

NESHAP that will occur after a new HAP has been listed.

Michael S. Regan,
Administrator.

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R2-ES-2023-0073;
FF09E21000 FXES1111090FEDR 234]

RIN 1018-BG35

Endangered and Threatened Wildlife and Plants; Endangered Species Status for Quitobaquito Tryonia and Designation of Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the Quitobaquito tryonia (*Tryonia quitobaquidae*), a springsnail species from Arizona, as an endangered species under the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list the Quitobaquito tryonia. After a review of the best available scientific and commercial information, we find that listing the species is warranted. We also propose to designate critical habitat for the Quitobaquito tryonia under the Act. In total, approximately 6,095 square feet (566 square meters) across 2 subunits in Pima County, Arizona, fall within the boundaries of the proposed critical habitat designation. We also announce the availability of a draft economic analysis (DEA) of the proposed designation of critical habitat for Quitobaquito tryonia. If we finalize this rule as proposed, it would extend the Act's protections to this species and its designated critical habitat.

DATES: We will accept comments received or postmarked on or before November 13, 2023. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES** below) must be received by 11:59 p.m. eastern time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by October 30, 2023.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: [https://](https://www.regulations.gov)

www.regulations.gov. In the Search box, enter FWS-R2-ES-2023-0073, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment."

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS-R2-ES-2023-0073, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041-3803.

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

Availability of supporting materials: Supporting materials, such as the species status assessment report, are available on the Service's website at <https://www.fws.gov/office/arizona-ecological-services>, at <https://www.regulations.gov> at Docket No. FWS-R2-ES-2023-0073, or both. For the proposed critical habitat designation, the coordinates or plot points or both from which the map is generated are included in the decision file for this critical habitat designation and are available at <https://www.regulations.gov> at Docket No. FWS-R2-ES-2023-0073 and on the Service's website at <https://www.fws.gov/office/arizona-ecological-services>.

FOR FURTHER INFORMATION CONTACT: Heather Whitlaw, Field Supervisor, U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office, 9828 North 31st Ave #C3, Phoenix, AZ 85051-2517; telephone 602-242-0210. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Executive Summary

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

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

What this document does. We propose to list the Quitobaquito tryonia as an endangered species under the Act, and we propose the designation of critical habitat for the species.

The basis for our action. Under the Act, we may determine that a species is an endangered or threatened species because of any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that Quitobaquito tryonia is endangered due to the following threats: decline in spring flow resulting from groundwater pumping and ongoing drought; effects of climate change; and spring modification.

Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary), to the maximum extent prudent and determinable, to designate critical habitat concurrent with listing. Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any

other relevant impacts of specifying any particular area as critical habitat.

Information Requested

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

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns and the locations of any additional populations of this species;

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

(e) Past and ongoing conservation measures for the species, its habitat, or both.

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

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

(b) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species; and

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

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

(4) Specific information on:

(a) The amount and distribution of Quitobaquito tryonia habitat;

(b) Any additional areas occurring within the range of the species that should be included in the designation because they (i) are occupied at the time of listing and contain the physical or biological features that are essential to the conservation of the species and that may require special management considerations or protection, or (ii) are unoccupied at the time of listing and are essential for the conservation of the species;

(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) Whether occupied areas are adequate for the conservation of the species, as this will help us evaluate the potential to include areas not occupied at the time of listing. Additionally, please provide specific information regarding whether or not unoccupied areas would, with reasonable certainty, contribute to the conservation of the species and contain at least one physical or biological feature essential to the conservation of the species. We also seek comments or information regarding whether areas not occupied at the time of listing qualify as habitat for the species.

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

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

(7) 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.

(8) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act (16 U.S.C. 1531 *et seq.*), and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act. If you think we should exclude any areas, please provide information supporting a benefit of exclusion.

(9) 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.

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

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the

basis of the best scientific and commercial data available, and section 4(b)(2) of the Act directs that the Secretary shall designate critical habitat on the basis of the best scientific data available.

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

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

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

Our final determination may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive (and, if relevant, any comments on that new information), we may conclude that the species is threatened instead of endangered, or we may conclude that the species does not warrant listing as either an endangered species or a threatened species. For critical habitat, our final designation may not include all areas proposed, may include some additional areas that meet the definition of critical habitat, or may exclude some areas if we find the benefits of exclusion outweigh the benefits of inclusion and exclusion will not result in the extinction of the species. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain

reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the **Federal Register**. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

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

Peer Review

A species status assessment (SSA) team prepared an SSA report for the Quitobaquito tryonia. The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species.

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained in the Quitobaquito tryonia SSA report. We sent the SSA report to four independent peer reviewers and received two responses. We also sent the SSA report to six partner reviewers and received three responses. Results of this structured peer review process can be found at <https://www.regulations.gov>. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed in Peer Review above, we received comments from two peer reviewers on the draft SSA report. We reviewed all comments we received from the peer reviewers for substantive

issues and new information regarding the information contained in the SSA report. The peer reviewers generally concurred with our methods and conclusions, and provided additional information, clarifications, and suggestions that we incorporated into an updated version of the SSA report. One reviewer requested that we analyze water quality quantitatively in the report. We clarified that although some water quality parameters have been recorded in the springs that the Quitobaquito tryonia inhabits, we do not know the full suite of parameters, nor the thresholds to which the species is sensitive. Otherwise, no substantive changes to our analysis and conclusions within the SSA report were deemed necessary, and peer reviewer comments are addressed in version 1.1 of the SSA report (Service 2022, entire).

I. Proposed Listing Determination

Background

The Quitobaquito tryonia is a small freshwater snail with a conical shell that measures 0.05 to 0.08 inches (in) (1.4 to 2.1 millimeters (mm)) in length. The shell has 3.5 to 4.5 highly convex whorls with deep sutures (or indentations where whorls meet) and is typically clear, gray, or black in color. Quitobaquito tryonia is dioecious (Hershler 2001, pp. 3–5), meaning male and female organs occur in separate individuals. The lifespan of springsnails is thought to be annual (Lysne et al. 2007, p. 649; Brown et al. 2008, p. 487), with estimates of longevity ranging from 9 to 15 months (Pennak 1989, p. 552).

Quitobaquito tryonia is likely an herbivore or detritivore that primarily grazes on periphyton (a mixture of algae, bacteria, detritus, fungi, diatoms, and protozoa that grow on exposed surfaces (Lysne et al. 2007, p. 649)) and aquatic plants (Pyron and Brown 2015, pp. 386, 401). The species can more easily consume periphyton, which is also more nutrient-rich than aquatic plants; however, if periphyton availability is limited or depleted, Quitobaquito tryonia will consume aquatic plants (Pyron and Brown 2015, p. 399).

Historically, Quitobaquito tryonia is known from three proximal springs or spring complexes, Quitobaquito Springs, Williams Spring, and Burro Spring, that lie near the international border of the United States (Arizona) and Mexico; these springs/spring complexes are in the southwestern corner of Organ Pipe Cactus National Monument, which is managed by the National Park Service (NPS), in Pima County, Arizona (Hershler and Landye

1988, p. 50). Quitobaquito tryonia was first collected in 1963, from Quitobaquito Springs (Hershler and Landye 1988, p. 50; Rosen et al. 2010, p. 8). The species has been extirpated from Williams and Burro Springs but remains extant at Quitobaquito Springs. The species is found in the 200-meter (m) (700-foot (ft)) spring channel of Quitobaquito Springs, which is a human-made, concrete-lined channel with riffle, run, and pool habitat types that was built as part of a restoration project in 1989. The channel is fed by two springs, the Northeast and Southwest springs. The NPS regularly manages vegetation along the stream channel to reduce submerged and emergent vegetation, creating a mosaic of available habitats and ensuring water can flow freely through the channel.

The Quitobaquito tryonia was recently detected at a fourth location in October 2020, a seep (Hillside Seep #2) located approximately 100 m (328 ft) southeast of the main channel at Quitobaquito Springs. Hillside Seep #2 is located to the southeast and slightly upslope from the Southwest Spring at Quitobaquito. The seep is not hydrologically connected overland to the concrete-lined spring channel at Quitobaquito Springs and, for the purposes of this analysis, is being considered a separate population. While there are no surface water connections between the seep and spring channel, it is likely that they have the same groundwater source based on proximity and local geology. Quitobaquito tryonia is the only species in the Cochliopidae family of small freshwater snails that occurs in the spring complex. There are six additional seeps (including Hillside Seep #1) that have been surveyed in the area near Quitobaquito Springs that have low flow and possible springsnail habitat, but no Quitobaquito tryonia were found (Sorensen 2021, p. 10). The presence of dense vegetation precluded searching all possible habitat, so it is possible that Quitobaquito tryonia individuals are present in the inaccessible portions of these seeps. Based on the hydrology and geology of the area, additional undocumented seeps may exist in the area of Quitobaquito Springs that have not been investigated for presence of Quitobaquito tryonia.

Tohono O'odham and Hia Ced O'odham farmers inhabited the area including the Quitobaquito Springs complex for several centuries prior to the arrival of Europeans in the 1600s, and the spring water was used for irrigation (Bennett and Kunzmann 1989, p. 1; Nabhan et al. 1982, pp. 124–126). Large-scale water management of the

springs likely began in 1863, when Euro-American settlers excavated Quitobaquito Pond and built a dam to hold water diverted from the two main spring sources (Bennett and Kunzmann 1989, p. 15; Pearson and Conner 2000, p. 392). Irrigation ditches were constructed from the pond for agricultural fields to the south and west. In 1915–1919, grazing pressure intensified with the establishment of a large cattle operation and ranch that encompassed all of present-day Organ Pipe Cactus National Monument (Bennett and Kunzmann 1989, pp. 21–22).

The Quitobaquito tryonia requires perennial spring flow, adequate water quality, and substrates or aquatic vegetation of sufficient type and quantity. Brooded young, juveniles, and adults all need adequate spring flow and water quality to meet their resource functions, which include feeding, growth, survival, and breeding (Hershler 1984, p. 68; Hershler and Sada 2002, p. 256; Martinez and Thome 2006, p. 14). Specifically, spring flow must be perennial to prevent desiccation (drying out) of individuals and to maintain stable water quality parameters. The Quitobaquito tryonia also needs suitable substrate and aquatic vegetation for shelter and periphyton growth. While *Tryonia* spp. are found on a variety of substrate types, there is some evidence that coarse substrates may promote higher abundances of Quitobaquito tryonia (Bogan 2018, entire; Williams and Sorensen 2019, p. 2).

For a thorough review of the taxonomy, life history, and ecology of the Quitobaquito tryonia, please refer to the SSA report (Service 2022, pp. 4–7).

