generally means that we will post any personal information you provide us (see the Information Solicited section below for more details).

FOR FURTHER INFORMATION CONTACT: Steve Spangle, Field Supervisor, Arizona Ecological Services Office, 2321 West Royal Palm Drive, Suite 103, Phoenix, AZ 85021; telephone 602-242-0210; facsimile 602-242-2513. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Information Solicited

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly commence a review of the status of the species. To ensure that the status review is complete and based on the best available scientific and commercial information, we are soliciting information on the status of the Tucson shovel-nosed snake. We request information from the public, other concerned governmental agencies, Tribes, the scientific community, industry, or any other interested parties concerning the status of the Tucson shovel-nosed snake. We are seeking information regarding the subspecies' historical and current status and distribution, its biology and ecology, its taxonomy (especially genetics of the subspecies), ongoing conservation measures for the subspecies and its habitat, and threats to either the subspecies or its habitat.

If we determine that listing the Tucson shovel-nosed snake is warranted, it is our intent to propose critical habitat to the maximum extent prudent and determinable at the time we would propose to list the subspecies. Therefore, with regard to areas within the geographical range currently occupied by the Tucson shovel-nosed snake, we also request data and information on what may constitute physical or biological features essential to the conservation of the subspecies, where these features are currently found, and whether any of these features may require special management considerations or protection. In addition, we request data and information regarding whether there are areas outside the geographical area occupied by the subspecies that are essential to the conservation of the subspecies. Please provide specific information as to what, if any, critical habitat should be proposed for designation, if the subspecies is proposed for listing, and why that proposed habitat meets the requirements of the Act.

Please note that comments merely stating support or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is a threatened or endangered species must be made "solely on the basis of the best scientific and commercial data available." Based on the status review, we will issue a 12-month finding on the petition, as provided in section 4(b)(3)(B) of the Act.

You may submit your information concerning this finding by one of the methods listed in the ADDRESSES section. We will not consider submissions sent by e-mail or fax or to an address not listed in the ADDRESSES section.

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

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

Background

Section 4(b)(3)(A) of the Act requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information to indicate that the petitioned action may be warranted. Such findings are based on information contained in the petition, supporting information submitted with the

petition, and information otherwise available in our files at the time we make the finding. To the maximum extent practicable, we are to make this finding within 90 days of receipt of the petition and publish our notice of this finding promptly in the Federal Register.

Our standard for "substantial information," as defined in the Code of Federal Regulations at 50 CFR 424.14(b), with regards to a 90-day petition finding is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted." If we find that substantial information was presented, we are required to promptly commence a status review of the species.

We evaluated the information provided by the petitioner in accordance with 50 CFR 424.14(b). Our process for making this 90-day finding under section 4(b)(3)(A) of the Act and 50 CFR 424.14 (b) of our regulations is limited to a determination of whether the information in the petition meets the "substantial scientific and commercial information" threshold (as mentioned above).

We received a petition, dated December 15, 2004, from the Center for Biological Diversity (CBD) requesting that we list the Tucson shovel-nosed snake as threatened or endangered throughout its range and designate critical habitat within its range in the United States. The petition, which was clearly identified as such, contained detailed information on the natural history, biology, current status and distribution of the Tucson shovel-nosed snake. It also contained information on what the petitioner reported as potential threats to the subspecies from urban development, agricultural practices,

collecting, inadequacy of existing regulations, drought, and climate change. In response to the petitioner's requests, we sent a letter to the petitioner, dated September 7, 2005, explaining that, due to funding constraints in fiscal year 2005, we would not be able to address the petition in a timely manner. On February 28, 2006, the petitioner filed a 60-day notice of intent to sue (NOI) the Department of the Interior for failure to issue 90-day and 12-month findings, and a proposed listing rule, as appropriate, in response to the petition as required by 16 U.S.C. 1533(b)(3)(A) and (B). In response to the NOI, we agreed to submit a 90-day finding to the Federal Register as expeditiously as possible.

