

Contaminated Industrial Wipes," which appeared in the **Federal Register** on October 27, 2009. The public comment period for this document was to close on December 28, 2009. The purpose of this document is to extend the comment period for 60 days until February 26, 2010.

**DATES:** EPA will accept public comments on the Notice of Data Availability (NODA) published October 27, 2009 (74 FR 55163), until February 26, 2010. Comments submitted after this date will be marked "late" and may not be considered.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-HQ-RCRA-2003-0004 by one of the following methods:

- <http://www.regulations.gov>: Follow the on-line instructions for submitting comments.

- *E-mail:* [rcra-docket@epa.gov](mailto:rcra-docket@epa.gov), Attention Docket No. EPA-HQ-RCRA-2003-0004.

- *Fax:* 202-566-9744, Attention Docket No. EPA-HQ-RCRA-2003-0004.

- *Mail:* Environmental Protection Agency, EPA Docket Center (EPA/DC), Resource Conservation and Recovery Act (RCRA) Docket, 2822T, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, Attention Docket No. EPA-HQ-RCRA-2003-0004. Please include 2 copies.

- *Hand Delivery:* Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC, Attention Docket No. EPA-HQ-RCRA-2003-0004. Such deliveries are only accepted during the docket's normal hours, and special arrangements should be made for deliveries of boxed information.

**Instructions:** Direct your comments to Docket ID No. EPA-HQ-RCRA-2003-0004. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not send information you consider CBI or that is otherwise protected through <http://www.regulations.gov> or e-mail. The <http://www.regulations.gov> Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment direct to EPA without going through <http://www.regulations.gov>, your e-mail

address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you send an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you send. If EPA cannot read your comment because of technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For more information about EPA's public docket, visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

**Docket:** All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the Resource Conservation and Recovery Act (RCRA) Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the RCRA Docket is (202) 566-0270.

**FOR FURTHER INFORMATION CONTACT:**

Teena Wooten, Office of Resource Conservation and Recovery (ORCR), (703) 308-8751, [wooten.teena@epa.gov](mailto:wooten.teena@epa.gov). Direct mail inquiries to the U.S. Environmental Protection Agency, Office of Resource Conservation and Recovery, (Mailstop 5304P), 1200 Pennsylvania Avenue, NW., Washington, DC 20460.

**SUPPLEMENTARY INFORMATION:** The subject of this notice is to extend the time to comment on a revised risk analysis for solvent contaminated wipes. The revised risk analysis was developed in support of a rule proposed on November 20, 2003 (68 FR 65586). The revised risk analysis and supporting documents are available through <http://www.regulations.gov> under docket EPA-HQ-RCRA-2003-0004 and <http://www.epa.gov/epawaste/hazard/wastetypes/wasteid/solvents/wipes.htm>.

On November 20, 2003, EPA proposed to: (1) Conditionally exclude from the definition of solid waste industrial wipes contaminated with solvent and sent to laundries or dry cleaners for cleaning and reuse and (2) conditionally exclude from the definition of hazardous waste industrial wipes contaminated with solvent and sent to disposal. The proposed rule is available through <http://www.regulations.gov> under docket EPA-HQ-RCRA-0004 and <http://www.epa.gov/epawaste/hazard/wastetypes/wasteid/solvents/wipes.htm>.

The comment period for the NODA was scheduled to close on December 28, 2009. However, EPA received a request to extend the comment period to allow the requester additional time to review the available information. In addition, EPA recently updated its contact list used to notify stakeholders when **Federal Register** notices about rulemaking activities in the areas of hazardous waste regulations are published. Extending the comment period responds to the commenter's request and allows recent additions to the contact list time to comment on the revised risk analysis. EPA has also received a request for the mathematical models and input/output files used to develop the revised risk analysis. Although this information is not necessary for review of the revised risk analysis, you may obtain a copy of the mathematical models and input/output files upon request through the contact listed above. EPA also notes that this rule is not subject to any statutory or judicial deadlines. We are therefore extending the comment period for this NODA until February 26, 2010.

Dated: December 9, 2009.

**Matthew Hale,**

*Director, Office of Resource Conservation and Recovery.*

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[FWS-R2-ES-2009-0076; 92210-1111-0000 B2]

#### Endangered and Threatened Wildlife and Plants; 90-Day Finding on Petitions To List Nine Species of Mussels From Texas as Threatened or Endangered With Critical Habitat

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of petition finding and initiation of status review.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, announce a 90-day finding on two petitions to list nine species of freshwater mussels, the Texas fatmucket (*Lampsilis bracteata*), Texas heelsplitter (*Potamilus amphichaenus*), Salina mucket (*Potamilus metnecktayi*), golden orb (*Quadrula aurea*), smooth pimpleback (*Quadrula houstonensis*), Texas pimpleback (*Quadrula petrina*), false spike (*Quincuncina mitchelli*), Mexican fawnsfoot (*Truncilla cognata*), and Texas fawnsfoot (*Truncilla macrodon*), as threatened or endangered under the Endangered Species Act of 1973, as amended (Act) and designate critical habitat. Based on our review, we find that the petitions present substantial scientific or commercial information indicating that listing these species may be warranted. Therefore, with the publication of this notice, we are initiating a status review of the nine species of mussels to determine if listing them is warranted. To ensure that the status review is comprehensive, we are soliciting scientific and commercial data and other information regarding these species. At the conclusion of this review, we will issue a 12-month finding on the petitions, which will address whether the petitioned actions are warranted, as provided in section 4(b)(3)(B) of the Act. We will make a determination on critical habitat for these species if, and when, we initiate a listing action.

**DATES:** To allow us adequate time to conduct this review, we request that we receive information on or before February 16, 2010. After this date, you must submit information directly to the Field Office (see **FOR FURTHER INFORMATION CONTACT** section below). Please note that we may not be able to address or incorporate information that we receive after the above requested date.

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

- *Federal rulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: FWS-R2-ES-2009-0076; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 Fairfax Drive, Suite 222; Arlington, VA 22203.