Regulatory and Analytical Framework

Regulatory Framework

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

2019, eliminated the Service's general protective regulations automatically applying to threatened species the prohibitions that section 9 of the Act applies to endangered species (84 FR 44753; August 27, 2019).

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

- (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) Overutilization for commercial, recreational, scientific, or educational purposes;
- (C) Disease or predation;
- (D) The inadequacy of existing regulatory mechanisms; or
- (E) Other natural or manmade factors affecting its continued existence.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

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

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an "endangered species" or a "threatened species." In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then

analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an "endangered species" or a "threatened species" only after conducting this cumulative analysis and describing the expected effect on the species now and in the foreseeable future.

The Act does not define the term "foreseeable future," which appears in the statutory definition of "threatened species." Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term "foreseeable future" extends only so far into the future as we can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. "Reliable" does not mean "certain"; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

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

Analytical Framework

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

To assess Quitobaquito tryonia viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency is the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years), redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species' life-history needs. The next stage involved an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species' responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We use this information to inform our regulatory decision.

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS–R2–ES–2023–0073 on <https://www.regulations.gov> and at <https://www.fws.gov/office/arizona-ecological-services>.

Summary of Biological Status and Threats

In this discussion, we review the biological condition of the species and its resources, and the threats that influence the species' current and future condition, in order to assess the species' overall viability and the risks to that viability. For the Quitobaquito tryonia to maintain viability, its populations must be highly resilient with sufficient redundancy and representation. Several factors influence the resiliency of the

Quitobaquito tryonia populations, including: (1) the reduction of spring discharge, (2) effects of climate change, (3) spring modification, and (4) conservation actions. These resiliency factors and habitat elements are discussed in detail in the SSA report (Service 2022, entire) and are summarized here.

Species Needs

Spring Flow

Spring flow in spring systems is maintained by groundwater, and individual springs may range widely in size, water chemistry, morphology, landscape setting, and persistence (Springer and Stevens 2009, p. 84). Groundwater recharge of aquifers occurs through precipitation, through surface water from rivers, or as an anthropogenic input from irrigation and municipal returns (Trček and Zojer 2010, p. 87). A decline in groundwater recharge or increase in groundwater discharge (e.g., from groundwater withdrawal, drought, or increased evapotranspiration) can lead to reductions, disruptions, or cessation of spring flow. While the Quitobaquito tryonia possesses an operculum (Johnson et al. 2013, p. 248), which enables the shell to be sealed, this only provides protection from drying for a very limited period of time (i.e., hours to days).

Water Quality

While the full suite of water quality conditions that the Quitobaquito tryonia prefers has not been determined, water quality measurements have been recorded for some parameters in springs inhabited by the Quitobaquito tryonia or other closely related species. The water chemistry of a spring is strongly influenced by aquifer geology. Several habitat variables, such as dissolved oxygen, pH, conductivity, and temperature, may influence the distribution and abundance of springsnails (O'Brien and Blinn 1999, pp. 231–232; Mladenka and Minshall 2001, pp. 209–211; Malcom et al. 2005, p. 75; Martinez and Thome 2006, pp. 12–15; Lysne et al. 2007, p. 650). No known sources of contaminants are present in the Quitobaquito Springs system, although some concern has been raised regarding the aerial application of agricultural pesticides in the Rio Sonoyta watershed of Mexico and the threat of wind drift (NPS 2006a, p. 1). However, a contaminant study from the early 1990s found no evidence of contamination from sediment samples taken from Quitobaquito Pond (King et al. 1996, pp. 3–5).

Substrate and Vegetation

While *Tryonia* spp. are found on a variety of substrate types, there is some evidence that coarse substrates may promote higher abundances of Quitobaquito tryonia. Bogan (2018, entire) noted differences in densities of Quitobaquito tryonia within the 200-m (700-ft) spring channel at Quitobaquito Springs. The spring channel at Quitobaquito Springs is a concrete-lined channel with riffle, run, and pool habitat types. The NPS regularly manages vegetation along the stream channel to reduce submerged and emergent vegetation, creating a mosaic of available habitats and ensuring water can flow freely through the channel. Within the channel, Quitobaquito tryonia were densest in gravel riffles, followed by concrete runs and riffles, then vegetated pools. However, surveys by Arizona Game and Fish Department (AZGFD) biologists at Quitobaquito Springs have not found any Quitobaquito tryonia along the densely vegetated margins of the pond, located at the terminus of the spring channel (Williams and Sorensen 2019, p. 2).

Organ Pipe Cactus National Monument was established in 1937, but cattle operations near Quitobaquito, Williams, and Burro Springs continued until large-scale cattle operations ended in 1976 (Warren and Anderson 1987, p. 1). In 1978, the remaining cattle were removed from the Monument (Bennett and Kunzmann 1989, pp. 15, 21–22). After the large-scale cattle operations ended, spring sources became dense with vegetation and standing water was reduced (Warren and Anderson 1987, p. 13). These effects of intensive livestock grazing on vegetation change and soil disturbance ended in 1978–79 across the Springs at Organ Pipe Cactus National Monument. Occasionally, trespass cattle and other livestock (i.e., horses and burros) still occur within the greater Organ Pipe Cactus National Monument, but they are not common near Quitobaquito Springs. The concrete channel that was installed in 1989 (NPS 1992, pp. 28–30) also created a more stable system within the Springs, so the Quitobaquito tryonia population experiences less of an effect of vegetation change, soil disturbance, and reductions/fluctuations in preferred substrates.

Risk Factors for the Quitobaquito Tryonia

We reviewed the potential risk factors (i.e., threats, stressors) that could be currently affecting the Quitobaquito tryonia. In this proposed rule, we will discuss only those factors in detail that

could meaningfully impact the status of the species. Those risk factors that are unlikely to have significant effects on the Quitobaquito tryonia, such as vegetation and soil disturbance, invasive species, and predation, are not discussed here but are evaluated in the SSA report. For example, the introduction of nonnative or invasive predators has the potential to negatively affect the Quitobaquito tryonia (Hershler 1998, p. 14; Sada 2017, p. 11). However, nonnative predators such as bullfrogs, crayfish, and cichlids are not currently present in areas occupied by the Quitobaquito tryonia. Quitobaquito Springs is a remote, isolated natural water, and is neither a destination for anglers (e.g., bait bucket dump), nor is stocked with fish from State or Federal hatcheries. The primary risk factors (*i.e.*, threats) affecting the status of the Quitobaquito tryonia are the reduction of spring discharge (Factor A), effects of climate change (Factor E), and spring modification (Factor A).

Reduction of Spring Discharge

Quitobaquito Springs complex is likely supplied by prehistoric water (*i.e.*, water that was deposited many millennia before current day) stored beneath an area centered around Aguajita Wash with the Quitobaquito Hills roughly delineating the western boundary, shallow bedrock to the east, and Rio Sonoyta to the south (Carruth 1996, pp. 18, 20; see figure 4.2 in the SSA report for a map of the area). Groundwater recharge in the approximately 100-square-mile area is primarily from the limited infiltration (5–10 percent) of local rainfall (6.6 inches/year; Carruth 1996, p. 18). The historically consistent spring flows at Quitobaquito Springs were highly dependent on large, stored water volumes (Carruth 1996, p. 21). However, long-term spring flow has declined over the last 25 years (see figure 1, below; Zamora 2018, p. 146; Zamora et al. 2020, pp. 5–6). Although it is uncertain how impacts to the regional aquifer may affect Quitobaquito Springs complex outputs (Carruth 1996, p. 21; Zamora et

al. 2020, p. 15), stressors on the Rio Sonoyta aquifer may include municipal water usage for the city of Sonoyta (Sonora, Mexico); local agriculture (*i.e.*, irrigated crop fields and cattle ranching); and water usage associated with local construction of the U.S.–Mexico border wall.

The City of Sonoyta has grown in human population since the late 1960s (Brown 1991, p. 6). By 1988, there were 212 wells (165 for irrigation) pumping in or near the city of Sonoyta (Brown 1991, p. 18). Even with the Mexican government placing a moratorium on any new wells being dug in 1988, groundwater withdrawals are exceeding recharge to the aquifer (Brown 1991, p. 47). Under conditions in the early 1990s, annual pumping capacity was approximately 2.5 times greater than the annual rate of recharge (Brown 1991, p. 27), and the number of irrigated acres has remained constant since 1982 (Brown 1991, p. 47). Census data from 1995 to present day show a peak population for Sonoyta and the surrounding area in 2010 with steady declines since. While the existing pumping infrastructure is capable of greatly exceeding the recharge rate in the Rio Sonoyta basin, during a study from 2001 to 2006, it was observed that many of the irrigation wells, pumps, and ditches were not in use (Rosen et al. 2010, p. 13).

Additionally, beginning in 2020, there has been water withdrawal associated with border wall construction between the United States and Mexico; this water withdrawal affected the groundwater and aquifer systems supplying Quitobaquito Springs. A permit filed by U.S. Customs and Border Protection requested 84,000 gallons per day for a 45-day build period. Two new wells were drilled to meet the water demand, which may hasten the “drawdown” of water resources in an area where groundwater withdrawals from the nearby Rio Sonoyta alluvial aquifer exceed the recharge rate (Brown 1991, p. 27). These new wells were located 11 to 13 kilometers (7 to 8 miles) from

Quitobaquito Springs to minimize any potential stress on spring output (Morawe 2021, pers. comm.). Future border wall construction has been paused, but construction, and thus water withdrawal, may resume in the future.

Drought has the potential to impact spring flow by reducing the amount of recharge into the groundwater system and increasing evaporation of surface water due to extended periods of high ambient temperatures. Statewide trends in Arizona over the last 100 years show 60 percent of the last 20 years were in drought conditions (NOAA 2021, unpaginated). Pima County, Arizona, has been in an extended drought since 2000, which coincides with continued declines in spring flow output at Quitobaquito Springs. Along with drought, a trend of warmer and drier conditions in Organ Pipe Cactus National Monument has been observed (NPS 2014, entire). Climate change is expected to further exacerbate drought conditions.

As a result of groundwater withdrawals and drought, spring discharge has declined at Quitobaquito, Williams, and Burro Springs. Monitoring of spring discharge at Quitobaquito Springs began in 1973 and has continued intermittently through the present day. Methods for measuring discharge varied over the years, but long-term spring flow measurements show a decline in discharge over the last 25 years (see figure 1, below; Zamora 2018, p. 146; Zamora et al. 2020, pp. 5–6). By the early 2000s, Williams and Burro Springs had ceased flowing completely (NPS 2006b, p. 9), and the species is now considered extirpated from these areas, though there is some evidence of seasonally intermittent surface water occurring at Williams Spring (Williams and Sorensen 2019, p. 3). Burro Spring became intermittent sometime prior to 1992 (NPS 1992, p. 28), while Williams Spring still maintained perennial discharge during the summer of 1991 (Goodman 1992, p. 143).

