



Questions and Answers: Listing and Critical Habitat Proposal for Six Central Texas Mussels

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Q: What actions are being taken by the U.S. Fish and Wildlife Service (FWS)?

A: FWS is proposing four actions under the Endangered Species Act (ESA) associated with six central Texas mussel species:

1. Protecting the Texas fawnsfoot as a threatened.
2. Implementing a special rule under section 4(d) of the ESA to streamline and exempt from the regulatory process certain management actions that benefit the Texas fawnsfoot.
3. Protecting the Texas pimpleback, Guadalupe orb, Texas fatmucket, Guadalupe fatmucket and false spike as endangered species.
4. Designating 1,944-river miles of critical habitat in four river basins in central Texas to conserve six species of mussels.

Publishing the proposed listing and critical habitat begins a 60-day public comment period on the proposed rule and supporting documents. The proposed listing, critical habitat and 4(d) rules will publish in the *Federal Register* on August 26, 2021, and public comments will be accepted until October 25, 2021. The FWS will hold virtual informational meetings followed by a public hearings on Tuesday, September 14, 2021 and Thursday, September 16, 2021.

We encourage the public, academia, federal and state agencies, industry and other stakeholders to review the proposal and provide comments. Our decision to list the central Texas mussel species or withdraw our proposal will be based on the best available science. A final decision to list or withdraw the proposal is typically made within a year after proposal.

Q: What is the science behind these decisions?

A. The proposal to list these species under the ESA is based on the best scientific and commercial data available and recently completed Species Status Assessment (SSA) reports. Biologists from FWS field offices and the regional office developed the SSAs with input from six species experts, Texas Parks and Wildlife Department (TPWD), and other partners. Our SSAs analyzed individual, population, and species requirements, as well as factors affecting the species' survival and their current conditions, to assess the species' current and future viability in terms of resilience, redundancy, and representation.

After careful examination of the best available scientific information available for the six central Texas freshwater mussels, current and future conditions, FWS determined that the Texas fawnsfoot meets the definition of threatened and the Texas pimpleback, Guadalupe orb, Texas fatmucket, Guadalupe fatmucket and false spike meet the ESA's definition of endangered.

Q: What is the difference between threatened and endangered species under the ESA?

A: "Endangered" is defined by the ESA as a species that is currently in danger of becoming extinct throughout all or a significant portion of its range. "Threatened" is defined as a species that is likely to become endangered in the foreseeable future.

Threatened status provides FWS and state agencies increased flexibility when managing a species and issuing "take" permits. (Take is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.") FWS may issue permits for take for (1) scientific purposes, (2) enhancing propagation or survival, or (3) incidental take when done under the provisions of a FWS-approved habitat conservation plan, (4) zoological exhibition, (5) educational purposes, or (6) special purposes consistent with the purposes of the ESA.

Section 4(d) of the ESA allows FWS to implement special regulations that tailor the take protections for threatened species, if special regulations are necessary and advisable to conserve the species. These special regulations cannot be developed for endangered species. FWS is proposing a 4(d) rule for the Texas fawnsfoot to streamline and exempt from regulatory process certain management actions that benefit the species.

Q: Where are the central Texas mussel species found, and what are the threats to the species?

A: The central Texas mussels are found throughout portions of the Brazos, Colorado, Trinity and Guadalupe river basins in Texas. A number of factors threaten these mussels, including declines in water quality, loss of stream flow, riparian and instream habitat fragmentation, and degradation of instream habitats. Urbanization and changes in climate patterns exacerbate these effects.

The **Texas fawnsfoot** (*Truncilla macrodon*) occurs in the Brazos, Colorado and Trinity river basins, Texas (see below, for a range map of all six species). In the Brazos basin, Texas fawnsfoot occurs in the Brazos, Navasota, San Gabriel, and Little rivers, the Clear Fork of the Brazos River, and Brushy Creek. In the Colorado basin, Texas fawnsfoot occurs in the San Saba River and in the Colorado River. In the Trinity basin, Texas fawnsfoot occurs in the Trinity River and the East Fork of the Trinity River. Texas fawnsfoot are threatened by water quality decline and small population sizes.

The **Texas pimpleback** (*Cyclonaias petrina*) occurs in portions of the Colorado River basin, Texas, including the Elm, Colorado, Concho, Llano, San Saba, and Pedernales rivers as well

as Bluff Creek. This species has very little evidence of reproduction in all but one population, and the drought of 2011-13 likely resulted in the extirpation of at least one population.