The petition also requested that the Service consider an "intergrade zone" between the Tucson shovel-nosed snake and the Colorado Desert shovel-nosed snake as part of the Tucson shovel-nosed snake's range. An intergrade zone is an area of overlap between the ranges of two subspecies where individuals may possess intermediate characters or traits of both subspecies. It is generally recognized and accepted by practitioners of subspecies taxonomy that intergrade zones may exist between the ranges of two subspecies where the diagnostic characters of both subspecies may be found (Mayr 1942, 1963, 1969, 1970; Huxley 1943; Wake 1997, 2006; Rodríguez-Robles and De Jesus-Escobar 2000; Isaac et al. 2004; Krysko and Judd 2006). Current practice in the scientific literature is to objectively describe the ranges of different subspecies and any intergrade zones between them with narrative descriptions, maps, or both (e.g., Wake, 1997, 2006; Rodríguez-Robles and De Jesus-Escobar 2000; Mahrdt et al. 2001; Leaché and Reeder, 2002; Krysko and Judd 2006). Following this practice, intergrade zones are identified, but not assigned to either of the subspecies. As such, we find that including all

shovel-nosed snakes within the intergrade zone in the subspecies taxon of the Tucson shovel-nosed snake would not be consistent with current scientific practice in describing the ranges of the subspecies and the intergrade zone between them. Therefore, we do not consider shovel-nosed snakes within the intergrade zone to be members of the Tucson shovel-nosed snake subspecies, and thus they are not included in our threats analysis below.

Previous Federal Action

No previous Federal action has been taken on the Tucson shovel-nosed snake. The Tucson shovel-nosed snake has no Federal regulatory status under the Act.

Species Information

The Tucson shovel-nosed snake was first described as a subspecies, Sonora occipitalis klauberi, by Stickel in 1941. The genus was changed to Chionactis from the genus Sonora two years later (Stickel 1943). Since being described, the Tucson shovel-nosed snake has been widely accepted as a subspecies (Klauber 1951, p. 187; Stebbins 2003, p. 394; Crother 2008, p. 48), and is one of four currently recognized subspecies of western shovel-nosed snakes, Chionactis occipitalis (Crother 2008). In a recent study of genetic variation of mitochondrial DNA, Wood et al. (2006) found significant geographical structuring suggesting two distinct subspecies of western shovel-nosed snake rather than four, combining western populations of C. o. occipitalis, the Mojave

shovel-nosed snake, with C. o. talpina, the Nevada shovel-nosed snake; and eastern populations of C. o. occipitalis with C. o. annulata, the Colorado Desert shovel-nosed snake, and C. o. klauberi. However, Wood et al.'s inference was based on a single genetic marker of mitochondrial DNA and did not include examination of nuclear markers, which would more fully elucidate our understanding of the taxonomic standing of this subspecies. Therefore, we continue to accept the currently accepted designation of the subspecies C. o. klauberi.

The Tucson shovel-nosed snake is a small snake (250-425 millimeters (mm) (9.84-16.73 inches (in)) total length) in the family Colubridae with a shovel-shaped snout, an inset lower jaw, and coloring that mimics coral snakes (Mahrdt et al. 2001, p. 731.1). The most notable features of the Tucson shovel-nosed snake distinguishing it from the other subspecies are (a) the red crossbands suffused with dark pigment, making them appear brown or partly black, and (b) both black and red crossbands not encircling the body (CBD 2004, p. 2).

Like other shovel-nosed snakes, the Tucson shovel-nosed snake uses venom to capture arthropod prey (Rosen 2003). The diet of shovel-nosed snakes consists of scorpions, beetle larvae, spiders, crickets and centipedes (Rosen et al. 1996, p. 22-23). Like the other subspecies, the Tucson shovel-nosed snake probably feeds on scorpions. Glass (1972, p. 447) suggests that Tucson shovel-nosed snakes may have developed a resistance to scorpion venom. Rosen et al. (1996, p. 22) suggest that shovel-nosed snakes eat relatively frequently. The authors (pp. 22-23) further support this observation by

noting that individual shovel-nosed snakes in captivity each consumed five to eight crickets per week, and showed significant weight loss after a two- to three-week lapse in feeding.

Like the other three subspecies of the western shovel-nosed snake, the Tucson shovel-nosed snake uses “sand swimming” as its primary locomotion. The snake moves using a sideways swaying motion while it is either on or under the sand or loose soil (Stebbins 2003, p. 393). Shovel-nosed snakes are primarily nocturnal in activity, although specimens have been documented as active during daylight hours. Shovel-nosed snakes are predominantly active at air temperatures between 70 and 90 degrees Fahrenheit (21 and 32 degrees Celsius), and from 7:00 p.m. to 9:00 p.m. (Klauber 1951, p. 187). Rosen et al. (1996, p. 21) have also observed that shovel-nosed snakes have been documented to be active in the morning and just before sunset. Rosen et al. (1996, p. 21) further note that activity seems to be highest when summer and spring temperatures are moderate, and when the relative humidity is high.