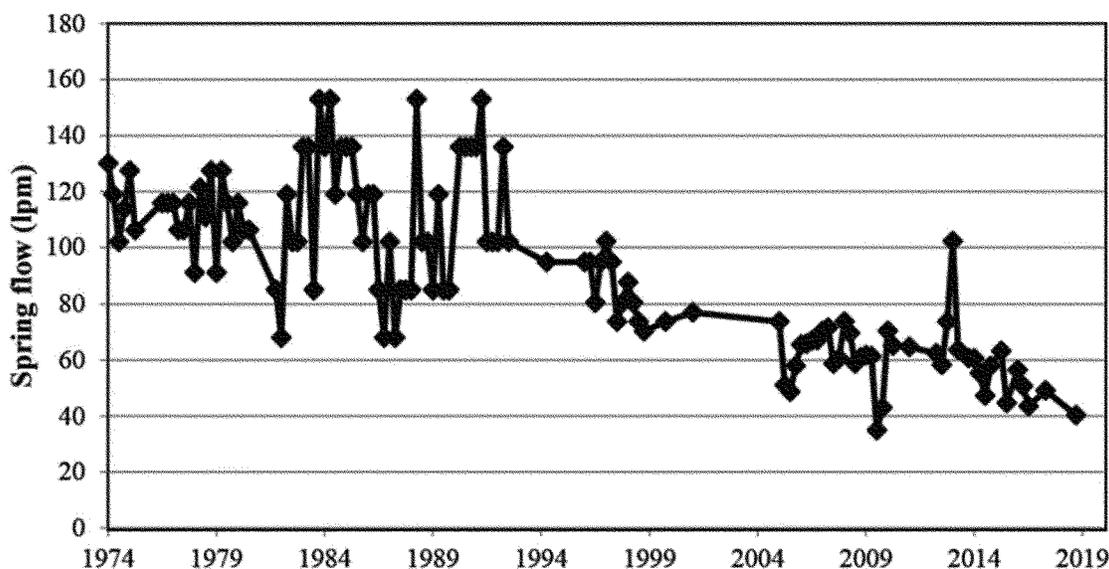


Figure 1. Discharge in liters per minute (lpm) at Quitobaquito Springs from 1973 to 2017 (from Zamora 2018, p. 146).

Effects of Climate Change

There is a broad consensus among climate models that arid ecosystems are especially vulnerable to the impacts of climate change (Seager et al. 2007, pp. 1181–1184; Weiss and Overpeck 2005, p. 2075; Archer and Predick 2008, p. 24). The current prognosis of climate change impacts on the Sonoran Desert includes fewer frost days; warmer temperatures; greater water demand by plants, animals, and people; and an increased frequency of extreme weather events (such as heat waves, droughts, and floods) (Weiss and Overpeck 2005, p. 2074; Archer and Predick 2008, p. 24). For the southwestern United States, the following influences of climate change are projected: (1) Continued warming with longer and hotter heat waves in summer; (2) decreased average precipitation in the southern portion; (3) more frequent and intense extreme precipitation in winter; (4) decreased late-season snowpack; (5) decreased river flow and soil moisture; (6) more frequent and intense flooding in some seasons and some parts of the Southwest, and less frequent and intense in other seasons; and (7) hotter, more severe, and more frequent droughts in parts of the Southwest (Garfin et al. 2013, pp. 5–6).

Reductions in annual rainfall associated with climate change, coupled with hotter temperatures that are projected with very high confidence, will likely bring reductions in aquifer inputs due to reduced recharge and higher evaporation rates, and will likely

have negative effects on aquifers across the Southwest. Virtually every plausible future climate scenario projects longer dry spells between rains, which can have more severe impacts on the landscape, especially in spring and summer (Lenart 2007, entire). It is therefore possible that some existing Quitobaquito tryonia habitat will periodically dry up in the spring and summer during the current century. Bigger and more frequent floods caused by more intense, heavy rainfall events are also expected episodically in the winter (Overpeck et al. 2013, p. 6) and may be even more destructive as riparian vegetation declines within the greater system, although flooding may not have as pronounced of an effect on the concrete-lined channel of Quitobaquito Springs. Climate change trends are highly likely to continue (Overpeck et al. 2013, entire). Climatic impacts on the Quitobaquito tryonia will likely be further complicated by interactions with other factors (e.g., interactions with nonnative species and other habitat-disturbing activities).

Spring Modification

Spring modifications include channel modification, surface water diversions, and impoundment at springs. Spring modifications may occur for development, management, or restoration purposes and have been extensively documented at Quitobaquito Springs, although some modification also occurred at Williams Spring. These modifications may be either beneficial

or detrimental to springsnail populations depending on the context. Human alterations of springheads to concentrate or divert discharge negatively affect spring systems and have resulted in the decline or loss of springsnail populations throughout the southwestern United States and northern Mexico (Unmack and Minckley 2008, p. 20; Hershler et al. 2011, p. 12; Hershler et al. 2014, pp. 51, 53, 56, 58–63). Surface water diversions are sources of multiple stresses to springs, including altering physical integrity, creating conditions that favor nonnative aquatic species, and degrading habitat conditions for native riparian vegetation (Sada 2017, pp. 10–11). Additionally, the presence of pipes, dikes, dams, impoundments, channel modifications and dredging, or spring boxes indicate further stress in the form of spring diversions and loss of occupancy of springsnails at some sites. Although surface water diversions can cause stress to springs and springsnails, populations of springsnails in historically disturbed habitats can recover if the disturbance is low in magnitude and infrequent (Sada 2017, p. 22).

While restoration may be a temporary source of stress to a spring system and springsnails, there is often an overall benefit to springsnails by improving all of the species' needs within a spring (e.g., water quality, substrate and vegetation, and spring flow). Aquatic habitat at Quitobaquito Springs was severely reduced in the 1970s when

flow from the Southwest Spring was directed into an underground pipe. However, a restoration project in 1989 restored aboveground flow through channel modification and the creation of a concrete-lined stream that mimics riffle, run, and pool habitats; that stream is currently inhabited by the Quitobaquito tryonia.

Summary

Several historical and ongoing influences, including reductions in spring discharge, effects of climate change, and spring modification, may affect the viability of the Quitobaquito tryonia. The most pervasive threat to the species is the historical and ongoing loss or decline in spring discharge. Quitobaquito tryonia populations in two springs (Burro and Williams) are now extirpated because of a loss of perennial flow, while Quitobaquito Springs has

seen a documented decline in discharge. The causes of the decline in spring discharge are not definitive but are likely related to ongoing drought conditions and groundwater pumping. Climate change is expected to exacerbate these conditions. Spring modification has had both positive and negative influences on the viability of the Quitobaquito tryonia. Historical anthropogenic modification of Quitobaquito Springs severely curtailed available habitat, while ongoing conservation efforts have restored spring channel habitat.

Species Condition

The current condition of the Quitobaquito tryonia considers the risks to the populations that are currently occurring. In the SSA report, for each population, we developed and assigned condition categories for one

demographic factor and three habitat factors that are important for the viability of the Quitobaquito tryonia. We used abundance to measure demographics of the populations, and we characterized habitat using spring flow, water quality, and substrate and vegetation as our metrics. The condition scores for each factor were then used to determine an overall condition of each population: high, moderate, low, or extirpated.

The Quitobaquito Springs population is in high condition for all metrics, with an overall high population resiliency. Hillside Seep #2 is in low condition for abundance, moderate condition for spring flow and substrate and vegetation, and high condition for water quality, for an overall moderate population resiliency (see table 1, below). Williams Spring and Burro Spring are extirpated.

TABLE 1—CURRENT CONDITION OF THE QUITOBAQUITO TRYONIA

Population	Demographic metric	Habitat metric			Current population resiliency
	Abundance	Spring flow	Water quality	Substrate and vegetation	
Quitobaquito Springs ..	High	High	High	High	High.
Hillside Seep #2	Low	Moderate	High	Moderate	Moderate.
Williams Spring	Extirpated	Extirpated	Extirpated	Extirpated	Extirpated.
Burro Spring	Extirpated	Extirpated	Extirpated	Extirpated	Extirpated.

Repopulation of extirpated locations (Williams Spring and Burro Spring) is unlikely because although the springs may be intermittent, perennial surface water is absent, making habitat unsuitable for the Quitobaquito tryonia (Williams and Sorensen 2019, p. 3). The exact date when the Quitobaquito tryonia became extirpated from these locations is unknown, but habitat was deemed unsuitable for springsnails in 2004, and no Quitobaquito tryonia were found at this time or during subsequent visits (Martinez and Sorensen 2016, p. 4; Williams and Sorensen 2019, p. 3).

Redundancy for the Quitobaquito tryonia is characterized by having multiple, sufficiently resilient populations distributed across the spring systems historically occupied by the species for the species to be able to withstand catastrophic events. Species that are well-distributed across their historical range are less susceptible to the risk of extirpation (Carroll et al. 2010, entire; Redford et al. 2011, entire). Currently, because there are two extant populations with moderate or high resiliency and two extirpated populations, redundancy of the species has been reduced from historical levels. Additionally, the Quitobaquito tryonia

has always been a highly localized endemic (it historically occupied springs occurring within a 1-kilometer (0.6-mile) radius of one another); the two extant populations are separated by roughly only 100 m (328 ft). Thus, a catastrophic event (such as drought) is highly likely to simultaneously affect both remaining populations of the Quitobaquito tryonia. Conversely, despite their proximity, the populations are isolated and not connected by overland flow; thus, some catastrophic events, such as the introduction of an invasive species, may only affect one of the two populations. However, this isolation would also limit the ability of the Quitobaquito tryonia to naturally recolonize given its limited dispersal ability. Because of the species' small size and dependence on water, dispersal events are rare and opportunistic, with overland transportation likely occurring by "hitchhiking" on birds or other animals (Hershler et al. 2005, pp. 1755–1756, 1763). Therefore, species redundancy for the Quitobaquito tryonia is currently limited to two populations that occur within a reduced geographical extent, which reduces the species' ability to withstand catastrophic events.

Representation reflects a species' capacity to adapt to changing environmental conditions over time and can be characterized by genetic and ecological diversity within and among populations. We describe species representation in terms of habitat variability across its historical range because data on the species' life history, demographics, and population genetics are lacking. Quitobaquito Springs has the greatest discharge of the four springs. It is possible that some local adaptation to water temperature, flow velocity, and/or community interactions occurred among the populations. Gene flow between populations is unlikely due to the isolation of separate springs and the species' limited dispersal ability. Because the species is limited in range and dispersal abilities and the spring habitats of its populations share several characteristics, the adaptive capacity, and thus the species' representation, is limited.