The **Guadalupe orb** (*Cyclonaias necki*) occurs in portions of the Guadalupe River basin, Texas, including the South Fork Guadalupe, Guadalupe, and San Marcos rivers. Only two populations remain of this species, and one does not appear to be reproducing, as all individuals that have been found in recent years are old.

The **Texas fatmucket** (*Lampsilis bracteata*) occurs in portions of the Colorado River basin, Texas, including the San Saba, Llano, North Llano, South Llano, James, and Pedernales rivers as well as Bluff, Cherokee, Elm, Threadgill, Live Oak, Onion, and Rocky creeks. This species occurs in headwater streams that are very susceptible to drying.

The **Guadalupe fatmucket** (*Lampsilis bergmanni*) occurs in portions of the Guadalupe River basin, Texas, including the North Fork Guadalupe and Guadalupe rivers as well as Johnson Creek. Very few individuals of this species have been found in recent years, and the rivers in which it occurs are subject to low flows.

The **false spike** (*Fusconaia mitchelli*) was once thought to be extinct but was rediscovered in 2011. It occurs in portions of the Brazos, Colorado, and Guadalupe River basins, Texas. In the Brazos basin, false spike occurs in the San Gabriel and Little rivers, and Brushy Creek. In the Colorado basin, false spike occurs in the Llano and San Saba rivers. In the Guadalupe basin, false spike occurs in the Guadalupe and San Marcos rivers. All populations of this species are small and isolated, and most populations are subject to declining flows.

Q: What is critical habitat?

A: Critical habitat identifies geographic areas occupied at the time a species is listed that contain the physical or biological features essential to the species' conservation. Critical habitat may also include areas outside the geographic area the species occupied when listed that are essential for conserving the species. The ESA defines "conservation" as the actions leading to a species' eventual recovery so that it no longer requires ESA protections.

Critical habitat provides protection against "destruction or adverse modification" from actions carried out, funded, or authorized by a federal agency and carried out through required consultation under the ESA, section 7. Under such consultations, FWS reviews federal actions for how they affect the "physical or biological features essential to conserve a listed species" and that habitat's ability to support the species throughout its lifecycle and to meet the species' recovery needs.

Designating critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. A critical habitat designation identifies areas that are important to conserve federally listed threatened or endangered species. A critical habitat designation requires federal agencies to consult with FWS on any of their actions that may affect designated critical habitat. FWS can then recommend ways to minimize any adverse

effects. It imposes no requirements on state or private actions on state or private lands where no federal funding, permits, or approvals are required.

Critical habitat designation has several benefits including: (1) Triggering consultation under section 7 of the ESA in designated areas for actions in which there may be a federal nexus and where it would not otherwise occur. For example, the area has become unoccupied, or the occupancy is in question; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to state or county governments or private entities; and (4) preventing people from causing inadvertent harm to the species.

Q: What is the purpose of designating critical habitat?

A: Critical habitat designation is a tool used to identify areas that are important to the recovery of a species. It also notifies federal agencies of areas that must be given special consideration when they are planning, implementing, or funding activities. Federal agencies are required to consult with FWS on their actions that may affect critical habitat. A critical habitat designation has no effect when a federal agency is not involved. For example, a private landowner undertaking a project that involves no federal funding or permit has no additional responsibilities if his or her property falls within critical habitat boundaries.

Q: How did FWS determine which areas to propose as critical habitat for the central Texas mussels?

A: All areas proposed as critical habitat for the central Texas mussels contain one or more of the physical or biological features essential for the conservation of the species. When determining critical habitat, biologists consider habitat features necessary for all life stages and successful reproduction of the species. Habitat areas essential for mussel conservation are those that provide the biological needs of reproducing, feeding, sheltering, dispersal, and genetic exchange. Those areas are proposed for designation, but can then be identified and considered for exclusion in the final rule.

Q: What areas is FWS proposing to designate as critical habitat for the central Texas species?

A: FWS is proposing to designate approximately 1,944 river miles in the Guadalupe, Colorado, Brazos and Trinity river basins in central Texas. Below is information on the proposed critical habitat for each species, as well as a map of the proposed critical habitat designations.