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:** Stephen D. Parris, Field Supervisor, Clear Lake Ecological Services Field Office, 17629 El Camino Real, Ste. 211, Houston, TX 77058; telephone 281-286-8282, extension 230. If you use a telecommunications device for the deaf (TDD), 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 review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the nine species of mussels (Texas fatmucket, Texas heelsplitter, Salina mucket, golden orb, smooth pimpleback, Texas pimpleback, false spike, Mexican fawnsfoot, and Texas fawnsfoot). We request information from governmental agencies, Native American Tribes, the scientific community, industry, and any other interested parties concerning the status of the nine species of mussels. We seek information for each of the nine species regarding:

- (1) The species' biology, range, and population trends, including:
    - (a) Habitat requirements for feeding, breeding, and sheltering;
    - (b) Genetics and taxonomy;
    - (c) Historical and current range, including distribution patterns;
    - (d) Historical and current population levels, and current and projected trends; and
    - (e) Past and ongoing conservation measures for the species or its habitat.
  - (2) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act, which are:
    - (a) The present or threatened destruction, modification, or curtailment of the species' 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 their continued existence.
  - (3) Information about any ongoing conservation measures for, or threats to, the species and their habitats.
- Please include sufficient information with your submission (such as full

references) to allow us to verify any scientific or commercial information you include.

If, after the status review, we determine that listing any of the nine species of mussels under the Act is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act), in accordance with section 4 of the Act, to the maximum extent prudent and determinable at the time we would propose to list the species. Therefore, within the geographical range currently occupied by the nine species of mussels, we also request data and information on:

- (1) What may constitute physical or biological features essential to the conservation of the species,
- (2) Where these features are currently found, and
- (3) Whether any of these features may require special management considerations or protection.

In addition, we request data and information on specific areas outside the geographical area occupied by the species that are essential to the conservation of the species. Please provide specific comments and information as to what, if any, critical habitat you think we should propose for designation if any of the nine species of mussels are proposed for listing, and why such habitat meets the requirements of section 4 of the Act.

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

You may submit your information concerning this status review 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 you submit a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this personal identifying 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 supporting documentation that we received and used in preparing this finding, will be available for public inspection at <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Clear Lake Ecological Services Field 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 indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of this finding promptly in the **Federal Register**.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard 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" (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to commence a review of the status of the species, which is subsequently summarized in our 12-month finding.

### Petition History

On June 25, 2007, we received a petition dated June 18, 2007, from Forest Guardians (now WildEarth Guardians) requesting that the Service: (1) Evaluate all full species in our Southwest Region ranked as G1 or G1G2 by the organization NatureServe, except those that are currently listed, proposed for listing, or candidates for listing; and (2) list each G1 or G1G2 species as either endangered or threatened with critical habitat. The petitioned group of species included the Texas fatmucket, Texas heelsplitter, Salina mucket, and golden orb. The petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2007) into the petition. The information presented by NatureServe is considered to be a reputable source of information with respect to taxonomy and distribution. However, NatureServe indicates on their website that

information in their database is not intended for determining whether species are warranted for listing under the Act. Where NatureServe presented assertions without supporting references that allow us to verify their statements, we found that the information presented by NatureServe was limited in its usefulness for this process. The petition clearly identified itself as such and included the identification information required at 50 CFR 424.14(a). We sent a letter dated July 11, 2007, to the petitioner acknowledging receipt of the petition and stating that the petition was under review by staff in our Southwest Regional Office.

On June 18, 2008, we received a petition from WildEarth Guardians, dated June 12, 2008, to emergency list 32 species, including the Salina mucket, under the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II) and the Act. In a letter dated July 22, 2008, we stated that the information provided in both the 2007 and 2008 petitions and in our files did not indicate that emergency listing of any of the petitioned species was warranted. That letter concluded our evaluation of the emergency aspect of the 2008 petition.

On October 15, 2008, we received a petition dated October 9, 2008, from WildEarth Guardians requesting that the Service list six species of freshwater mussels, the smooth pimpleback, Texas pimpleback, false spike, Mexican fawnsfoot, Texas fawnsfoot, and southern hickorynut, as either endangered or threatened throughout their historic ranges within the United States and internationally. The petitioner also requested the designation of critical habitat for each of the petitioned mussel species. The petition clearly identified itself as such and included the identification information required at 50 CFR 424.14(a). In addition to other information cited in the petition, the petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2009) into the petition. To clarify, for the first four species addressed in this finding (Texas fatmucket, Texas heelsplitter, Salina mucket, and golden orb), we referenced the species profiles retrieved from the NatureServe online database in 2007. For the following five species (smooth pimpleback, Texas pimpleback, false spike, Mexican fawnsfoot, and Texas fawnsfoot), we referenced the species profiles retrieved from the NatureServe online database in 2009. In a November 26, 2008, letter to the petitioner, we acknowledged receipt of the petition and stated that the petition

for the six mussel species was under review by staff in our Southwest (Region 2) and Southeast (Region 4) Regional Offices. This finding addresses 5 of the 6 petitioned species that occur within Region 2: smooth pimpleback, Texas pimpleback, false spike, Mexican fawnsfoot, and Texas fawnsfoot. Region 4 is addressing the southern hickorynut in a separate finding. In total, this 90-day finding includes nine mussel species; four species (Texas fatmucket, Texas heelsplitter, Salina mucket, and golden orb) are included from the June 18, 2007, petition, and five species (smooth pimpleback, Texas pimpleback, false spike, Mexican fawnsfoot, and Texas fawnsfoot) from the October 9, 2008, petition.

### Previous Federal Actions

There are no previous Federal actions or previous determinations for the Texas fatmucket, Salina mucket, golden orb, smooth pimpleback, Texas pimpleback and Texas fawnsfoot. However, the Texas heelsplitter, the false spike, Salina mucket (listed as *Disconaias salinasensis*), and the Mexican fawnsfoot were listed as Category 2 candidate species in the 1989 Animal Notice of Review (published January 6, 1989, at 54 FR 554) and again in the 1991 and 1994 candidate species lists (56 FR 58804 and 59 FR 58982, respectively). Category 2 candidate species included taxa for which information in the Service's possession indicated that a proposed listing rule was possibly appropriate, but we did not have sufficient data available on biological vulnerability and threats to support a proposed rule.

In 1996, the Service changed its definition of candidate species (see 61 FR 7596). Species that had been listed as Category 1 species remained on the candidate list and those that were listed as Category 2 species were dropped from the candidate list. Therefore, the Texas heelsplitter, the false spike, Salina mucket, and the Mexican fawnsfoot have not been on the candidate species list since 1996. There are no other previous Federal actions for these species.

### Species Information

All of the nine species are freshwater mussels in the family Unionidae, and all are known to occur in Texas (Howells 2007). Mussels in the family Unionidae are generally referred to as unionids, and we use that term in this finding. Freshwater mussels are bottom-dwelling and burrow into the substrate to maintain position on the stream bottom. Some mussel species require free-flowing streams, while other species

prefer, or are tolerant of, lentic (lake or pond) habitat. All freshwater mussels are filter-feeders, collecting algae, detritus, and bacteria from the water as it passes across the gills. Excessive amounts of suspended sediments can interfere with a mussel's ability to efficiently filter feed.