As part of the SSA, we also developed two future condition scenarios at two time steps (10 years and 40 years into the future) to capture the range of uncertainties regarding future threats and the projected responses by the Quitobaquito tryonia. Our scenarios

assumed a continued rate changing climate conditions, water withdrawals, or drought that may impact groundwater levels and the rate of spring flow decline, as well as those factors at increased levels. Because we determined that the current condition of the Quitobaquito tryonia is consistent with an endangered species (see *Determination of Status*, below), we are not presenting the results of the future scenarios in this proposed rule. Please refer to the SSA report (Service 2022) for the full analysis of future scenarios.

We note that, by using the SSA framework (Service 2016) to guide our analysis of the scientific information documented in the SSA report, we have analyzed the cumulative effects of identified threats and conservation actions on the species. To assess the current and future condition of the species, we evaluate the effects of all the relevant factors that may be influencing the species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative effects analysis.

Conservation Efforts and Regulatory Mechanisms

Several habitat management actions can benefit the viability of the Quitobaquito tryonia by reducing or removing threats to the species. The concrete channel that was installed in 1989 (NPS 1992, pp. 28–30) created a more stable system within the spring population that is less affected by vegetation change, soil disturbance, and reductions/fluctuations in preferred substrates. The concrete channel prevents establishment of dense vegetative stands that may impede flow, which is required to maintain species viability. Additionally, staff at Organ Pipe Cactus National Monument regularly remove dense aquatic vegetation from the spring channel to maintain stream flow and provide a mosaic of habitat types throughout the spring channel (Raymond et al. 2019, pp. 18–19; Martin 2023a, pers comm.). Quitobaquito tryonia are less abundant in pool habitat and on aquatic vegetation compared to run or riffle habitat and on other substrates (Bogan 2018, entire; Williams and Sorensen 2019, p. 11; Sorensen 2021, pp. 5–8, 12). Aquatic vegetation removal may result in the loss of some Quitobaquito tryonia individuals, but this action is necessary to maintain flow of the spring channel.

Determination of Quitobaquito Tryonia's Status

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

Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that although the Quitobaquito tryonia has sufficiently resilient extant populations, it has declined in number of populations from known historical levels. Our analysis revealed several factors that caused this decline and pose a meaningful risk to the viability of the species. These threats are primarily related to habitat changes (Factor A) and include the reduction of spring discharge and spring modification, in addition to effects of climate change (Factor E).

The Quitobaquito tryonia is known from four historical populations, but two of those have become extirpated (Williams Spring and Burro Spring). As a narrow endemic species, it historically occupied springs occurring within a 1-kilometer (0.6-mile) radius. Because the Williams Spring and Burro Spring populations are extirpated, current redundancy of the species has been reduced 50 percent from historical levels. The Quitobaquito tryonia has always been a highly localized endemic, and the two extant populations (Quitobaquito Springs and Hillside Seep #2) are only separated by roughly 100 m (328 ft). Therefore, a catastrophic event, such as drought, is highly likely to simultaneously affect both remaining populations of the Quitobaquito tryonia.

The most pervasive threat to the species is the historical and ongoing loss or decline in spring discharge. The species' populations at two springs (Burro Spring and Williams Spring) are extirpated because of a loss of perennial flow, while the Quitobaquito Springs complex has seen a documented decline in discharge. From January 2020 to October 2021, daily mean discharge ranged from 26 to 51 lpm and averaged 35 lpm, which is a decrease from recorded levels from 1981 to 1992 of 57 to 151 lpm and averaged 106 lpm (Carruth 1996, p. 15). Although discharge at Hillside Seep #2 has not been measured, it is a less wetted area and has even lower flow velocity than Quitobaquito Springs (AZGFD 2021, p. 3). The causes of the decline in spring discharge are likely related to ongoing drought conditions and groundwater pumping. Climate change is expected to exacerbate these conditions with increased temperatures, and more severe and frequent droughts. Historical modification of the spring complex has severely curtailed available habitat, and the loss of spring flow is ongoing and expected to continue (see figure 1, above).

Despite their proximity, the populations are isolated and not connected by overland flow, and this isolation also limits the ability of the Quitobaquito tryonia to naturally recolonize given the species' lack of dispersal ability. Because of the species' small size and dependence on water, dispersal events are rare and opportunistic, with overland transportation likely occurring by “hitchhiking” on birds or other animals (Hershler et al. 2005, pp. 1755–1756, 1763). Therefore, gene flow between the populations is limited or nonexistent.

In summary, the Quitobaquito tryonia is more susceptible to extirpation from catastrophic events and has reduced adaptive capacity. The number of known populations has already been reduced by 50 percent because of loss of spring flow, which is continuing to occur and is impacting the remaining two populations. The species is currently in danger of extinction because reduction of spring discharge, spring modification, and the effects of climate change are all risks that have historically impacted, and are currently impacting, the species and are reducing its viability across its range. We do not find the species meets the definition of a threatened species because the species has already shown declines in the number and resiliency of populations. Two of the four known populations have already become extirpated due to the threats mentioned above. Although

one population is currently in high condition and the other population is currently in moderate condition, both are currently experiencing impacts from the aforementioned threats. Because current redundancy is reduced from known historical levels, and representation is limited due to the close proximity of the two remaining populations, the species is vulnerable to catastrophic and stochastic events. Thus, after assessing the best available information, we determine that the Quitobaquito tryonia is in danger of extinction throughout all of its range.

Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. We have determined that the Quitobaquito tryonia is in danger of extinction throughout all of its range and accordingly did not undertake an analysis of any significant portion of its range. Because the Quitobaquito tryonia warrants listing as endangered throughout all of its range, our determination does not conflict with the decision in *Center for Biological Diversity v. Everson*, 435 F. Supp. 3d 69 (D.D.C. 2020), which vacated the provision of the Final Policy on Interpretation of the Phrase “Significant Portion of Its Range” in the Endangered Species Act’s Definitions of “Endangered Species” and “Threatened Species” (79 FR 37578; July 1, 2014) providing that if the Service determines that a species is threatened throughout all of its range, the Service will not analyze whether the species is endangered in a significant portion of its range.

Determination of Status

Our review of the best available scientific and commercial information indicates that the Quitobaquito tryonia meets the Act’s definition of an endangered species. Therefore, we propose to list the Quitobaquito tryonia as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition as a listed species, planning and implementation of recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public

awareness, and conservation by Federal, State, Tribal, and local agencies, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies, including the Service, and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

The recovery planning process begins with development of a recovery outline made available to the public soon after a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions while a recovery plan is being developed. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) may be established to develop and implement recovery plans. The recovery planning process involves the identification of actions that are necessary to halt and reverse the species’ decline by addressing the threats to its survival and recovery. The recovery plan identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened (“downlisting”) or removal from protected status (“delisting”), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery outline, draft recovery plan, final recovery plan, and any revisions will be available on our website as they are completed (<https://www.fws.gov/program/endangered-species>), or from our Arizona Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a

broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (e.g., restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

If this species is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the State of Arizona would be eligible for Federal funds to implement management actions that promote the protection or recovery of the Quitobaquito tryonia. Information on our grant programs that are available to aid species recovery can be found at: <https://www.fws.gov/service/financial-assistance>.

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

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

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Each Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. If a determination is made that the action may affect listed species or critical habitat, formal

consultation is required (50 CFR 402.14(a)), unless the Service concurs in writing that the action is not likely to adversely affect listed species or critical habitat. At the end of a formal consultation, the Service issues a biological opinion, containing its determination of whether the Federal action is likely to result in jeopardy or adverse modification.

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

Examples of discretionary actions for the Quitobaquito tryonia that may be subject to conference and consultation procedures under section 7 of the Act are land management or other landscape-altering activities on Federal lands administered by the National Park Service as well as actions on State, Tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat—and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or carried out by a Federal agency—do not require section 7 consultation. Federal agencies should coordinate with the local Service Field Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions on section 7 consultation and conference requirements.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to endangered wildlife. The prohibitions of section 9(a)(1) of the Act, codified at

50 CFR 17.21, make it illegal for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or to cause to be committed any of the following: (1) Import endangered wildlife into, or export from, the United States; (2) take (which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) endangered wildlife within the United States or on the high seas; (3) possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such wildlife that has been taken illegally; (4) deliver, receive, carry, transport, or ship in interstate or foreign commerce in the course of commercial activity; or (5) sell or offer for sale in interstate or foreign commerce. Certain exceptions to these prohibitions apply to employees or agents of the Service, the National Marine Fisheries Service, other Federal land management agencies, and State conservation agencies.

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

It is the policy of the Services, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify, to the extent known at the time a species is listed, specific activities that would not be considered likely to result in violation of section 9 of the Act. To the extent possible, activities that would be considered likely to result in violation would also be identified in as specific a manner as possible. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of the species proposed for listing.

At this time, we are unable to identify specific activities that would not be considered likely to result in a violation of section 9 of the Act beyond what is already clear from the descriptions of prohibitions or already excepted through our regulations at 50 CFR 17.21 (*e.g.*, 50 CFR 17.21(c)(2)), which provides that any person may take endangered wildlife in defense of his own life or the lives of others). Also, as discussed above, certain activities that are

prohibited under section 9 may be permitted under section 10 of the Act.

To the extent currently known, the following is a list of examples of activities that would be considered likely to result in violation of section 9 of the Act in addition to what is already clear from the descriptions of the prohibitions found at 50 CFR 17.21:

- (1) Unauthorized handling or collecting of the Quitobaquito tryonia.
- (2) Destruction/alteration of Quitobaquito tryonia habitat by discharge of fill material, draining, ditching, tiling, pond construction, stream channelization or diversion, or removal or destruction of emergent aquatic vegetation; or diversion or alteration of surface or ground water flow into or out of the Quitobaquito Springs complex (*i.e.*, due to roads, impoundments, discharge pipes, storm water detention basins, etc.) or in any body of water in which the Quitobaquito tryonia is known to occur.
- (3) Direct or indirect destruction of riparian habitat where the Quitobaquito tryonia occurs.
- (4) Introduction of nonnative species that compete with or prey upon the Quitobaquito tryonia, such as the introduction of nonnative fish and crayfish species into any waters in which the Quitobaquito tryonia is known to occur.

(5) Release of biological control agents that attack any life stage of this species in or near Quitobaquito tryonia habitat.

(6) Discharge of chemicals or fill material into any waters in which the Quitobaquito tryonia is known to occur.