The proposed critical habitat includes ten units in seven rivers for the Texas fawnsfoot. We are proposing a mix of occupied and unoccupied critical habitat in one unit to achieve a contiguous habitat length sufficient to provide for a resilient population. These critical habitat units total 885 stream miles of occupied and 29 stream miles of unoccupied. The total proposed critical habitat stream length is approximately 914 miles for the Texas fawnsfoot.

The proposed critical habitat includes ten units in four rivers and streams for the Texas pimpleback. We are proposing a mix of occupied and unoccupied critical habitat in two units to

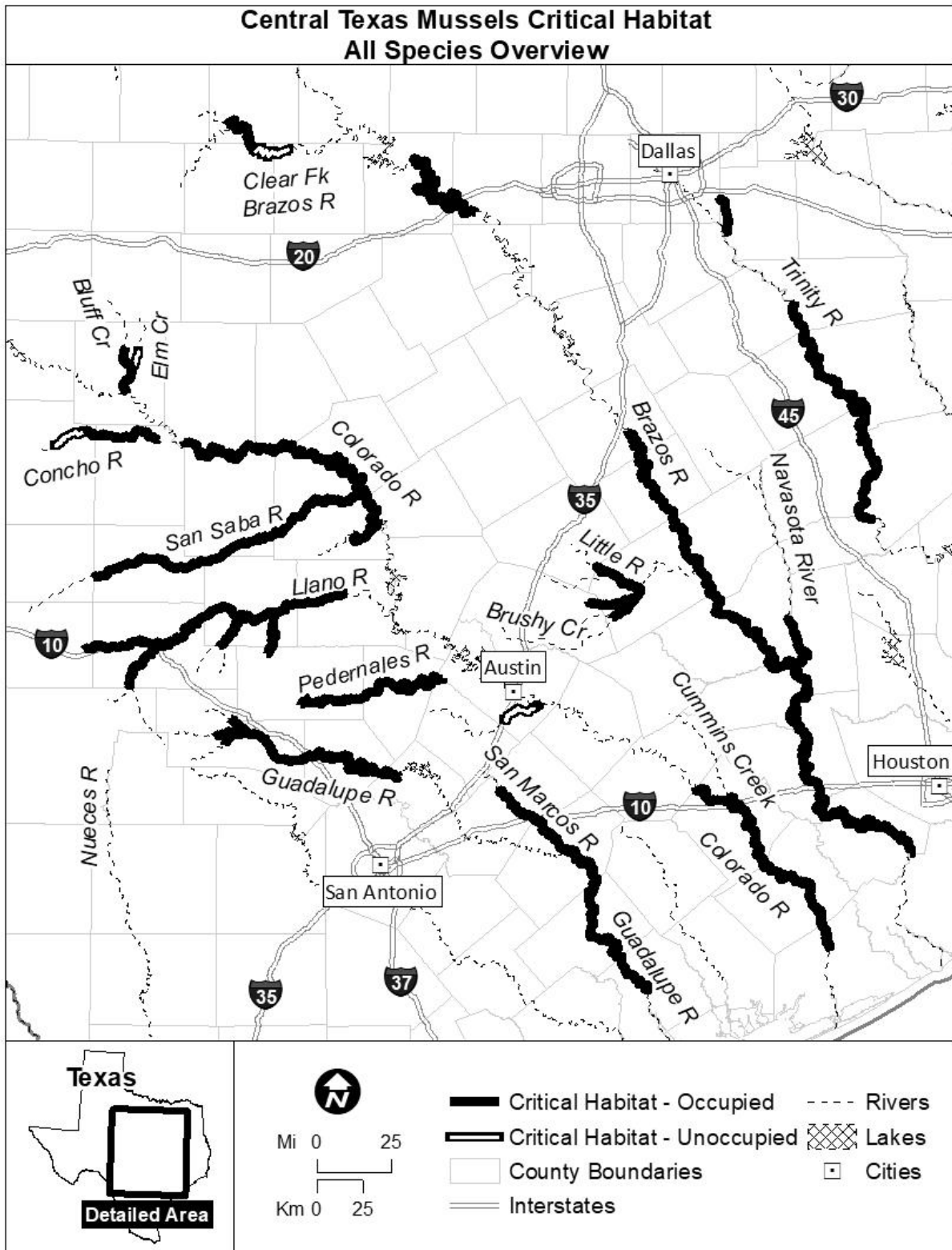
achieve a contiguous habitat length sufficient to provide for a resilient population. These critical habitat units total approximately 466 stream miles of occupied and 28 stream miles of unoccupied habitat. The total proposed critical habitat stream length is approximately 494 miles for the Texas pimpleback.