Unionid reproduction requires separate male and female individuals. Fertilization takes place when a male discharges sperm into the water column and the female intakes the water-born sperm through siphon tubes during normal feeding and respiration (Howells *et al.* 1996, p. 9). Fertilized eggs are retained in the female's brood pouch (Howells *et al.* 1996, p. 9). The larvae, called glochidia, are retained in the female brood pouch until released, then live temporarily as obligate parasites (cannot live independently of its host) on a suitable host fish before transforming into bottom-dwelling juveniles (Howells *et al.* 1996, p. 9). If the glochidia do not find a suitable host fish, they die.

#### Texas fatmucket

Gould described the Texas fatmucket in 1855 (<http://www.natureserve.org/explorer/>; accessed July 2, 2007; hereafter cited as NatureServe 2007). The shell is tan to brown, is rhomboidal to oval in shape, and reaches 9 centimeters (cm) (3.5 inches (in)) in length (NatureServe 2007). The Texas fatmucket is historically known to occur in the Colorado, Guadalupe, and San Antonio river systems in Texas (Howells *et al.* 1996, p. 61). It is currently known from two tributaries of the Colorado River, the Llano River, upper San Saba River, and the upper Guadalupe River (Howells 2006, p. 97). This species occurs in streams and smaller rivers where water depths are less than 1 meter (m) (3.3 feet (ft)) and lives in substrates of sand, mud, and gravel (NatureServe 2007). The glochidial host fish include bluegill (*Lepomis macrochirus*) and green sunfish (*L. cyanellus*) (Howells *et al.* 1996, p. 62).

#### Texas heelsplitter

Frierson described the Texas heelsplitter in 1898 (NatureServe 2007). The shell is tan to brown, is elongated, and 17.7 cm (7 in) in length (Howells *et al.* 1996, p. 95). The Texas heelsplitter historically and currently is known to occur in the Neches River, the lower-central Trinity River, and the upper Sabine River in Texas (Howells 2006, p. 98). This species inhabits flowing waters, preferring mud or sand substrates in small to medium rivers, but it can also be found in reservoirs (NatureServe 2007). The glochidial host

fish for the Texas heelsplitter are unknown (Howells *et al.* 1996, p. 96).

#### Salina mucket

Johnson described the Salina mucket in 1998 (NatureServe 2007). Salina mucket has undergone taxonomic changes since the mussel's original listing on the 1989 Animal Notice of Review. We intend to investigate these taxonomic revisions further during the status review. The shell is tan to dark brown or black, is oval, and reaches a length of 10.5 cm (4.1 in) (Howells *et al.* 1996, pp. 103-104). The Salina mucket historically occurred in the Rio Grande as far north and west as New Mexico and as far south as northern Mexico (Howells *et al.* 1996, p. 103). It currently is known from the Rio Grande in Texas from the Big Bend region in Brewster County downstream to below the Falcon Dam in Starr County (NatureServe 2007), although there is no mention of its occurrence in Falcon Reservoir. The species inhabits flowing streams and rivers with sand and gravel substrates (NatureServe 2007). The glochidial host fish for the Salina mucket are unknown (Howells *et al.* 1996, p. 104).

#### Golden orb

Lea described the golden orb in 1859 (NatureServe 2007). The shell varies from tan, reddish-brown, orange-brown, to gray-brown; is somewhat rectangular to broadly elliptical in shape; and reaches an overall length of 7.7 cm (3.0 in) (Howells *et al.* 1996, p. 108). The golden orb historically occurred in the Guadalupe, San Antonio, Colorado, and Nueces-Frio river systems. Currently, it is known from the upper and central Guadalupe River, lower San Marcos River, and Lake Corpus Christi in the lower Nueces River drainage (Howells 2006, p. 98). This species appears to be restricted to flowing waters with sand, gravel, and cobble bottoms at depths of a few cm (few in) to over 3 m (9.8 ft). The glochidial host fish for the golden orb are unknown (Howells *et al.* 1996, p. 109).

#### Smooth pimpleback

Lea described the smooth pimpleback in 1859 (<http://www.natureserve.org/explorer/>; accessed February 12-13, 2009; hereafter cited as NatureServe 2009). The shell is dark brown to black, round in shape, and generally smooth, but it may have a few small pimples (bumps) and can reach a length of 6.5 cm (2.5 in) (NatureServe 2009). The smooth pimpleback historically occurred in the Brazos and Colorado River systems of central Texas (Howells 2006, p. 98). Currently, it is known from the central Brazos, central Leon, central

Little Brazos, and Navasota rivers in the Brazos River system, and from the central Colorado River (Howells 2007, slide 13). It prefers small-to moderate-sized streams and rivers, as well as moderate-sized reservoirs, and it is found in mixed-mud, sand, and fine gravel substrate (NatureServe 2009). The glochidial host fish for the smooth pimpleback are unknown (NatureServe 2009).

#### Texas pimpleback

Gould described the Texas pimpleback in 1855 (NatureServe 2009). The shell is glossy and tan to brown in color, with some individuals displaying distinctive green and yellow markings (NatureServe 2009). The Texas pimpleback historically occurred in the upper and central Brazos, Colorado, and Guadalupe-San Antonio river systems (Howells 2006, p. 99); currently, it is known from two tributaries of the Colorado River, the lower Concho and upper San Saba rivers, as well as the upper San Marcos River (Howells 2007, slide 13). Texas pimplebacks generally inhabit rivers with low flow rates with mud, gravel, and sand substrates (NatureServe 2009). The glochidial host fish for the Texas pimpleback are unknown (NatureServe 2009).

#### False spike

Simpson described the false spike in 1895 (NatureServe 2009). The shell is tawny-brown to dark brown or black, oval to round in shape, and up to 13.2 cm (5.2 in) in length (Howells *et al.* 1996, p. 128). According to information in the petition, it has parallel, ripple-like ridges in the posterior and central portion of the shell. The false spike occurred historically in the Brazos, Colorado, and Guadalupe river systems in central Texas and in the Rio Grande system in New Mexico, Texas, and Mexico (NatureServe 2009). The only known extant population occurs in the lower San Marcos River, a tributary to the Guadalupe River system (Howells 2007, slide 16). False spike has been found in medium to large rivers with substrates varying from mixed mud, sand, and gravel, to cobble (NatureServe 2009). The glochidial host fish for the false spike are unknown (NatureServe 2009).