Klauber (1951, p. 185) indicates that scattered sand hummocks, crowned with mesquite or other desert shrubs, are favorite refuges for shovel-nosed snakes. Rosen (2003, p. 8) suggests that the Tucson shovel-nosed snake is found in more productive creosote-mesquite floodplain environments, differing from the habitats preferred by other subspecies of the western shovel-nosed snake. Rosen (2003, p. 8) describes the associated soils of the Tucson shovel-nosed snake as soft, sandy loams, with sparse gravel.

The subspecies is historically known from Pima County in the Avra and Santa Cruz valleys and from southeastern Maricopa County and southern Pinal County, including the Gila River Indian Community. The area between the Tucson and Phoenix metropolitan areas is believed to encompass the majority of the current range of this subspecies, particularly west of Tucson northward along Avra Valley to Pinal County, and westward into Maricopa County. The last verifiable record of the Tucson shovel-nosed snake in Pima County was in 1979, near the intersection of Avra Valley Road and Sanders Road in the Avra Valley (Rosen 2003, p. 10). Although habitat still exists in Pima County, the current distribution and abundance in Pima County is unknown. According to the petition, most of the currently occupied range of the Tucson shovel-nosed snake is believed to lie in southern Pinal County and Maricopa County. An intergrade zone occurs between the range of the Colorado Desert shovel-nosed snake and the range of the Tucson shovel-nosed snake in Pima County (Klauber 1951, p. 159). Recent records of shovel-nosed snakes in Pima County have been from within the intergrade zone.

Threats Analysis

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations (50 CFR 424) set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. A species, subspecies, or distinct population segment of vertebrate taxa may be determined to be endangered or threatened due to one or more of

the five factors described in section 4(a)(1) of the Act: (A) Present or threatened destruction, modification, or curtailment of habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

In making this 90-day finding, we evaluated whether information on threats to the Tucson shovel-nosed snake, as presented in the petition, and clarified by information readily available in our files at the time of the petition review, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

A. Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range

The petition states that the Tucson shovel-nosed snake is known only from south central Arizona in Pima, Pinal, and Maricopa counties, where it is dependent on Sonoran Desert scrub, particularly areas with loose, sandy, wind-blown soils (CBD 2004, p. 6; Mattison 1989, p. 25). According to the petitioner, much of the habitat within the former range of the Tucson shovel-nosed snake has been converted to agricultural fields and urban development, as well as new roads to access these areas, all of which are unsuitable as habitat for this subspecies. The petition further claims that once an area has been plowed, or the soil has been compacted by urbanization or other factors, it is unknown

whether the habitat can ever be recovered and, if so, how long it will take (CBD 2004, p. 10).

The petitioner cites a personal communication with herpetologist Dr. Philip Rosen in which he pointed out that full recovery of native vegetation to pre-disturbance conditions has not been documented, and partial recovery of reptile and invertebrate groups has also not been observed. We interpret partial recovery to mean either the re-invasion of the disturbed lands by reptile and invertebrate groups or an increase in their populations following a decline associated with the disturbance. The petitioner notes that post-disturbance recovery (we presume of both vegetation and wildlife) is possible with enough time, but may not be practical because it may not provide habitat for the Tucson shovel-nosed snake before it is extirpated from areas adjacent to those rehabilitated habitats. The petitioner provided no data to support such claims regarding habitat recovery.

To determine the historical and current distribution of Tucson shovel-nosed snake habitat, the petitioner developed a model of the snake's potential habitat with the cooperation of Dr. Rosen. The model was developed and refined based on Dr. Rosen's professional knowledge of habitat conditions, the conditions at observed locations, and descriptions of habitat requirements from the literature.