The list above is intended to be illustrative and not exhaustive; additional activities that would be considered likely to result in violation of section 9 of the Act may be identified during coordination with the local field office, and in some instances (*e.g.*, with new or site-specific information), the Service may conclude that one or more activities identified here would not be considered likely to result in violation of section 9. Questions regarding whether specific activities would constitute violation of section 9 of the Act should be directed to the Arizona Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

II. Critical Habitat

Background

Critical habitat is defined in section 3 of the Act as:

- (1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.*, range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.*, migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that each Federal action agency ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Rather, designation requires that, where a landowner requests Federal agency funding or authorization for an action that may affect an area designated as critical habitat, the Federal agency consult with the Service under section 7(a)(2) of the Act. If the action may affect the listed species itself (such as for occupied critical habitat), the

Federal agency would have already been required to consult with the Service even absent the designation because of the requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement "reasonable and prudent alternatives" to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat).

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat,

our primary source of information is generally the information from the SSA report and information developed during the listing process for the species. Additional information sources may include any generalized conservation strategy, criteria, or outline that may have been developed for the species; the recovery plan for the species; articles in peer-reviewed journals; conservation plans developed by States and counties; scientific status surveys and studies; biological assessments; other unpublished materials; or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of those planning efforts calls for a different outcome.

Physical or Biological Features Essential to the Conservation of the Species

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological

features that are essential to the conservation of the species and which may require special management considerations or protection. The regulations at 50 CFR 424.02 define “physical or biological features essential to the conservation of the species” as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkaline soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or absence of a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, we may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of the species. These characteristics include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

Brooded young, juvenile, and adult Quitobaquito tryonia all need adequate spring flow and water quality to meet their resource functions, which include feeding, growth, survival, and breeding (Hershler 1984, p. 68; Hershler and Sada 2002, p. 256; Martinez and Thome 2006, p. 14). Specifically, spring flow must be

perennial to prevent desiccation and maintain stable water quality parameters.

Quitobaquito tryonia need adequate periphyton growth for food. *Tryonia* species are likely herbivores or detritivores that primarily graze on periphyton and macrophytes by scraping surfaces with their file-like radula (Pyron and Brown 2015, pp. 386, 401). Periphyton is a mixture of algae, bacteria, detritus, fungi, diatoms, and protozoa contained within a polysaccharide matrix known as a biofilm that grows on exposed surfaces, such as macrophytes or substrate (Lysne et al. 2007, p. 649). Production of periphyton and algae in a natural spring system is likely tied to water quality, nutrient availability, and exposure to sunlight (Brown et al. 2008, p. 488; Martinez and Thome 2006, p. 14). Additionally, larger substrates (such as gravel or cobble) develop a richer periphyton coating than finer substrates (Brown and Lydeard 2010, p. 285). Therefore, periphyton is essential to the Quitobaquito tryonia because it is its primary food source.

Suitable substrate is important for shelter and periphyton growth. Substrate characteristics influence the abundance and productivity of springsnails. *Tryonia* spp. appear to use a broad array of substrate types, including cobble, gravel, sand, and silt (Hershler et al. 2011, entire), although Quitobaquito tryonia appear to be most abundant on hard substrates within the spring channel at Quitobaquito Springs (Bogan 2018, entire). We assume that if a substrate type has a higher density of Quitobaquito tryonia, then that substrate is preferred by the species when compared to other suitable substrates. Presumed preferred substrates include hard and/or coarse substrates, such as cobble and gravel, which increase springsnail productivity by promoting robust periphyton growth. Other suitable substrate includes fine-grained sediment, such as sand and silt. Suitable substrates still provide adequate food resources but are not as productive as presumed preferred substrates because of limited periphyton growth. Therefore, habitat with presumed preferred substrates or a combination of presumed preferred and suitable substrates is essential to the species.

Aquatic vegetation is also important for shelter and periphyton growth. Vegetation density influences the abundance and productivity of springsnails. We assume that vegetation that occurs at lower densities is preferable to the Quitobaquito tryonia when compared to higher densities of vegetation. Important vegetation

includes native macrophytes, such as sedges (*Schoenoplectus* spp.) and rushes (*Juncus* spp.), occurring at low densities that do not impede spring flow. Other native macrophytes may also be considered suitable for shelter and periphyton growth when they occur at higher densities. Therefore, habitat including aquatic vegetation present at levels that do not impede spring flow is essential to the species.

The introduction of nonnative or invasive predators has the potential to negatively affect springsnails (Hershler 1998, p. 14; Sada 2017, p. 11). The nonnative New Zealand mudsnail (*Potamopyrgus antipodarum*) is an invasive freshwater snail of the family Hydrobiidae that is known to compete with and slow the growth of native freshwater snails, including springsnails (Lysne and Koetsier 2008, pp. 103, 105; Lysne et al. 2007, pp. 647–653). New Zealand mudsnails may outcompete hydrobiid snails for food and shelter resources. Nonnative crayfish (notably *Faxonius virilis* and *Procambarus clarkii*) are known predators to springsnails and have been found in springs and streams at and near springsnail sites in Arizona. Crayfish have been found to consume snails that occupy similar habitats as springsnails and their eggs (Fernandez and Rosen 1996, pp. 24–25). Therefore, the absence of nonnative species low enough that it does not impede resource availability for or result in mortality of Quitobaquito tryonia individuals, is essential to the Quitobaquito tryonia.

Tryonia and other springsnails show a pattern of decreasing abundance with distance from the spring source (Hershler and Sada 2002, p. 256; Martinez and Thome 2006, p. 14; Rogowski 2012, pp. 34, 37), indicating that water chemistry such as stable dissolved oxygen, pH, conductivity, and temperature, as well as absence of or low enough levels of contaminants, may influence the distribution and abundance of springsnails (O'Brien and Blinn 1999, pp. 231–232; Mladenka and Minshall 2001, pp. 209–211; Malcom et al. 2005, p. 75; Martinez and Thome 2006, pp. 12–15; Lysne et al. 2007, p. 650). However, the full suite of water quality conditions that the Quitobaquito tryonia prefers has not been determined. Nevertheless, we assume that overall sufficient water quality that provides appropriate conditions for the Quitobaquito tryonia is essential to the species.

Summary of Essential Physical or Biological Features

We derive the specific physical or biological features essential to the conservation of the Quitobaquito tryonia from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the SSA report (Service 2022, entire; available on <https://www.regulations.gov> under Docket No. FWS-R2-ES-2023-0073). We have determined that the following physical or biological features are essential to the conservation of the Quitobaquito tryonia:

- (1) Perennially free-flowing spring water with sufficient flow rate.
- (2) Sufficient amount of periphyton to support all life stages of the Quitobaquito tryonia.
- (3) Presence of hard or coarse substrates (including cobble and gravel) or a combination of coarse and fine substrates (including sand and/or silt).
- (4) Aquatic emergent and submergent vegetation, including native macrophytes such as sedges (*Schoenoplectus* spp.) and rushes (*Juncus* spp.), occurring at densities that do not impede spring flow.
- (5) Water quality parameters that support all life stages of the Quitobaquito tryonia, including:
 - (a) Adequate levels of temperature, pH, and conductivity; and
 - (b) Absence of contaminants, or a level of contaminants low enough that it does not negatively impact necessary water quality conditions for Quitobaquito tryonia individuals.
- (6) Absence of nonnative species, or a level of nonnative species low enough that it does not impede resource availability for or result in mortality of Quitobaquito tryonia individuals.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protection. The features essential to the conservation of the Quitobaquito tryonia may require special management considerations or protection to reduce the following threats: (1) reduction of spring discharge, (2) effects of climate change, and (3) spring modification.

Management activities that could ameliorate these threats and protect the quantity and quality of the habitat include, but are not limited to: (1)

decreasing groundwater pumping to maintain spring flow that supports spring habitat; (2) removing dense aquatic vegetation from the spring channel to maintain stream flow and provide a mosaic of habitat types throughout the spring channel; and (3) controlling and removing introduced nonnative predators and competitors, such as crayfish.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify specific areas within the geographical area occupied by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat. We are not currently proposing to designate any areas outside the geographical area occupied by the species because we have not identified any unoccupied areas that meet the definition of critical habitat. No unoccupied areas have at least one essential physical or biological feature and a reasonable certainty of contributing to conservation of the species.

In order to analyze possible habitat locations, in November 2018, several seeps to the northwest of Quitobaquito Springs were surveyed, but none had perennial spring flow (Williams and Sorensen 2019, p. 9), which is essential for the Quitobaquito tryonia. In October 2020, two seeps east of Quitobaquito Pond were surveyed; Quitobaquito tryonia were detected at only Hillside Seep #2, one of the two surveyed locations. In November 2021, several additional seeps east of Quitobaquito Pond were surveyed and Hillside Seep #1 and #2 were revisited. Five seeps had low flow and possible springsnail habitat, but no Quitobaquito tryonia were found (Sorensen 2021, p. 10). There are other unnamed seeps that occur within the broader Quitobaquito Springs area that have yet to be fully surveyed for the Quitobaquito tryonia, but none of them occur in the historical range of the species. It is unknown how many seeps in the area have the perennial flow necessary for brooded young, juvenile, and adult Quitobaquito tryonia to meet their resource functions, which include feeding, growth, survival, and breeding (Service 2022, p. 13). Specifically, spring flow must be perennial to prevent desiccation and

maintain stable water quality parameters (Hershler 1984, p. 68; Hershler and Sada 2002, p. 256; Johnson et al. 2013, p. 248; Martinez and Thome 2006, p. 14). Therefore, for a seep to be suitable habitat and have reasonable certainty that it would contribute to the conservation of the Quitobaquito tryonia, it must contain the essential physical or biological feature of perennially free-flowing spring water with sufficient flow rate. In the current condition and in all plausible future scenarios, it is unlikely that any of the seeps in the area would contain or be able to be managed to achieve the spring flow necessary for the Quitobaquito tryonia, especially when conditions are exacerbated by climate change. Accordingly, for those springs that occur outside of the historical range, we cannot identify the exact habitat parameters that will ensure the success of the species there. Therefore, there are no areas other than those included in this proposed critical habitat designation that we are reasonably certain would contribute to the conservation of the Quitobaquito tryonia.