#### Mexican fawnsfoot

Lea described the Mexican fawnsfoot in 1860 (NatureServe 2009). The shell is yellow- to gray-green, elliptical in shape, and up to 4.4 cm (1.7 in) in length (NatureServe 2009). The Mexican fawnsfoot historically occurred in a large section of the Rio Grande system, including the lower Pecos River near

Del Rio, Texas, and through the Rio Salado of Nuevo Leon and Tamaulipas, Mexico (NatureServe 2009). Now, the Mexican fawnsfoot is known to inhabit only a small section of the lower Rio Grande in Laredo, Texas (NatureServe 2009). Habitat preferences for the Mexican fawnsfoot are largely unknown because environmental modifications of the Rio Grande make it difficult to define clearly the habitats that are required or preferred by the Mexican fawnsfoot (NatureServe 2009). This species has not been reported from reservoirs, suggesting a preference for flowing streams and rivers with sand or gravel bottoms (NatureServe 2009). The glochidial host fish for the Mexican fawnsfoot are unknown (NatureServe 2009).

#### Texas fawnsfoot

Lea described the Texas fawnsfoot in 1850 (NatureServe 2009). Shell color varies from gray-green, greenish-brown, orange brown to dark brown, often with a pattern of broken rays (NatureServe 2009). It is oval in shape and reaches a length of 5.5 cm (2.2 in) (NatureServe 2009). The Texas fawnsfoot historically occurred in the Brazos and Colorado river systems. Until 2009, the only known surviving population was in the Brazos River system (NatureServe 2009). We are aware of a recently discovered population estimated to be approximately 3,000 individuals in the upper portion of the Colorado River (Burlakova 2009, pers. comm.; Leggett 2009). We intend to investigate the report more thoroughly in our status review for the species. The species appears to prefer flowing rivers and large streams with sand, gravel, and mixed muddy substrates (NatureServe 2009). Living specimens have not been documented in reservoirs, but in the past have been found alive in flowing rice irrigation canals (NatureServe 2009). The glochidial host fish for the Texas fawnsfoot are unknown (NatureServe 2009).

#### Evaluation of Information for This Finding

Section 4 of the Act (16 U.S.C. 1533) and implementing regulations at 50 CFR 424 set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (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.

In making this 90-day finding, we evaluated whether information regarding the nine species of mussels, as presented in the petitions and other information available in our files, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below. The information discussed below was presented by the petitioner, unless otherwise noted.

#### Texas fatmucket

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

##### Information Provided in the Petition

The petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2007) into the petition. NatureServe (2007) claims that poor land management activities in the past century have resulted in the loss and modification of habitat, and the reduction in abundance, of the Texas fatmucket. NatureServe (2007) identifies intense overgrazing as a land management activity that has been harmful to the Texas fatmucket; however, no further discussion or reference is provided.

Five of the six known populations, all in central Texas, are threatened by periodic flooding and possibly dewatering (NatureServe 2007). Howells *et al.* (2003, p. 5), cited in NatureServe (2007), report that the population of a Colorado River tributary in Runnels County experienced extensive, if not complete, dewatering in 1999 and 2000, then flood-scouring in 2000 and 2001. No living or recently dead specimens could be found in a 2001 survey, and the stream had suffered major alterations in form and structure. A second population in a Concho River tributary in Tom Green County is presumed extirpated. The small stream reportedly dried completely in 1999 and 2000, and no specimens have been reported from the stream from subsequent surveys (Howells *et al.* 2003, p. 5). A third population in the San Saba River in Menard County experienced reduced water levels in the late 1990s followed by flooding in 2000. Based on post-flood examination of river and bank structure, mussels in the San Saba are thought to still persist (Howells *et al.* 2003, p. 5). A fourth population in the Guadalupe River in Kerr County is

presumed to have been eliminated in 1998, when river levels were drawn down to build a footbridge (Howells *et al.* 2003, p. 5). A fifth population in a Pedernales River tributary in Gillespie County was discovered when flood waters stranded specimens in 2002 (Howells *et al.* 2003, p. 5). This area had been surveyed prior to the flood, yielding no living or recently dead specimens, and the recent collection of a single living specimen at this site suggests that the population is limited (Howells *et al.* 2003, p. 5).

##### Evaluation of Information

In our evaluation of the petition, we find that the petitioner provides substantial information indicating that listing the Texas fatmucket may be warranted due to present or threatened destruction, modification, or curtailment of the species' habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific or educational purposes, and we have no information in our files indicating that listing the Texas fatmucket due to overutilization may be warranted.

##### *C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the Texas fatmucket due to disease or predation may be warranted.

##### *D. Inadequacy of Existing Regulatory Mechanisms*

##### Information Provided in the Petition

NatureServe (2007) states that few occurrences of Texas fatmucket are appropriately protected and managed, and that only one Texas fatmucket population is currently in an area designated as a no-harvest mussel sanctuary, meaning commercial harvest is not permitted. NatureServe (2007) cites Howells *et al.* (1997, p.126) in stating that no-harvest sanctuary designations alone afford little protection where environmental disturbances of terrestrial habitats result in subsequent loss of aquatic habitats. NatureServe (2007) states that the Texas fatmucket is not a State or federally protected species.

##### Evaluation of Information

Since mussel harvest was not identified as a potential threat to the Texas fatmucket, we find the petition does not provide substantial

information indicating that listing the species due to inadequacy of existing regulatory mechanisms may be warranted.

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

The petitioner does not address other natural and manmade factors, and we have no information in our files indicating that listing the Texas fatmucket due to other natural and manmade factors may be warranted.

*Texas heelsplitter*

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

*Information Provided in the Petition*

The petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2007) into the petition. NatureServe (2007) claims that Texas heelsplitter habitat is threatened by siltation. NatureServe (2007) cites Neck and Howells (1995, cited in NatureServe 2007 as Neck and Howells 1994) in stating that sand and silt deposition create undesirable mussel habitat and cover existing mussel beds. In their status survey for the species, Neck and Howells (1995, p. 14) report that silt and mud deposition in the B.A. Steinhagen Reservoir, which is occupied by the Texas heelsplitter, caused many areas of the reservoir to become shallow and filled some bays in the reservoir with silt. These conditions do not support habitation by Texas heelsplitter.

NatureServe (2007) identifies pollution as a threat to Texas heelsplitter habitat. Neck and Howells (1995, p. 15) state that increases in acidity, runoff, effluents from wood pulp and paper mills, human-caused nutrient enrichment, tar and oil, and increased silt loads due to land clearing are shown to have damaging effects on mussel habitat. Pollutants of these types have been reported in the upper Trinity River, in Pine Island Bayou (a tributary to the Neches River), and in the lower Neches River, all of which are situated within the range of the Texas heelsplitter (Neck and Howells 1995, p. 15). They conclude that the anticipated urban expansion of cities in Texas will likely amplify this threat in the foreseeable future (Neck and Howells 1995, p. 14).