Rosen (2003, p. 8) notes that significant amounts of Tucson shovel-nosed snake habitat in the eastern portion of the Avra Valley in Pima County was converted from

desert to either agricultural or urban development between 1954 and 1966, with many canals, wells, and field-edge roads appearing in the interim. Rosen (2003, p. 7) also notes that traffic in the Avra Valley increased after the 1960s, especially in the late 1970s, following urban and agricultural development. Rosen (2003, p. 8) further indicates that agricultural development was already widespread in the western portion of the Avra Valley by 1959.

Surveys for the Tucson shovel-nosed snake began in the mid-to-late 1950s by Dr. Charles H. Lowe and his graduate students at the University of Arizona, with a peak in the 1960s (Rosen 2003, p. 7). The petition refers to records indicating the Tucson shovel-nosed snake was reasonably abundant in the Avra Valley during the 1970s (Rosen 2003, p.10). The last verifiable record of the Tucson shovel-nosed snake in the Avra Valley was in 1979, near the intersection of Avra Valley Road and Sanders Road (Rosen 2003, p. 10). Surveys for the subspecies were conducted in the Avra Valley and part of Pinal County in 2003, 2004 and 2007 (Rosen 2003, p. 6; Rosen 2004, p. 2; Rosen 2007, p. 1). Surveys for shovel-nosed snakes were also conducted on Organ Pipe Cactus National Monument in Pima County from 1987 through 1994 (Rosen et al. 1996, pp. 6-7). Additionally, surveys have been conducted intermittently by various researchers throughout the range of the Tucson shovel-nosed snake since the mid-1990s. During these recent surveys, the Tucson shovel-nosed snake has been found in Pinal County (Rosen 2003, p. 9; Rosen 2007, p. 2).

To determine the extent to which the Tucson shovel-nosed snake's historical habitat has been lost to urban or agricultural development, the petitioner combined the model of snake habitat (CBD 2004, p. 13) with coverage of urban and agricultural areas developed by the Southwestern Regional Gap Analysis Project, which used imagery current to 2001. Their model of "remaining good habitat" (CBD 2004, p. 15) covers roughly half of the historical range of the subspecies. Because of a lack of available soils data, their model of historical habitat does not include the entire range of the Tucson shovel-nosed snake on lands in the east-central portion of Pinal and Maricopa counties. The areas of habitat that were not modeled comprise approximately 25 percent of the historical range of the Tucson shovel-nosed snake. In the areas modeled, the petitioner indicated that 1,271,319 acres (ac) (514,503 hectares (ha)) of potential habitat occur within the range of the Tucson shovel-nosed snake. Of this area, 914,015 ac (369,902 ha) (72 percent) have been converted to either agriculture or urban development (CBD 2004, p. 14). No estimates of habitat loss were presented for areas not evaluated by the models.

The petitioner concluded that human population growth and habitat loss predicted for Pima County also are likely to occur within the species' range in Pinal and Maricopa counties, but did not provide supporting citations or other information (CBD 2004, p. 14). We concur, and have information readily available in our files that substantiates human population growth and habitat loss are occurring, and will continue to occur, in Pinal and Maricopa counties. For instance, population growth in Pinal County is the sixth fastest among all counties in the United States, and the current population of 313,000 is predicted to grow to 600,000 by 2015 (Pisano 2007). The town of Maricopa, which is

within the current range of the Tucson shovel-nosed snake in Pinal County, had a population of 4,855 in 2004, but is now one of the country's fastest growing cities, and is planning for a population of 350,000 by 2025 (Holcombe 2005). Additionally, a 275-square-mile area of State Trust and private lands centered on Florence Junction, also in Pinal County, is being planned for development (Grammage 2006); approximately two thirds of this area falls within the current range of the Tucson shovel-nosed snake. From July 2004 to July 2005, the population of Maricopa County increased by 137,000, which was the largest numerical increase of any of the 3,141 counties in the nation during that period (The Business Journal of Phoenix 2006). The metropolitan areas of Tucson and Phoenix, between which the snake's current range exists, are forecasted to meet and merge within a decade, with the population increasing from 5 million today to upward of 10 million by 2040 (Reagor 2006).