We are proposing to designate critical habitat units that we have determined based on the best scientific data available are known to be currently occupied and contain the physical or biological features essential to the conservation of the Quitobaquito tryonia. Additional areas outside the aquatic habitat within each subunit are included in the proposed designation to assist in maintaining the hydrology of the aquatic features. Sources of occupancy data on the Quitobaquito tryonia are from all available reports since monitoring of the species began in 2002 (Martinez and Sorensen 2016, entire; Bogan 2018, entire; Williams and Sorensen 2019, entire; AZGFD 2021, entire; Sorensen 2022, entire). We determined localities to be occupied at the time of listing if they are identified as extant in the SSA report (Service 2022, pp. 16–20). Extirpated populations are not included because the spring sources that supported them no longer have the essential physical or biological features to support the species now or in the future. Specifically, these areas no longer have water, and it is unlikely that groundwater would support spring flow in these areas.

We obtained information on ecology and habitat requirements of the Quitobaquito tryonia from multiple sources, as identified in the SSA report as explained above (Service 2022, pp. 7–13). For mapping of proposed critical habitat, we used Organ Pipe Cactus

National Monument geo-referenced data of aquatic habitats that have perennial spring flow, adequate water quality, and substrates and aquatic vegetation that support extant populations of the Quitobaquito tryonia. There are two areas that contain the physical or biological features needed by the Quitobaquito tryonia: a human-made concrete spring run and a natural seep. We delineated the extent of critical habitat along the spring run by the physical boundary of the concrete channel and southwest spring trench with an average width of 2 m (6.4 ft) along this length to capture areas where water pools along the channel. Water provided by the springs does not flow outside of this human-made channel and corresponding pools. For Hillside Seep #2, we delineated the extent of critical habitat along the seep from the point of origin of the seep downhill a distance of 15.2 m (50 ft), which is the longest known length of flow from the seep (Service 2022, p. 20). We included all area within 5 m (16.4 ft) of this length to capture any future hydrological changes of flow patterns that may occur over time in this area, both upslope and downslope of the seep. This also captures the habitat associated with the upslope and downslope of the watershed. In other words, this area incorporates most of the habitat that has the potential to impact the seep and any Quitobaquito tryonia individuals depending on that seep (Martin 2023b, pers. comm.). We used two different methods because the water in the channel is confined within a human-made concrete structure, and the seep is naturally occurring, so there is more variability in width of sheet flow (overland storm runoff).

In summary, for areas within the geographical area occupied by the species at the time of listing, we

delineated critical habitat unit boundaries using the following criteria:

- (1) We compiled all available data from observations of the Quitobaquito tryonia;
- (2) We identified, based on the best scientific data available, populations that are extant at the time of listing (current) versus those that are extirpated;
- (3) We identified areas containing the components comprising the essential physical or biological features that may require special management considerations or protection; and
- (4) We circumscribed boundaries of potential critical habitat based on the above information that reflect current habitat conditions.

While the human-made concrete spring run that provides habitat for the Quitobaquito tryonia is included in the proposed critical habitat designation for the species, when determining proposed critical habitat boundaries, we made every effort to avoid including other developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for the Quitobaquito tryonia. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such other developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect

the physical or biological features in the adjacent critical habitat. We propose to designate as critical habitat areas that we have determined are occupied at the time of listing (*i.e.*, currently occupied) and that contain one or more of the physical or biological features that are essential to support the life-history processes of the species.

One unit, composed of two subunits, is proposed for designation based on one or more of the physical or biological features being present to support the Quitobaquito tryonia's life-history processes. Both subunits contain all of the identified physical or biological features and support multiple life-history processes.

The proposed critical habitat designation is defined by the map, as modified by any accompanying regulatory text, presented at the end of this document under Proposed Regulation Promulgation. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We will make the coordinates or plot points or both on which the map is based available to the public on <https://www.regulations.gov> at Docket No. FWS-R2-ES-2023-0073 and on our internet site at <https://www.fws.gov/office/arizona-ecological-services>.

Proposed Critical Habitat Designation

We are proposing one unit, composed of two subunits, as critical habitat for the Quitobaquito tryonia. The critical habitat area we describe below constitutes our current best assessment of areas that meet the definition of critical habitat for the Quitobaquito tryonia. Table 2 shows the proposed critical habitat unit and the approximate area of each subunit. Both subunits of the Quitobaquito Unit are occupied.

TABLE 2—PROPOSED CRITICAL HABITAT UNIT FOR THE QUITOBAQUITO TRYONIA
[Area estimates reflect all area within critical habitat boundaries]

Critical Habitat Unit	Critical Habitat Subunit	Land Ownership by Type	Size of Unit in Feet ² (Meters ²)	Occupied?
Quitobaquito Unit	A. Spring Channel	Federal (NPS)	4,455 (414)	Yes.
	B. Hillside Seep #2	Federal (NPS)	1,640 (152)	Yes.
Total	6,095 (566)	

Note: Area sizes may not sum due to rounding.

We present brief descriptions of both subunits, and reasons why they meet the definition of critical habitat for the Quitobaquito tryonia, below.

Subunit A: Spring Channel

Subunit A in the Quitobaquito Unit consists of 4,455 square feet (ft²) (414 square meters (m²)) of the spring channel. This subunit is occupied and contains all of the physical or biological

features essential to the conservation of the species. This subunit is entirely on Federal (NPS) land within Organ Pipe Cactus National Monument. Threats that are occurring in this area include decline in spring flow from groundwater withdrawal and drought, effects of

climate change, and spring modification. This subunit may require special management considerations, such as vegetation removal, and to the extent possible, protection from future groundwater withdrawals in close proximity. NPS is already actively managing this unit by periodically removing a portion of emergent and submerged vegetation to improve water flow from the spring source, and NPS has worked with U.S. Customs and Border Protection on placement of wells for border construction activities.

Subunit B: Hillside Seep #2

Subunit B in the Quitobaquito Unit consists of 1,640 ft² (152 m²) of a seep located approximately 338 ft (103 m) from the spring channel. This subunit is occupied and contains all of the physical or biological features essential to the conservation of the species. This subunit is entirely on Federal (NPS) land within Organ Pipe Cactus National Monument. Threats that are occurring in this area include decline in spring flow from groundwater withdrawal and drought, effects of climate change, and spring modification. This subunit may require the same special management considerations and protection as Subunit A. The NPS may manage this unit similar to the management discussed for Subunit A by periodically removing a portion of emergent and submerged vegetation.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

We published a final rule revising the definition of destruction or adverse modification on August 27, 2019 (84 FR 44976). Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

Compliance with the requirements of section 7(a)(2) is documented through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define “reasonable and prudent alternatives” (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency’s legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Service Director’s opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 set forth requirements for Federal agencies to reinstate consultation if any of the following four conditions occur: (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. The reinstatement requirement applies only to actions that remain subject to some discretionary Federal involvement or control. As provided in 50 CFR 402.16, the requirement to reinstate consultations for new species listings or critical habitat designation does not apply to certain agency actions (e.g.,

land management plans issued by the Bureau of Land Management in certain circumstances).

Application of the “Destruction or Adverse Modification” Standard

The key factor related to the destruction or adverse modification determination is whether implementation of the proposed Federal action directly or indirectly alters the designated critical habitat in a way that appreciably diminishes the value of the critical habitat for the conservation of the listed species. As discussed above, the role of critical habitat is to support physical or biological features essential to the conservation of a listed species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may violate section 7(a)(2) of the Act by destroying or adversely modifying such habitat, or that may be affected by such designation.

Activities that we may, during a consultation under section 7(a)(2) of the Act, consider likely to destroy or adversely modify critical habitat include, but are not limited to:

(1) Actions that would decrease the amount of water available in the spring channel or seep used by the Quitobaquito tryonia. Such activities could include, but are not limited to, groundwater pumping, impoundment, and water diversion. These activities could decrease the amount of springflow so that the spring channel or seep becomes smaller, intermittent, or dry, and thereby could reduce the amount of space, prey, and cover available for Quitobaquito tryonia.

(2) Actions that would alter habitat used by the Quitobaquito tryonia. Such actions could include the maintenance of springheads, stream or channel courses, and ponds. Maintaining springheads and human-made or natural spring channels will maximize the amount of springflow available to Quitobaquito tryonia. The spring channel that supports Quitobaquito tryonia was channelized and requires constant management to stop encroaching vegetation from completely filling in the channel.

(3) Actions that would impact water quality of the spring system used by the Quitobaquito tryonia. Such activities could include, but are not limited to, presence of contaminants, livestock grazing, and spring modification.

Exemptions

Application of Section 4(a)(3) of the Act

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that the Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an integrated natural resources management plan (INRMP) prepared under section 101 of the Sikes Act Improvement Act of 1997 (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation. No DoD lands with a completed INRMP are within the proposed critical habitat designation.

Consideration of Impacts Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. Exclusion decisions are governed by the regulations at 50 CFR 424.19 and the Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (hereafter, the “2016 Policy”); 81 FR 7226, February 11, 2016), both of which were developed jointly with the National Marine Fisheries Service (NMFS). We also refer to a 2008 Department of the Interior Solicitor’s opinion entitled, “The Secretary’s Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act” (M–37016).

In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise discretion to exclude the area only if such exclusion would not result in the extinction of the species. In making the determination to exclude a particular area, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to

use and how much weight to give to any factor. In our final rules, we explain any decision to exclude areas, as well as decisions not to exclude, to make clear the rational basis for our decision. We describe below the process that we use for taking into consideration each category of impacts and any initial analyses of the relevant impacts.

Consideration of Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. To assess the probable economic impacts of a designation, we must first evaluate specific land uses or activities and projects that may occur in the area of the critical habitat. We then must evaluate the impacts that a specific critical habitat designation may have on restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the areas proposed. We then identify which conservation efforts may be the result of the species being listed under the Act versus those attributed solely to the designation of critical habitat for this particular species. The probable economic impact of a proposed critical habitat designation is analyzed by comparing scenarios both “with critical habitat” and “without critical habitat.”

The “without critical habitat” scenario represents the baseline for the analysis, which includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat (e.g., under the Federal listing as well as other Federal, State, and local regulations). Therefore, the baseline represents the costs of all efforts attributable to the listing of the species under the Act (i.e., conservation of the species and its habitat incurred regardless of whether critical habitat is designated). The “with critical habitat” scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts would not be expected without the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat, above and beyond the baseline costs. These are the costs we use when evaluating the benefits of inclusion and exclusion of particular areas from the final designation of critical habitat should we choose to conduct a discretionary section 4(b)(2) exclusion analysis.