Neck and Howells (1995, pp. 15-16), which is cited in NatureServe (2007), indicate that the Texas heelsplitter is negatively impacted by aquatic plants,

including water hyacinth (*Eichhornia crassipes*) and hydrilla (*Hydrilla verticillata*), which have invaded reservoirs occupied by the Texas heelsplitter. Unmanaged, these plants can eliminate mussel habitat; however, the techniques currently employed for the management of these species, including mechanical removal, herbicides, and water drawdowns, also negatively affect mussel populations (Neck and Howells 1995, pp. 15-16). NatureServe (2007) identifies fluctuating water levels associated with water drawdowns at reservoirs as a current threat for the Texas heelsplitter.

*Evaluation of Information*

Information in our files supports the claims made in the petition regarding the present and future threat of fluctuating water levels to the Texas heelsplitter and its habitat. Howells (2006, p. 32) indicates that the Texas heelsplitter is negatively affected by water drawdowns at B.A. Steinhagen Reservoir, part of the Neches River drainage. These drawdowns result in mussel mortality and overall decreased mussel abundance and diversity (Howells 2006, pp. 24-34). Since the early 1990s, the Texas Parks and Wildlife Department (TPWD) and the reservoir operator have employed mid-winter water drawdowns to reduce aquatic plant density through drying and cold temperatures on the reservoir (Howells 2006, p. 32). The water level is lowered slowly to allow the mussels to follow the receding water level, and the duration of the drawdown is as short as possible to minimize mussel mortality; however, repeated drawdowns in the range of the Texas heelsplitter may be decreasing the abundance of the species (Howells 2006, p. 32).

In our evaluation of the petition and information in our files, we find that there is substantial information indicating that listing the Texas heelsplitter may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific or educational purposes, and we have no information in our files indicating that listing the Texas heelsplitter due to overutilization may be warranted.

*C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the Texas heelsplitter due to disease or predation may be warranted.

*D. Inadequacy of Existing Regulatory Mechanisms*

*Information Provided in the Petition*

NatureServe (2007) states that it is unknown whether any occurrences of Texas heelsplitter are appropriately protected and managed.

*Evaluation of Information*

We do not consider the statement by NatureServe (2007) to be a sufficient presentation of information indicating to a reasonable person that listing may be warranted.

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

The petitioner does not address other natural and manmade factors, and we have no information in our files indicating that listing the Texas heelsplitter due to other natural and manmade factors may be warranted.

*Salina mucket*

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

*Information Provided in the Petition*

The petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2007) into the petition. NatureServe (2007) identifies poor land and water management practices as threats to Salina mucket habitat. NatureServe (2007) cites Howells (2003, p. 70; cited in NatureServe 2007 as Howells 2001) in stating that the lower Rio Grande system within the range of the Salina mucket has experienced a significant increase in human population and urban development in the last 30 years. Land management activities associated with increased human development include land clearing and construction of impervious surfaces, which contribute to increased runoff and silt loads during storms and to additional scouring and riverbed modifications (Howells 2003, p. 66). Howells (2004b, p. 2) states that the only known surviving Salina mucket specimens in the Rio Grande are in areas undergoing major development and modification. Increased water demands that are projected with continuing residential and commercial

development in the range of the Salina mucket will likely compound factors currently affecting the species (Howells 2004b, p. 2).

NatureServe (2007) identifies siltation as a threat to Salina mucket habitat; however, no further discussion is provided. NatureServe (2007) also identifies drought-related dewatering as a threat to Salina mucket habitat. The Salina mucket habitat within the Rio Grande system has been subject to periods of drought punctuated by severe storm events, often producing scouring floods that modify the riverbed and alter mussel habitat (Howells 2003, p. 66). Historical drought-related dewatering likely reduced or eliminated some unionid populations in the region, and the current decline in water flow rates constitutes an increasing threat to the species and its habitat (Howells 2003, p. 67).

#### Evaluation of Information

In our evaluation of the petition, we find that the petitioner provides substantial information indicating that listing the Salina mucket may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific or educational purposes, and we have no information in our files indicating that listing the Salina mucket due to overutilization may be warranted.

#### *C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the Salina mucket due to disease or predation may be warranted.

#### *D. Inadequacy of Existing Regulatory Mechanisms*

##### Information Provided in the Petition

NatureServe (2007) states that no occurrences of Salina mucket are appropriately protected and managed, that no Salina mucket populations occur in State-designated no-harvest mussel sanctuaries, and that the Salina mucket is not a State or federally protected species.

##### Evaluation of Information

Since mussel harvest was not identified as a potential threat to the Salina mucket, we find the petition does not provide substantial information indicating that listing the species due to

inadequacy of existing regulatory mechanisms may be warranted.

#### *E. Other Natural or Manmade Factors Affecting Its Continued Existence*

##### Information Provided in the Petition

NatureServe (2007) identifies population isolation as a threat to the Salina mucket. Howells (2003, p. 68) indicates that the Pecos River, a tributary of the Rio Grande, is the major source of elevated salinity of the waters in the lower Rio Grande drainage. Natural salt seeps and deposits are present in the area, but groundwater pumping that has lowered the water table and reduced freshwater input, long periods of reduced precipitation, and brines from oil and gas drilling operations likely contribute to current high saline conditions (Howells 2003, pp. 68-69). Howells (2004b, p. 2) reports that the salinity of the Pecos River creates a functional barrier between Salina mucket specimens in the area, thus inhibiting opportunities for dispersal and interbreeding. This physical separation may result in the genetic isolation of surviving Salina mucket populations downstream of the Big Bend in the area of Brewster County, Texas (Howells 2003, p. 69).

##### Evaluation of Information

In our evaluation of the petition, we find that the petition presents substantial information indicating that listing the Salina mucket may be warranted due to population isolation.

#### Golden orb

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

##### Information Provided in the Petition

The petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2007) into the petition. NatureServe (2007) identifies flooding as a threat to golden orb habitat. Howells *et al.* (1997, p. 118), cited in NatureServe (2007), report that the greatest decline in golden orb numbers appears to have occurred in 1978 during a major hurricane and subsequent flooding in the species' range. NatureServe (2007) asserts that this single event appears to have reduced the species to four primary populations, and that three of these populations in the Guadalupe River are still subject to flood-related scouring and large water-level fluctuations.