The petition also lists mining, off-highway vehicles, construction of roads, and livestock grazing as potential threats to the Tucson shovel-nosed snake and its habitat. According to the petitioners (CBD 2004, p. 16), the Pima County Multi-Species Conservation Plan (2004) indicates that off-highway vehicles can crush snakes buried in the sand or compact soils used by the snake, although the Pima County Multi-Species Conservation Plan (2004) does not provide specific evidence of this threat. The petition further claims that construction of roads fragments snake habitat, roads are a source of snake mortality, and that livestock grazing compacts soils and may reduce the snake's prey base by reducing and altering vegetation cover. No data or references were provided to support the claims that mining and livestock grazing are potential threats.

Additionally, the petitioners provide no data to support the claim that road construction fragments snake habitat and roads are a source of snake mortality; however, we have information from our files which supports this claim. Papers by Rosen and Lowe (1994, pp. 146-148) and Andrews and Gibbons (2005, pp. 776-781) provide substantial information indicating that road construction and increased traffic on roads isolates habitat for snakes and increases snake mortality.

We conclude that the petition provides substantial information to support the claim that agricultural and urban development present direct and indirect threats to the Sonoran Desert scrub habitat upon which the Tucson shovel-nosed snake currently depends. Dr. Phil Rosen has studied shovel-nosed snakes in Arizona for 17 years and has coauthored one peer-reviewed journal article regarding the reproductive ecology of C. occipitalis and coauthored a literature review of both species. Dr. Rosen has studied herpetology in the American Southwest for almost 30 years and has been instrumental in various aspects of conservation of reptiles and amphibians in the southwestern United States. Dr. Rosen has been active in helping Pima County develop the Sonoran Desert Conservation Plan, particularly with regard to the reptiles and amphibians being considered for protection in the plan. Additionally, Dr. Rosen has worked with the Town of Marana to help develop their Habitat Conservation Plan, which also considers the conservation of local reptiles. Both the Sonoran Desert Conservation Plan and the Town of Marana Habitat Conservation Plan are considering conservation of the Tucson shovel-nosed snake, and Dr. Rosen has helped them develop habitat models of what constitutes Tucson shovel-nosed snake habitat, including former habitat and remaining habitat.

Although the petition relies heavily on non-peer-reviewed literature to support its claims regarding loss and degradation of Tucson shovel-nosed snake habitat, we find that the data presented, as well as clarifying information in our files, relating to threats from agricultural and urban development are credible and substantial, indicating that listing the Tucson shovel-nosed snake may be warranted.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The petition claims that scientific and commercial collection is not widespread, but that the Tucson shovel-nosed snake could be somewhat affected by collection in limited areas. The petition further claims that enforcement of laws prohibiting commercial collection of reptiles is limited. While we accept the claim that the Tucson shovel-nosed snake occurs within a limited distribution in Arizona, the petition does not provide data to substantiate the claim that the subspecies may be threatened by collection. Therefore, we find that the petition does not provide substantial information to support the claim that overutilization for commercial, recreational, scientific, or educational purposes may pose a significant threat to the Tucson shovel-nosed snake.

C. Disease or Predation

The petitioner presented no data that diseases affect Tucson shovel-nosed snakes. The petitioner provided data that predation by native wildlife occurs on Colorado Desert shovel-nosed snakes (Funk 1965, p. 16; Mahrdt and Banta 1996, p. 81). It is likely that

predation also occurs on Tucson shovel-nosed snakes since most of the native wildlife occurs within the range of both subspecies; however, the petitioner provided no data to support predation as a significant impact to populations of Tucson shovel-nosed snakes. Therefore, we find that the petition does not provide substantial information that listing the subspecies due to disease or predation may be warranted.

D. Inadequacy of Existing Regulatory Mechanisms

The petition claims the Tucson shovel-nosed snake is not currently afforded any State or Federal protection and is not listed on any State or Federal list of species of concern. The petitioner indicated that, according to the Arizona Game and Fish Department's Wildlife Management Program Strategic Plan for the Years 2001-2006, the Tucson shovel-nosed snake is not included on Arizona's Wildlife of Special Concern list (Arizona Game and Fish Department 2001). The petitioner further stated that, even if the Tucson shovel-nosed snake was considered Wildlife of Special Concern, it would receive little protection because the list only serves to notify the public of the species' status and does not require any conservation or management actions (Arizona Game and Fish Department 2001). Since we received the petition, the Arizona Game and Fish Department has developed Arizona's Comprehensive Wildlife Conservation Strategy: 2005-2015 (CWCS), in which the Tucson shovel-nosed snake has been identified as a Species of Greatest Conservation Need for which immediate conservation action is necessary (Tier 1b under the Vulnerable category) (Arizona Game and Fish Department 2006, Appendix A p. 3, Appendix K p. 139). However, the CWCS was not designed to

replace or duplicate the Department's existing wildlife management strategic plan (Arizona Game and Fish Department 2001), nor does it provide further regulatory protection for the snake. It serves only to prioritize funds and guide implementation of conservation activities for Arizona's vulnerable wildlife (Arizona Game and Fish Department 2006, p. 9).