Executive Orders (E.O.s) 12866 and 13563 direct Federal agencies to assess the costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Executive Order 14094 reaffirms the principles of E.O. 12866 and E.O. 13563 and states that regulatory analysis should facilitate agency efforts to develop regulations that serve the public interest, advance statutory objectives, and are consistent with E.O. 12866, E.O. 13563, and the Presidential Memorandum of January 20, 2021 (Modernizing Regulatory Review). Consistent with the E.O. regulatory analysis requirements, our effects analysis under the Act may take into consideration impacts to both directly and indirectly affected entities, where practicable and reasonable. If sufficient data are available, we assess to the extent practicable the probable impacts to both directly and indirectly affected entities. Section 3(f) of E.O. 12866, as amended by E.O. 14094, identifies four criteria when a regulation is considered a “significant regulatory action” and requires additional analysis, review, and approval if met. The criterion relevant here is whether the designation of critical habitat may have an economic effect of \$200 million or more in any given year (section 3(f)(1)). Therefore, our consideration of economic impacts uses a screening analysis to assess whether a designation of critical habitat for the Quitobaquito tryonia is likely to exceed the economically significant threshold.

For this particular designation, we developed an incremental effects memorandum (IEM) considering the probable incremental economic impacts that may result from this proposed designation of critical habitat. The information contained in our IEM was then used to develop a screening analysis of the probable effects of the designation of critical habitat for the Quitobaquito tryonia (IEc 2023, entire). We began by conducting a screening analysis of the proposed designation of critical habitat in order to focus our analysis on the key factors that are likely to result in incremental economic impacts. The purpose of the screening analysis is to filter out particular geographical areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. In particular, the screening analysis considers baseline costs (i.e., absent critical habitat designation) and includes any probable incremental economic impacts where land and water use may already be subject to

conservation plans, land management plans, best management practices, or regulations that protect the habitat area as a result of the Federal listing status of the species. Ultimately, the screening analysis allows us to focus our analysis on evaluating the specific areas or sectors that may incur probable incremental economic impacts as a result of the designation.

The presence of the listed species in occupied areas of critical habitat means that any destruction or adverse modification of those areas is also likely to jeopardize the continued existence of the species. Therefore, designating occupied areas as critical habitat typically causes little if any incremental impacts above and beyond the impacts of listing the species. As a result, we generally focus the screening analysis on areas of unoccupied critical habitat (unoccupied units or unoccupied areas within occupied units). Overall, the screening analysis assesses whether designation of critical habitat is likely to result in any additional management or conservation efforts that may incur incremental economic impacts. This screening analysis combined with the information contained in our IEM constitute what we consider to be our draft economic analysis (DEA) of the proposed critical habitat designation for the Quitobaquito tryonia; our DEA is summarized in the narrative below.

As part of our screening analysis, we considered the types of economic activities that are likely to occur within the areas likely affected by the critical habitat designation. In our evaluation of the probable incremental economic impacts that may result from the proposed designation of critical habitat for the Quitobaquito tryonia, first we identified, in the IEM dated March 8, 2023, probable incremental economic impacts associated with the following categories of activities: (1) Federal lands management (NPS, Organ Pipe Cactus National Monument); (2) groundwater pumping; and (3) border security operations (U.S. Customs and Border Protection). We considered each industry or category individually. Additionally, we considered whether their activities have any Federal involvement. Critical habitat designation generally will not affect activities that do not have any Federal involvement; under the Act, designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies. If we list the species, in areas where the Quitobaquito tryonia is present, Federal agencies would be required to consult with the Service under section 7 of the Act on activities they authorize, fund, or

carry out that may affect the species. If, when we list the species, we also finalize this proposed critical habitat designation, Federal agencies would be required to consider the effects of their actions on the designated habitat, and if the Federal action may affect critical habitat, our consultations would include an evaluation of measures to avoid the destruction or adverse modification of critical habitat.

In our IEM, we attempted to clarify the distinction between the effects that would result from the species being listed and those attributable to the critical habitat designation (*i.e.*, difference between the jeopardy and adverse modification standards) for the Quitobaquito tryonia's critical habitat. Because the designation of critical habitat for the Quitobaquito tryonia is being proposed concurrently with the listing, it has been our experience that it is more difficult to discern which conservation efforts are attributable to the species being listed and those which would result solely from the designation of critical habitat. However, the following specific circumstances in this case help to inform our evaluation: (1) The essential physical or biological features identified for critical habitat are the same features essential for the life requisites of the species, and (2) any actions that would likely adversely affect the essential physical or biological features of occupied critical habitat are also likely to adversely affect the species itself. The IEM outlines our rationale concerning this limited distinction between baseline conservation efforts and incremental impacts of the designation of critical habitat for this species. This evaluation of the incremental effects has been used as the basis to evaluate the probable incremental economic impacts of this proposed designation of critical habitat.

The proposed critical habitat designation for the Quitobaquito tryonia consists of a single unit with two subunits currently occupied by the species. We are not proposing to designate any units of unoccupied habitat. The proposed Quitobaquito Unit totals 6,095 square feet (566 square meters) and is entirely within federally owned land at Organ Pipe Cactus National Monument. In this area, any actions that may affect the species or its habitat would also affect designated critical habitat, and it is unlikely that there would be any additional recommendations or project modifications to avoid adversely modifying critical habitat above those we would recommend for avoiding jeopardy. Therefore, only administrative costs of conducting any section 7

consultation are expected in all of the proposed critical habitat designation. While this additional analysis will require time and resources by both the Federal action agency and the Service, it is believed that, in most circumstances, these costs would predominantly be administrative in nature and would not be significant.

We estimate that approximately one informal consultation may occur annually in proposed critical habitat areas. Annual incremental costs to the Service, Federal action agencies, and third parties associated with this consultation are anticipated to be approximately \$2,600. The designation of critical habitat for the Quitobaquito tryonia, which is located on Federal lands, is not expected to trigger additional requirements under State or local regulations, nor is the designation expected to have perceptual effects on markets. Additional section 7 efforts to conserve the Quitobaquito tryonia are not predicted to result from the designation of critical habitat. As this economic screening analysis finds that the designation is not likely to result in additional or different project modifications, ancillary economic benefits are not anticipated. The above-mentioned administrative costs are highly unlikely to exceed \$200 million in a given year.

We are soliciting data and comments from the public on the DEA discussed above. During the development of a final designation, we will consider the information presented in the DEA and any additional information on economic impacts we receive during the public comment period to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) of the Act, our implementing regulations at 50 CFR 424.19, and the 2016 Policy. We may exclude an area from critical habitat if we determine that the benefits of excluding the area outweigh the benefits of including the area, provided the exclusion will not result in the extinction of this species.

Consideration of National Security Impacts

Section 4(a)(3)(B)(i) of the Act may not cover all DoD lands or areas that pose potential national-security concerns (*e.g.*, a DoD installation that is in the process of revising its INRMP for a newly listed species or a species previously not covered). If a particular area is not covered under section 4(a)(3)(B)(i), then national-security or homeland-security concerns are not a factor in the process of determining what areas meet the definition of

“critical habitat.” However, the Service must still consider impacts on national security, including homeland security, on those lands or areas not covered by section 4(a)(3)(B)(i) because section 4(b)(2) requires the Service to consider those impacts whenever it designates critical habitat. Accordingly, if DoD, Department of Homeland Security (DHS), or another Federal agency has requested exclusion based on an assertion of national-security or homeland-security concerns, or we have otherwise identified national-security or homeland-security impacts from designating particular areas as critical habitat, we generally have reason to consider excluding those areas.

However, we cannot automatically exclude requested areas. When DoD, DHS, or another Federal agency requests exclusion from critical habitat on the basis of national-security or homeland-security impacts, we must conduct an exclusion analysis if the Federal requester provides information, including a reasonably specific justification of an incremental impact on national security that would result from the designation of that specific area as critical habitat. That justification could include demonstration of probable impacts, such as impacts to ongoing border-security patrols and surveillance activities, or a delay in training or facility construction, as a result of compliance with section 7(a)(2) of the Act. If the agency requesting the exclusion does not provide us with a reasonably specific justification, we will contact the agency to recommend that it provide a specific justification or clarification of its concerns relative to the probable incremental impact that could result from the designation. If we conduct an exclusion analysis because the agency provides a reasonably specific justification or because we decide to exercise the discretion to conduct an exclusion analysis, we will defer to the expert judgment of DoD, DHS, or another Federal agency as to:

- (1) Whether activities on its lands or waters, or its activities on other lands or waters, have national-security or homeland-security implications;
- (2) the importance of those implications; and
- (3) the degree to which the cited implications would be adversely affected in the absence of an exclusion.

In that circumstance, in conducting a discretionary section 4(b)(2) exclusion analysis, we will give great weight to national-security and homeland-security concerns in analyzing the benefits of exclusion.

In preparing this proposal, we have determined that the lands within the proposed designation of critical habitat

for Quitobaquito tryonia are not owned or managed by the DoD or DHS, and, therefore, we anticipate no impact on national security or homeland security.

Consideration of Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security discussed above. To identify other relevant impacts that may affect the exclusion analysis, we consider a number of factors, including whether there are permitted conservation plans covering the species in the area—such as HCPs, safe harbor agreements, or candidate conservation agreements with assurances—or whether there are non-permitted conservation agreements and partnerships that may be impaired by designation of, or exclusion from, critical habitat. In addition, we look at whether Tribal conservation plans or partnerships, Tribal resources, or government-to-government relationships of the United States with Tribal entities may be affected by the designation. We also consider any State, local, social, or other impacts that might occur because of the designation.

Summary of Exclusions Considered Under Section 4(b)(2) of the Act

In preparing this proposal, we have determined that no HCPs or other management plans for the Quitobaquito tryonia currently exist, and the proposed designation does not include any Tribal lands or trust resources or any lands for which designation would have any economic or national security impacts. Therefore, we anticipate no impact on Tribal lands, partnerships, or HCPs from this proposed critical habitat designation; thus, as described above, we are not considering excluding any particular areas from the designation on the basis of the presence of conservation agreements or impacts to trust resources.

However, if through the public comment period we receive information that we determine indicates that there are potential economic, national security, or other relevant impacts from designating particular areas as critical habitat, then as part of developing the final designation of critical habitat, we will evaluate that information and may conduct a discretionary exclusion analysis to determine whether to exclude those areas under the authority of section 4(b)(2) of the Act and our implementing regulations at 50 CFR 424.19. If we receive a request for exclusion of a particular area and after evaluation of supporting information we

do not exclude, we will fully describe our decision in the final rule for this action.

Required Determinations

Clarity of the Rule

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

- (1) Be logically organized;
- (2) Use the active voice to address readers directly;
- (3) Use clear language rather than jargon;
- (4) Be divided into short sections and sentences; and
- (5) Use lists and tables wherever possible.

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

Regulatory Planning and Review (Executive Orders 12866, 13563, and 14094)

Executive Order (E.O.) 12866, as reaffirmed by E.O. 13563 and E.O. 14094, provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB) will review all significant rules. OIRA has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the Nation’s regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The Executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas.