NatureServe (2007) identifies the effects of poor land and water

management practices as a threat to golden orb habitat; however, no further discussion is provided. NatureServe (2007) also identifies drought as a threat to golden orb habitat; however, no further discussion is provided.

##### Evaluation of Information

The petition does not provide substantial information indicating that listing the golden orb due to poor land and water management or to drought may be warranted. However, information in our files from Howells' 2006 Statewide freshwater mussel survey supports the petitioner's claim of the species' negative response to flooding in its habitat. Specifically, in the Guadalupe River below the Upper Guadalupe River Authority dam, no golden orbs were found in a survey following a 1996 flood, three were found dead following a second flood in 1997, none were found following a high water release from the dam 4 months later, and none were found in a 2005 survey (Howells 2006, p. 71). In our evaluation of the petition and information in our files, we therefore find that there is substantial information indicating that listing the golden orb may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific, or educational purposes, and we have no information in our files indicating that listing the golden orb due to overutilization may be warranted.

#### *C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the golden orb due to disease or predation may be warranted.

#### *D. Inadequacy of Existing Regulatory Mechanisms*

##### Information Provided in the Petition

NatureServe (2007) states that few occurrences of golden orb are appropriately protected and managed, and that none of the inhabited sites of the four known populations are protected. NatureServe (2007) states that the golden orb is not a State or federally protected species.

##### Evaluation of Information

We do not consider the statements by NatureServe (2007) to be a sufficient presentation of information indicating



to a reasonable person that listing may be warranted.

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

The petitioner does not address other natural and manmade factors, and we have no information in our files indicating that listing the golden orb due to other natural and manmade factors may be warranted.

Smooth pimpleback

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

Information Provided in the Petition

In addition to other information cited in the petition, the petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2009) into the petition. The petitioner identifies increased human activity within the species' range and associated poor land and water management practices as a threat to smooth pimpleback habitat. NatureServe (2009) adds that recent habitat loss continues to affect the species.

The petitioner identifies pollution as a threat to smooth pimpleback habitat, and cites NatureServe (2009) in claiming that a chemical dump on the Little Brazos River in 1993 eliminated many of the mussel populations there, including the smooth pimpleback.

The petitioner cites NatureServe (2009) in asserting that drought conditions that decreased surface water levels in the 1980s in the Leon River range caused extensive loss of smooth pimpleback individuals. The petitioner also cites NatureServe (2009) in asserting that scouring floods in 1978 throughout the range of the species in central Texas were responsible for the reduction or elimination of many mussel populations, including the smooth pimpleback. NatureServe (2009) clarifies that the species does not tolerate dramatic water fluctuations, scoured bedrock substrates, or shifting sand bottoms, all of which are associated with floods.

Evaluation of Information

Information in our files indicates that water fluctuations unrelated to drought occur in areas occupied by smooth pimplebacks. Howells (2006, p. 67) reports that water-level drawdowns adversely impact Inks Lake's population of smooth pimplebacks. Lake elevation is rapidly reduced by 3 meters (m) (9.8

ft) during biannual maintenance and repair drawdowns (Howells 2006, p. 67). Howells (2006, p. 67) reports that these drawdowns occur so quickly that any unionids occupying the shallows are generally killed with each drawdown.

In our evaluation of the petition and information in our files, we find that there is substantial information indicating that listing the smooth pimpleback may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific or educational purposes, and we have no information in our files indicating that listing the smooth pimpleback due to overutilization may be warranted.

*C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the smooth pimpleback due to disease or predation may be warranted.

*D. Inadequacy of Existing Regulatory Mechanisms*

Information Provided in the Petition

NatureServe (2009) states that no occurrences of smooth pimpleback are appropriately protected and managed, and that no smooth pimpleback populations occur in State-designated no-harvest mussel sanctuaries. The petitioner states that the smooth pimpleback is not a State or federally protected species (NatureServe 2009).

Evaluation of Information

Since mussel harvest was not identified as a potential threat to the smooth pimpleback, we find the petition does not provide substantial information indicating that listing the species due to inadequacy of existing regulatory mechanisms may be warranted.

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

Information Provided in the Petition

The petitioner identifies climate change as an additional factor affecting the species' continued existence; however, no specific justification or reference is provided.

Evaluation of Information

The information presented on climate change is not specific to the smooth pimpleback and no specific references were provided. The petition does not provide substantial information indicating that listing the species due to climate change may be warranted. We intend to investigate this factor more thoroughly in our status review of the species.

Texas pimpleback

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

Information Provided in the Petition

The petitioner states that dewatering is a threat to the species, but points out that some individuals survive severe stream dewatering. Howells (2006, p. 61) reports that in the Concho River in Concho County, low water levels and high temperatures killed large numbers of Texas pimplebacks and other mussels in 1997, and in 1999 and early 2000. The Concho River was reduced to stagnant pools and dry bottoms. Results from subsequent surveys indicate that Texas pimpleback abundance was significantly reduced, presumably due to habitat modifications that restrict mussel habitation (Howells 2006, p. 61). The petitioner states that habitat occupied by the Texas pimpleback is threatened by drought and flooding; however, no further discussion is provided.

Evaluation of Information

Information in our files shows that over the 10 years from 1998 to 2007, there was zero flow measured at the stream gage at the Concho River mussel survey site 26 percent of the days (Asquith and Heitmuller 2008, pp. 810-813, 846-853). These data suggest that dewatering may be continuing in the Concho River.

Information in our files indicates that scouring floods and drought-related dewatering have caused recent losses of Texas pimpleback populations in Runnels County, Texas. No live Texas pimpleback individuals were found during a 2005 survey in the Colorado River drainage at either a site on the San Saba River or one on Elm Creek where they had been found previously (Howells 2006, pp. 63-64). These sites showed signs of extensive flood scouring during surveys conducted throughout the 1990s and early 2000s, and overall mussel abundance and diversity have been reduced (Howells 2006, pp. 63-64).

In our evaluation of the petition and information in our files, we find that



there is substantial information indicating that listing the Texas pimpleback may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

Information Provided in the Petition

The petitioner states that overcollection at one site has negatively impacted the Texas pimpleback; however, no further discussion is provided.

Evaluation of Information

Information in our files indicates that the Texas pimpleback may be taken by rare-shell collectors (Howells 2004a, slide 14). Howells (2006, p. 63) reports that details released over the Internet in 2001 disclosing the location of rare mussels at the site may have been used by rare-shell collectors to find and harvest Texas pimplebacks.