The proposed critical habitat includes four units in three rivers for the Guadalupe orb. Each unit is currently occupied by Guadalupe orb. These critical habitat units account for a total of approximately 295 stream miles of proposed occupied critical habitat for the Guadalupe orb.

The proposed critical habitat includes 15 units in 13 rivers and streams for the Texas fatmucket. We are proposing a mix of occupied and unoccupied critical habitat in two units to achieve a contiguous habitat length sufficient to provide for a resilient population. These critical habitat units total 408 stream miles of occupied and 28 stream miles of unoccupied. The total proposed critical habitat stream length is approximately 436 miles for the Texas fatmucket.

The proposed critical habitat includes three units in three rivers for the Guadalupe fatmucket. Each unit is currently occupied by the Guadalupe fatmucket. The total proposed critical habitat stream length is approximately 54 miles for the Guadalupe fatmucket.

The proposed critical habitat includes seven units in seven rivers for the false spike. Each unit is currently occupied by the false spike. The total proposed critical habitat stream length is approximately 328 miles for the false spike.



Q: Did the ESA require an economic analysis be prepared for the proposed critical habitat?

A: Yes. A draft economic analysis was prepared for the proposed critical habitat that estimates the incremental costs associated with the proposed designation. Based on the economic analysis, critical habitat designation for the central Texas mussels is unlikely to generate costs exceeding the rule-making benchmark of \$100 million in a single year. The economic analysis forecasts that for the proposed critical habitat no more than eight consultations are likely to occur in any given year and that the incremental costs of designating critical habitat are likely to be limited to additional administrative efforts. These costs are estimated to be \$82,000 per year, borne by federal action agencies. Moreover, the economic analysis found it is unlikely that critical habitat would generate additional requests for conservation efforts beyond what would be required as a result of a listing determination.

FWS took into account the economic and other relevant impacts of specifying any particular area as critical habitat. FWS may exclude any area from critical habitat if it determines that the benefits of such exclusion outweigh the benefits of specifying the area as part of critical habitat unless it determines, based on the best scientific and commercial data available, that the failure to designate the area as critical habitat will result in the extinction of the species.

The draft economic analysis and other information about the central Texas mussels are available [here](#) or by contacting the Austin Ecological Services Field Office, 512-490-0057.

Q: Do listed species with designated critical habitat receive more protection than listed species without it?

A: A critical habitat designation does not set up a preserve or refuge. It only affects activities with federal involvement, such as federal funding or a federal permit. Listed species and their habitats are protected by the ESA whether or not they are in areas designated as critical habitat.

Designation of critical habitat can help focus conservation activities for a listed species by identifying areas that contain the physical and biological features that are essential for the conservation of that species. Critical habitat also alerts the public as well as land management agencies to the importance of these areas.

Q: Do federal agencies have to consult with FWS outside critical habitat areas?

A: Even when there is not a critical habitat designation, federal agencies must consult with FWS if an action they fund, authorize, or permit may affect listed species.

Q. What is a 4(d) rule, and what does the proposed 4(d) rule mean for the fawnsfoot?

A. Our proposed rule under section 4(d) of the ESA outlines prohibitions necessary and advisable for the conservation of the Texas fawnsfoot. In this proposed 4(d) rule we provide prohibitions that are necessary for the conservation of the species but also propose exemptions for activities we determined will have minor or temporary effects and are not anticipated to affect the viability of the Texas fawnsfoot population including habitat and population restoration, surveys, and water management activities.

Under the proposed 4(d) rule, the following activities would be allowed:

- Species restoration efforts being conducted by a designated FWS employee or state wildlife agency including collection and release for survey activities and tissue collection for genetic analysis (non-lethal techniques). State wildlife agencies must coordinate with FWS prior to starting any species restoration efforts for this exception to apply.
- Channel restoration projects that create natural, physically stable, ecologically functioning streams, as well as projects that remove barriers to fish passage (i.e., low head dams, perched culverts, and other impoundments).
- Bioengineering methods such as streambank stabilization using live stakes (live, vegetative cuttings inserted or tamped into the ground in a manner that allows the stake to take root and grow), live fascines (live branch cuttings, usually willows, bound together into long, cigar-shaped bundles), or brush layering (cuttings or branches of easily rooted tree species layered between successive lifts of soil fill).
- Soil and water conservation practices and riparian and adjacent upland habitat management activities that restore in-stream habitats for the species, restore adjacent riparian habitats that enhance stream habitats for the species, stabilize degraded and eroding stream banks to limit sedimentation and scour of the species' habitats, and restore or enhance nearby upland habitats to limit sedimentation of the species' habitats and comply with conservation practice standards and specifications, and technical guidelines developed by the Natural Resources Conservation Service.
- Individuals who successfully complete and show proficiency by passing the end-of-course test with a score equal to or greater than 90 percent, with 100 percent accuracy in identification of mussel species listed under the Endangered Species Act, in an approved freshwater mussel identification and sampling course (specific to the species and basins in which the Texas fawnsfoot is known to occur), such as that administered by FWS, state wildlife agency, or qualified university experts, when surveying for the presence or abundance of Texas fawnsfoot.

The proposed 4(d) rule would allow species and habitat restoration efforts as well as agriculture, transportation, and water management activities that comply with Candidate Conservation Agreements with Assurances (CCAA), Best Management Practices, NRCS Working Lands for Wildlife Conservation Plans, Conservation Practice Guidelines, Water Quality Standards, or similar guidance issued or otherwise approved by FWS.

We cannot restore, protect, and reconnect habitat for the mussel species like the Texas fawnsfoot without the assistance of partners. Our action is meant to focus our resources on the actions that are most important to conserve the species while avoiding regulation of activities that may cause small amounts of take but are not significant issues for the overall conservation of the species or that provide a conservation benefit for the species. Our priority is to work with our partners and

private landowners to reverse its decline and help the species coexist with those who make their living from our rivers and streams.

Q: What conservation efforts are currently being undertaken for the central Texas mussels?

A: The Texas Parks and Wildlife Department and nongovernmental organizations led efforts to protect and enhance habitats within the river basins occupied by central Texas mussels. TPWD has worked with private landowners and others (including FWS) to restore approximately 10,000 acres of upland habitats in priority watersheds important for conservation of aquatic wildlife resources. FWS's Fish and Aquatic Conservation Program and others are evaluating methods to propagate the central Texas mussels. FWS's Partners for Fish and Wildlife Program, and other partners, are working with private landowners interested in riparian and instream habitat restoration and enhancement. The Office of the Texas Comptroller has funded research that may expand our understanding of the species' needs.

FWS is in conversations with river authorities and other management agencies interested in pursuing voluntary conservation agreements known as Candidate Conservation Agreements with Assurances (CCAAs). These CCAAs provide non-federal landowners and developers the opportunity to implement conservation practices that address specific threats. Cooperating non-federal landowners and developers receive assurances that, if the species is listed, they can continue to manage their land as outlined in their agreements with no additional requirements. Resulting, demonstrated, and committed conservation gains will be considered by FWS when considering a final listing determination. If the species is listed and a CCAA is in place, those landowners, river authorities, management agencies, and others enrolled in the CCAA will not be required to do more than they have agreed to do under the agreements.

Q: How would the central Texas mussel species benefit from an ESA listing?

A: Species listed as endangered or threatened under the ESA benefit from conservation measures that include recognition of threats to the species, implementation of recovery actions, and federal protection from harmful practices.

Recognition under the ESA results in public awareness and conservation by federal, state, tribal, and local agencies, as well as private organizations and individuals. The ESA encourages cooperation with the states and other partners to conserve listed species.

The ESA also requires FWS to develop and implement recovery plans for the conservation of threatened and endangered species. Recovery plans outline actions that are needed to improve the species' status such that it no longer requires protection under the ESA. FWS develops and implements these plans in partnership with the species experts; other federal, state, and local agencies; Tribes; nongovernmental organizations; academia; and other stakeholders. Recovery plans also establish a framework for recovery partners to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Examples of typical recovery actions include habitat protection, habitat restoration (e.g., restoration of stream flow), research, captive propagation, and reintroduction.

Under the ESA, federal agencies must ensure actions they approve, fund, or carry out do not jeopardize the continued existence of a listed species or destroy its critical habitat. In addition, under the ESA, endangered animal species cannot be killed, hunted, collected, injured, or otherwise subjected to harm. Endangered species cannot be purchased or sold in interstate or foreign commerce without a federal permit.