The petitioner claims that approximately 21 percent of the Tucson shovel-nosed snake's historical range (including the intergrade zone) occurs on lands administered by the State of Arizona. The percentage of State of Arizona lands within the current range (and excluding the intergrade zone) was not presented and is unknown to the Service. The State of Arizona currently has no regulations or programs to protect the Tucson shovel-nosed snake. The petitioner pointed out that the Federal Enabling Act for Arizona and the State Constitution limit conservation on State lands by requiring that use of the lands maximize the economic value of State lands to benefit schools. The petition further describes the Arizona Preserve Initiative (HB 2555) passed in 1996, which establishes a process by which State lands can be leased or purchased for conservation purposes; however, the petitioner claims that the legality of this law is in question because of the Arizona State Constitutional requirement to maximize economic value. The petitioner also claims that even without its legality issues, the Arizona Preserve Initiative provides little protection for the Tucson shovel-nosed snake because it only allows for the lease and purchase of State land. The Arizona Preserve Initiative does not require any purchase or lease to conserve habitat for the snake. Although State lands currently provide open space, there are no known plans to require protection of Tucson shovel-

nosed snake habitat on State lands, and no other protections are afforded the snake on State lands.

The petition claims that enforcement of laws prohibiting commercial collection of reptiles is limited. State law limits the collection of non-protected snakes to no more than four individuals of a species per year with a valid hunting license. If more than four are to be collected (e.g., for research purposes), a scientific collecting permit must be obtained. It is illegal to commercially sell, barter, or trade any native Arizona wildlife. While we are aware that the Arizona Game and Fish Department enforces these laws to the extent that it can, it is likely that some level of illegal collection of shovel-nosed snakes occurs. We do not, however, have information indicating the level of this illegal activity, nor how it impacts the population as a whole.

The petition states that 16 percent of the Tucson shovel-nosed snake's habitat occurs on Bureau of Land Management (BLM) lands, most of which falls within the intergrade zone of the snake. The intergrade zone is an area not included in this analysis (see Background). Of the remaining area (not within the intergrade zone), the petition states that the recent creation of the Ironwood Forest National Monument, which is administered by the BLM, provides the Tucson shovel-nosed snake possible protections. Additionally, we are aware of BLM lands between Tucson and Florence, Arizona, that may support habitat for the Tucson shovel-nosed snake for which the petitioner provided no information on status or threats.

The BLM currently has no regulations to protect the Tucson shovel-nosed snake, does not survey for the snake on its habitat, and does not consider impacts on the subspecies during project-specific analyses. BLM lands are secure from agricultural and urban development; however, as previously mentioned, the petitioner claims that off-highway vehicle use, livestock grazing, roads, and mine leasing are all potential threats to Tucson shovel-nosed snakes and their habitat. The petitioner admitted that the extent of these threats and their impacts on the Tucson shovel-nosed snake have not been studied, but they expect that they are likely impacting the snake to some unknown level. Impacts from these activities may exist; however, the petition provides no data to support these claims.

The petitioner points to the perceived inadequacies in the Pima County Multi-species Conservation Plan (referred to in the petition as the Sonoran Desert Conservation Plan) and the Town of Marana Habitat Conservation Plan as regulatory mechanisms. Because neither of these plans is finalized, we will not explore the adequacies of these plans as possible regulatory mechanisms for the snake.

The petition provides no information about existing regulatory mechanisms on lands managed by the Gila River Indian Community, which is within the current range of the Tucson shovel-nosed snake. The petition does state that 17 percent of the snake's habitat is under the control of the Tohono O'odham Nation. Most of the Tohono O'odham lands are in Pima County west of Tucson, with a small portion falling within

Pinal and Maricopa counties. All of these lands are within the intergrade zone, which we have excluded from consideration.