We find that the petition and information in our files presents substantial information indicating that listing the Texas pimpleback may be warranted due to overutilization for commercial, recreational, scientific, or educational purposes.

*C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the Texas pimpleback due to disease or predation may be warranted.

*D. The Inadequacy of Existing Regulatory Mechanisms*

Information Provided in the Petition

In addition to other information cited in the petition, the petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2009) into the petition. NatureServe (2009) indicates that few occurrences of Texas pimpleback are appropriately protected and managed, and that only one Texas pimpleback population is currently in a State-designated no-harvest mussel sanctuary. The petitioner cites Howells *et al.* (1997, p.126) in stating that no-harvest sanctuary designations alone afford little protection where environmental disturbances of terrestrial habitats result in subsequent loss of aquatic habitats.

Evaluation of Information

In Factor B, the petitioner and our files identify overutilization for commercial, recreational, scientific, or educational purposes as a potential threat to the Texas pimpleback. Here, we find that the petitioner and information in our files provides substantial information indicating that listing the Texas pimpleback may be warranted due to inadequacy of existing regulatory mechanisms to protect the species from this potential threat.

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

Information Provided in the Petition

The petitioner identifies climate change as an additional factor affecting the species' continued existence; however, no specific justification or reference is provided.

Evaluation of Information

The information presented on climate change is not specific to the Texas pimpleback and no specific references were provided. The petition does not provide substantial information indicating that listing the species due to climate change may be warranted. We intend to investigate this factor more thoroughly in our status review of the species.

False spike

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

Information Provided in the Petition

The petitioner claims that the dramatic land use modification of the lower Rio Grande drainage over the past 100 years has negatively affected the false spike. The petitioner further claims that continued development and modification, including increases in human activity and associated negative environmental impacts, may preclude future conservation of the species.

The petitioner identifies overgrazing and increased runoff from rains as threats to false spike habitat in central Texas. The petitioner, citing a personal communication with R. Howells in July 2008, claims that in the mid-to late 1800s, overgrazing resulted in loss of terrestrial vegetative cover and soils. Subsequently, when rains fell, runoff increased, scouring riverbeds. The petitioner references the same personal communication in stating that prior to the 1900s, the Guadalupe River never rose more than 1.8 m (6 ft), but that 6-m (20-ft) rises are now regularly observed. This has resulted in scour of

river bottoms to bedrock and cobble, which the petitioner claims is unacceptable habitat for unionid mussels.

The petitioner identifies drought and flooding as threats to false spike habitat. Howells (2006, p. 73) states that drought conditions in the late 1970s, followed by major flooding events in 1978 and 1981 within the false spike's range in the San Marcos River, part of the Guadalupe River drainage, likely had negative impacts on unionid mussels in that area, including the false spike.

Evaluation of Information

Information in our files supports the petitioner's claim that humans have significantly modified land use in the Rio Grande basin in Texas and Mexico, and that this land use change may be a threat to false spike. Howells (2003, pp. 66, 70) states that human-caused impacts appear to be the major reason for the massive reduction in mussel fauna and diversity there, including the apparent extinction of the false spike. He identifies climate change; altered water flows; impoundments; and increased nutrient, salt, and sediment pollution as the human-caused threats responsible for the threats (Howells 2003, pp. 66-70).

The petitioner and information in our files provide substantial information indicating that listing the false spike may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific or educational purposes, and we have no information in our files indicating that listing the false spike due to overutilization may be warranted.

*C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the false spike due to disease or predation may be warranted.

*D. The Inadequacy of Existing Regulatory Mechanisms*

Information Provided in the Petition

In addition to other information cited in the petition, the petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2009) into the petition. NatureServe (2009) states that

no occurrences of false spike are appropriately protected and managed.

#### Evaluation of Information

Since mussel harvest was not identified as a potential threat to the false spike, we find the petition does not provide substantial information indicating that listing the species due to inadequacy of existing regulatory mechanisms may be warranted.

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

##### Information Provided in the Petition

The petitioner identifies climate change as an additional factor affecting the false spike's continued existence; however, no specific justification or reference is provided.

#### Evaluation of Information

The information presented on climate change is not specific to the false spike and no specific references were provided. The petition does not provide substantial information indicating that listing the species due to climate change may be warranted. We intend to investigate this factor more thoroughly in our status review of the species.

#### Mexican fawnsfoot

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

##### Information Provided in the Petition

In addition to other information cited in the petition, the petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2009) into the petition. NatureServe (2009) identifies the effects of increased human activity as a threat to Mexican fawnsfoot habitat. Trade and development along the U.S. (Texas)-Mexico border have had extensive environmental impacts on this area, which has already undergone great ecological modification (NatureServe 2009). The petitioner cites Howells (2004a) in stating that the only known extant population of the Mexican fawnsfoot, located near Laredo, Texas, is threatened by impacts from development. Additional landscape modification is anticipated, including the proposed construction of a fence at the border (Howells 2007, slide 14). The petitioner also identifies smothering and siltation as a threat to the Mexican fawnsfoot and its habitat; however, no further discussion is provided. The petitioner cites NatureServe (2009) in stating that the general fragility of the

Rio Grande aquatic ecosystem and ecological alterations to date are likely a cause of the extreme rarity of this species.

The petitioner identifies dewatering as a threat to Mexican fawnsfoot habitat. The petitioner cites Howells (2004b, p. 2) in stating that all unionid assemblages in the Rio Grande basin, including the Mexican fawnsfoot, have been subject to drought-related dewatering.

#### Evaluation of Information

In our evaluation of the petition, we find that the petitioner provides substantial information indicating that listing the Mexican fawnsfoot may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific, or educational purposes, and we have no information in our files indicating that listing the Mexican fawnsfoot due to overutilization may be warranted.

#### *C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the Mexican fawnsfoot due to disease or predation may be warranted.

#### *D. The Inadequacy of Existing Regulatory Mechanisms*

##### Information Provided in the Petition

The petitioner cites NatureServe (2009) in stating that no occurrences of Mexican fawnsfoot are appropriately protected and managed, and that no Mexican fawnsfoot populations occur in State-designated no-harvest mussel sanctuaries. The petitioner states that the Mexican Fawnsfoot is not a State or federally protected species (NatureServe 2009).

#### Evaluation of Information

Since mussel harvest was not identified as a potential threat to the Mexican fawnsfoot, we find the petition does not provide substantial information indicating that listing the species due to inadequacy of existing regulatory mechanisms may be warranted.

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

##### Information Provided in the Petition

The petition identifies climate change as an additional factor affecting the species' continued existence; however, no specific justification or reference is provided.