Executive Order 14094 reaffirms the principles of E.O. 12866 and E.O. 13563 and states that regulatory analysis should facilitate agency efforts to develop regulations that serve the

public interest, advance statutory objectives, and are consistent with E.O. 12866, E.O. 13563, and the Presidential Memorandum of January 20, 2021 (Modernizing Regulatory Review). Regulatory analysis, as practicable and appropriate, shall recognize distributive impacts and equity, to the extent permitted by law.

We have developed this proposed rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine whether potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term “significant economic impact” is meant to apply to a typical

small business firm’s business operations.

Under the RFA, as amended, and as understood in light of recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself; in other words, the RFA does not require agencies to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies would be directly regulated if we adopt the proposed critical habitat designation. The RFA does not require evaluation of the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities would be directly regulated by this rulemaking, the Service certifies that, if made final as proposed, the proposed critical habitat designation will not have a significant economic impact on a substantial number of small entities.

In summary, we have considered whether the proposed designation would result in a significant economic impact on a substantial number of small entities. For the above reasons and based on currently available information, we certify that, if made final, the proposed critical habitat designation would not have a significant economic impact on a substantial number of small business entities. Therefore, an initial regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare statements of energy effects when undertaking certain actions. In our economic analysis, we did not find that this proposed critical habitat designation would significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant

energy action, and no statement of energy effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following finding:

(1) This proposed rule would not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or Tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and Tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding,” and the State, local, or Tribal governments “lack authority” to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.”

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions are not likely to destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the

legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule would significantly or uniquely affect small governments because it will not produce a Federal mandate of \$200 million or greater in any year, that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments. Therefore, a small government agency plan is not required.

Takings—Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for the Quitobaquito tryonia in a takings implications assessment. The Act does not authorize the Service to regulate private actions on private lands or confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures, or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed for the proposed designation of critical habitat for the Quitobaquito tryonia, and it concludes that, if adopted, this designation of critical habitat does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with

Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this proposed critical habitat designation with, appropriate State resource agencies. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the proposed rule does not have substantial direct effects either on the States, or on the relationship between the Federal government and the States, or on the distribution of powers and responsibilities among the various levels of government. The proposed designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical or biological features of the habitat necessary for the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist State and local governments in long-range planning because they no longer have to wait for case-by-case section 7 consultations to occur.

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) of the Act would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule would not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this proposed rule identifies the physical or biological features essential to the conservation of the species. The proposed areas of critical habitat is presented on a map, and the proposed

rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) is not required. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

Regulations adopted pursuant to section 4(a) of the Act are exempt from the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.) and do not require an environmental analysis under NEPA. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This includes listing, delisting, and reclassification rules, as well as critical habitat designations. In a line of cases starting with *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), the courts have upheld this position.

Government-to-Government Relationship with Tribes

In accordance with the President’s memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), E.O. 13175 (Consultation and Coordination with Indian Tribal Governments), and the Department of the Interior’s manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes on a government-to-government basis. In accordance with Secretaries’ Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We have determined that no Tribal lands fall within the boundaries of the proposed critical habitat for the Quitobaquito tryonia, so no Tribal lands would be affected by the proposed designation.

References Cited

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

Authors

The primary authors of this proposed rule are the staff members of the Fish and Wildlife Service’s Species Assessment Team and the Arizona Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Plants, Reporting and recordkeeping requirements, Transportation, Wildlife.

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

■ 2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife by adding an entry for “Tryonia, Quitobaquito” in alphabetical order under SNAILS to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
*	*	*	*	*
		SNAILS		
Tryonia, Quitobaquito	<i>Tryonia quitobaquiae</i>	Wherever found	E	[Federal Register citation when published as a final rule]; 50 CFR 17.95(f). ^{CH}
*	*	*	*	*

■ 3. In § 17.95, amend paragraph (f) by adding an entry for “Quitobaquito Tryonia (*Tryonia quitobaquiae*)” following the entry for “Diamond tryonia (*Pseudotryonia adamantina*) and Gonzales tryonia (*Tryonia circumstriata*)” to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(f) *Clams and Snails.*

* * * * *

Quitobaquito Tryonia (*Tryonia quitobaquiae*)

(1) The critical habitat unit and its subunits are depicted for Pima County, Arizona, on the map in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of the Quitobaquito tryonia consist of the following components:

- (i) Perennially free-flowing spring water with sufficient flow rate;
- (ii) Sufficient amount of periphyton to support all life stages of the Quitobaquito tryonia;
- (iii) Presence of hard or coarse substrates (including cobble and gravel) or a combination of coarse and fine substrates (including sand and/or silt);
- (iv) Aquatic emergent and submergent vegetation, including native macrophytes such as sedges (*Schoenoplectus* spp.) and rushes (*Juncus* spp.), occurring at densities that do not impede spring flow;
- (v) Water quality parameters that support all life stages of the Quitobaquito tryonia, including:

(A) Adequate levels of temperature, pH, and conductivity; and

(B) Absence of contaminants, or a level of contaminants low enough that it does not negatively impact necessary water quality conditions for Quitobaquito tryonia individuals; and

(vi) Absence of nonnative species, or a level of nonnative species low enough that it does not impede resource availability for or result in mortality of Quitobaquito tryonia individuals.

(3) Critical habitat includes the human-made concrete spring run that provides habitat for the Quitobaquito tryonia; critical habitat does not include other human-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using ESRI ArcGIS mapping software along with various spatial layers. We used ground-truthed data provided by Organ Pipe Cactus National Monument staff that depicts all aquatic habitat used by the Quitobaquito tryonia, including southwest Quitobaquito Spring, a human-made trench that connects Quitobaquito Springs to a human-made channel, and a human-made channel that connects the southwest trench to the pond. ArcGIS was also used to calculate area in square feet and square meters, and was used to determine longitude and latitude coordinates in decimal degrees. The coordinate system used in mapping

and calculating area and locations within the unit was Universal Transverse Mercator (UTM) conformal projection with 1983 North American Datum in Zone 12. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service’s internet site at <https://www.fws.gov/office/arizona-ecological-services>, at <https://www.regulations.gov> at Docket No. FWS–R2–ES–2023–0073, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

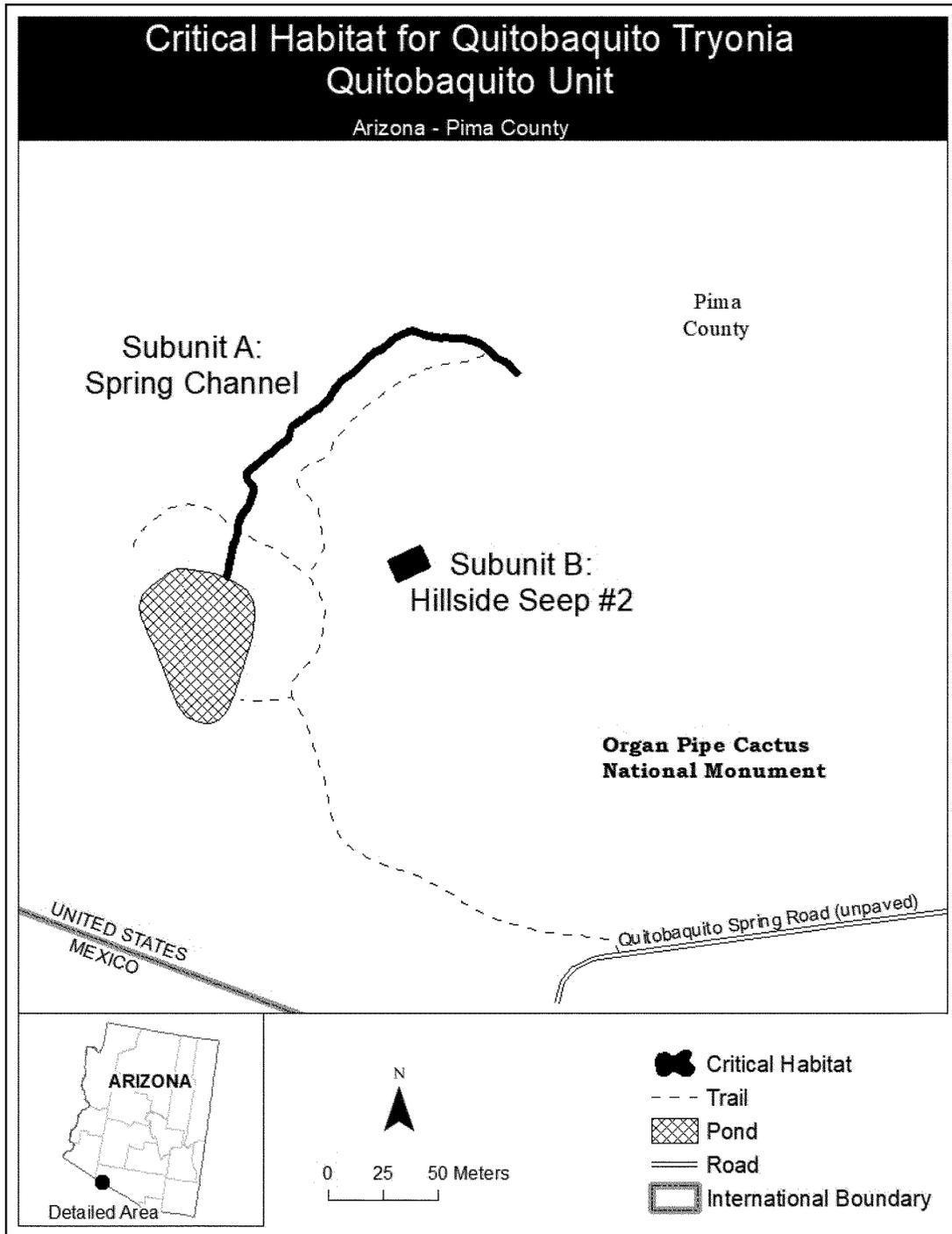
(5) Quitobaquito Unit, Pima County, Arizona.

(i) Quitobaquito Unit consists of two subunits:

(A) Subunit A consists of 4,455 square feet (ft²) (414 square meters (m²)) of the spring channel. This subunit is entirely on federally owned land in Organ Pipe Cactus National Monument.

(B) Subunit B consists of 1,640 ft² (152 m²) of a seep located approximately 338 ft (103 m) from the spring channel. This subunit is entirely on federally owned land in Organ Pipe Cactus National Monument.

(ii) Map of Quitobaquito Unit follows: Figure 1 to Quitobaquito Tryonia (*Tryonia quitobaquiae*) paragraph (5)



* * * * *

Stephen Guertin,
 Acting Director, U.S. Fish and Wildlife Service.

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