Q: Would water management, grazing, or oil and gas activities in the rivers and streams where the central Texas mussels are found be affected by the proposed listing?

A: If any of the central Texas mussels are added to the list of threatened and endangered species following publication of a final rule in the *Federal Register*, then the Section 9 prohibitions would apply, subject to a final 4(d) rule for threatened species. Thus, any activities resulting in take of listed mussels, directly or indirectly, would require a permit under Section 10 of the ESA. Federal agencies are required to consult on the effects of their actions to threatened and endangered species under Section 7 of the ESA. Regulatory assurances can be provided through Section 10 permits (Habitat Conservation Plans, Safe Harbor Agreements, and Candidate Conservation Agreements) and through Section 7 Biological Opinions.

Q. Why are freshwater mussels important?

A. Mussels are biological indicators of healthy streams and rivers that benefit people and wildlife. The presence of diverse and reproducing mussel populations indicates healthy ecosystems, good fishing, and high water quality for waterfowl and other wildlife species. It also provides assurances that our water is safe.

Mussels perform important ecological functions. They are natural filters, and by feeding on algae, plankton, and suspended detritus and silts, they help purify the aquatic system. Mussels are also an important food source for many species of wildlife including otters, raccoons, muskrats, herons, egrets, and some fish.

Q: What information is FWS requesting?

A: Any final actions (listing or proposal withdrawal) resulting from the proposed rule will be based on the best scientific and commercial data available and will be as accurate and as effective as possible. We particularly seek comments concerning:

- (1) The species' biology, range, and population trends, including:
 - (a) Biological or ecological requirements of these species, including habitat requirements for feeding, breeding, and sheltering;
 - (b) Genetics and taxonomy;
 - (c) Historical and current range, including distribution patterns;
 - (d) Historical and current population levels, and current and projected trends; and
 - (e) Past and ongoing conservation measures for these species, their habitats, or both.

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

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

(4) Additional information concerning the historical and current status, range, distribution, and population size of these species, including the locations of any additional populations of the Central Texas mussels.

(5) Information on activities that are necessary and advisable for the conservation of the Texas fawnsfoot to include in a 4(d) rule for the species. FWS is proposing such measures that are necessary and advisable for the conservation of the species and will evaluate ideas provided by the public in considering the prohibitions we should include in the 4(d) rule.

(6) The reasons why we should or should not designate habitat as “critical habitat” under Section 4 of the ESA, including whether there are threats to the species from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designation of critical habitat may not be prudent.

(7) Specific information on:

(a) The amount and distribution of habitat for all six Central Texas mussels;

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

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

(d) What areas not occupied at the time of listing are essential for the conservation of the species and why.

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

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

(10) Information on the extent to which the description of probable economic impacts in the draft economic analysis is a reasonable estimate of the likely economic impacts and the description of the environmental impacts in the draft environmental assessment is complete and accurate.

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

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

Q: How can the public submit information on the proposal?

A: Written comments and information concerning the proposed listing rule will be accepted until October 25, 2021, and may be submitted by one of the following methods:

- **Electronically:** Go to the Federal eRulemaking Portal: <http://www.regulations.gov>. In the Search box, enter FWS–R2–ES–2019-0061 which is the docket number for this rulemaking. Then, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rules link to locate this document. You may submit a comment by clicking on “Comment Now!”
- **By hard copy:** Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R2–ES–2019-0061; U.S. Fish & Wildlife Headquarters, MS: BPHC, 5275 Leesburg Pike, Falls Church, VA 22041-3803.

FWS will post all comments on <http://www.regulations.gov>. This generally means the agency will post any personal information provided through the process. FWS is not able to accept email or faxes.

On Tuesday, September 14, 2021 and Thursday, September 16, 2021, the FWS will hold virtual informational meetings from 5:00 p.m. – 6 p.m. CT, followed by a public hearing from 6:30 p.m. -8:30 p.m. CT. Anyone wishing to make an oral statement at the public hearing must register before the hearing. For the September 14 informational meeting/public hearing, please register at <https://bit.ly/3sjfhPo>. For the September 16 informational meeting/public hearing please register at <https://bit.ly/3g1grdj>.

For additional information, contact Adam Zerrenner, U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, 10711 Burnet Road, Suite 200, Austin, TX 78758, by telephone 512-490-0057 or by fax 512-490-0974. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.