We have reviewed the information provided in the petition as well as all sources cited in the petition. Many of the regulatory mechanisms discussed pertain to lands that are in the intergrade zone of the snake, which we have excluded from this analysis. For the remaining areas within the snake's range, we conclude that the petition and information in our files present substantial information that existing regulatory mechanisms may be inadequate to prevent the progressive decline of populations of the Tucson shovel-nosed snake and its habitat.

E. Other Natural or Manmade Factors Affecting the Species' Continued Existence

The petition claims that severe weather, particularly prolonged drought, has the potential to negatively impact Tucson shovel-nosed snake populations. The petitioner described prolonged drought as a potential reason that no Tucson shovel-nosed snakes were located in the Avra Valley within the historical range in Pima County during extensive searches by local researchers (Rosen 2003, p. 16). No data to support this claim were provided by the petitioner or by Rosen (2003), and although we have information in our files indicating that conditions in the United States (Intergovernmental Panel on Climate Change 2007, p. 9), and in the southwestern United States in particular (Seager et al. 2007, p. 1181) are likely to be drier and warmer in the near future, we have no information indicating such changes will negatively impact the Tucson shovel-nosed

snake. The petitioner also claims that, in addition to prolonged drought, climate change or habitat modification that results in permanently wetter environmental conditions could also lead to further declines of this arid-adapted subspecies, particularly under prevailing conditions in which only fragments of the original distribution remain occupied. However, the petition provides no data to support the claim that climate change will result in wetter environmental conditions within the current range of the species, nor does it provide data to support the claims that the Tucson shovel-nosed snake responds negatively to wetter environmental conditions and that fragmented habitat would exacerbate negative impacts due to wetter conditions. Therefore, we do not find that the petition provides substantial information to support the claim that prolonged drought or climate change pose significant threats to the Tucson shovel-nosed snake.

Finding

We have reviewed the petition and the literature cited in the petition, and evaluated the information to determine whether the sources cited support the claims made in the petition. We also reviewed reliable information that was readily available in our files to clarify and verify information in the petition. Based on our evaluation of the information provided in the petition, and in accordance with recent applicable court decisions pertaining to 90-day findings, we find that the petition presents substantial scientific information indicating that listing the Tuscon shovel-nosed snake may be warranted. Our process for making this 90-day finding under section 4(b)(3)(A) of the Act is limited to a determination of whether the information in the petition presents

"substantial scientific and commercial information," which is interpreted in our regulations as "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)).

The petitioners presented substantial information indicating that the Tucson shovel-nosed snake may be threatened by Factors A and D throughout the entire range of the subspecies. The petitioners did not present substantial information that Factors B, C and E are currently, or in the future, considered a threat to this species. Based on this review and evaluation, we find that the petition has presented substantial scientific or commercial information that listing the Tucson shovel-nosed snake throughout all or a portion of its range may be warranted due to current and future threats under Factors A and D. As such, we are initiating a status review to determine whether listing the Tucson shovel-nosed snake under the Act is warranted. We will issue a 12-month finding as to whether any of the petitioned actions are warranted. To ensure that the status review is comprehensive, we are soliciting scientific and commercial information regarding the Tuscon shovel-nosed snake.

It is important to note that the "substantial information" standard for a 90-day finding is in contrast to the Act's "best scientific and commercial data" standard that applies to a 12-month finding as to whether a petitioned action is warranted. A 90-day finding is not a status assessment of the species and does not constitute a status review under the Act. Our final determination as to whether a petitioned action is warranted is not made until we have completed a thorough status review of the species, which is

conducted following a positive 90-day finding. Because the Act's standards for 90-day and 12-month findings are different, as described above, a positive 90-day finding does not mean that the 12-month finding also will be positive.

References Cited

A complete list of all references cited is available, upon request, from the Arizona Ecological Services Office (see FOR ADDITIONAL INFORMATION CONTACT section).

Author

The primary author of this notice is the Arizona Ecological Services Office (see FOR ADDITIONAL INFORMATION CONTACT section).

Authority

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

Dated: July 14, 2008

Signed: /s/ Kenneth Stansell

Deputy Director, U.S. Fish and Wildlife Service

Billing Code 4310-55-P

[FR Doc. 2008-17221 Filed 07/28/2008 at 8:45 am; Publication Date: 07/29/2008]