#### Evaluation of Information

The information presented on climate change is not specific to the Mexican fawnsfoot and no specific references were provided. The petition does not provide substantial information indicating that listing the species due to climate change may be warranted. We intend to investigate this factor more thoroughly in our status review of the species.

#### Texas fawnsfoot

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

##### Information Provided in the Petition

The petitioner identifies aquatic habitat destruction and modification from wide-ranging terrestrial sources as a threat to the Texas fawnsfoot; however, these terrestrial sources are not specified and no further discussion is provided. The petitioner also identifies smothering and siltation as a threat to the Texas fawnsfoot and its habitat; however, no further discussion is provided that is specific to the species or to the rivers and streams where it is known to occur.

The petitioner identifies dewatering as a threat to Texas fawnsfoot habitat, stating that in 2000, the Colorado River above Lake Buchanan dried, and all mussels in that area, including the Texas fawnsfoot, were presumed lost. The petitioner further states that because the species is intolerant of impounded water bodies, the species would not be able to recolonize the dewatered area from Lake Buchanan. The petitioner also identifies scouring floods during times of intense precipitation as a threat to Texas fawnsfoot habitat.

#### Evaluation of Information

In our evaluation of the petition, we find that the petitioner provides substantial information indicating that listing the Texas fawnsfoot may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

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

The petitioner does not address overutilization for commercial, recreational, scientific or educational purposes, and we have no information in our files indicating that listing the Texas fawnsfoot due to overutilization may be warranted.

*C. Disease or Predation*

The petitioner does not address disease or predation, and we have no information in our files indicating that listing the Texas fawnsfoot due to disease or predation may be warranted.

*D. The Inadequacy of Existing Regulatory Mechanisms*

*Information Provided in the Petition*

In addition to other information cited in the petition, the petition incorporates all analyses, references, and documentation provided by NatureServe in its online database at <http://www.natureserve.org/> (hereafter cited as NatureServe 2009) into the petition. NatureServe (2009) indicates that few occurrences of Texas fawnsfoot are appropriately protected and managed. There are two no-harvest sanctuaries within the range of the Texas fawnsfoot; however, the species has not been historically or recently documented at these sites (NatureServe 2009). The petitioner states that the Texas fawnsfoot is not a State or federally protected species (NatureServe 2009).

*Evaluation of Information*

Since mussel harvest was not identified as a potential threat to the Texas fawnsfoot, we find the petition does not provide substantial information indicating that listing the species due to inadequacy of existing regulatory mechanisms may be warranted.

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

*Information Provided in the Petition*

The petitioner identifies climate change as an additional factor affecting the species' continued existence; however, no specific justification or reference is provided.

*Evaluation of Information*

The information presented on climate change is not specific to the Texas fawnsfoot and no specific references were provided. The petition does not provide substantial information indicating that listing the species due to

climate change may be warranted. We intend to investigate this factor more thoroughly in our status review for the species.

**Finding**

On the basis of our evaluation under section 4(b)(3)(A) of the Act, we have determined that the petition presents substantial information indicating that listing the Texas fatmucket, Texas heelsplitter, Salina mucket, golden orb, smooth pimpleback, Texas pimpleback, false spike, Mexican fawnsfoot, and Texas fawnsfoot throughout the entire range of each species may be warranted.

The petitioner presents substantial information indicating that the Texas fatmucket may be threatened by Factor A. The petitioner does not present substantial information indicating that Factors B, C, D or E are currently, or in the future may be, considered a threat to the Texas fatmucket.

The petitioner presents substantial information indicating that the Texas heelsplitter may be threatened by Factor A. The petitioner does not present substantial information indicating that Factors B, C, D, or E are currently, or in the future may be, considered a threat to the Texas heelsplitter.

The petitioner presents substantial information indicating that the Salina mucket may be threatened by Factors A and E. The petition does not present substantial information indicating that Factors B, C, and D are currently, or in the future may be, considered a threat to the Salina mucket.

The petitioner presents substantial information indicating that the golden orb may be threatened by Factor A. The petitioner does not present substantial information indicating that Factors B, C, D, or E are currently, or in the future may be, considered a threat to the golden orb.

The petitioner presents substantial information indicating that the smooth pimpleback may be threatened by Factor A. The petitioner does not present substantial information indicating that Factors B, C, D, or E are currently, or in the future may be, considered a threat to the smooth pimpleback.

The petitioner presents substantial information indicating that the Texas pimpleback may be threatened by Factors A, B, and D. The petitioner does not present substantial information indicating that Factors C or E are currently, or in the future may be, considered a threat to the Texas pimpleback.

The petitioner presents substantial information indicating that the false spike may be threatened by Factor A. The petitioner does not present

substantial information indicating that Factors B, C, D, or E are currently, or in the future may be, considered a threat to the false spike.

The petitioner presents substantial information indicating that the Mexican fawnsfoot may be threatened by Factor A. The petitioner does not present substantial information indicating that Factors B, C, D, or E are currently, or in the future may be, considered a threat to the Mexican fawnsfoot.

The petitioner presents substantial information indicating that the Texas fawnsfoot may be threatened by Factor A. The petitioner does not present substantial information indicating that Factors B, C, D, or E are currently, or in the future may be, considered a threat to the Texas fawnsfoot.

Based on this review and evaluation, we find that the petitions present substantial scientific or commercial information that listing the nine mussel species throughout the range of each species may be warranted due to current and future threats presented in our discussion of the five listing factors. As such, we are initiating a status review to determine whether listing these mussels under the Act is warranted. We will issue one or more 12-month findings as to whether any of the petitioned actions are warranted.

The "substantial information" standard for a 90-day finding differs from the Act's "best scientific and commercial data" standard that applies to a status review to determine whether a petitioned action is warranted. A 90-day finding does not constitute a status review under the Act. In one or more 12-month findings, we will determine whether a petitioned action is warranted after we have completed a thorough status review of the species, which is conducted following a substantial 90-day finding. Because the Act's standards for 90-day and 12-month findings are different, as described above, a substantial 90-day finding does not mean that the 12-month finding will result in a warranted finding.

The petitioner requested that we designate critical habitat for these species. If we determine in our 12-month finding(s) that listing the mussels is warranted, we will address the designation of critical habitat at the time of the proposed rulemaking.

**References Cited**

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

**Author**

The primary authors of this rule are the Clear Lake Ecological Services Field Office's staff members (see **FOR FURTHER INFORMATION CONTACT**).

**Authority**

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

Dated: November 25, 2009

**Daniel M. Ashe,**

*Acting Director, Fish and Wildlife Service*

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