DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2012–0051]

[4500030113]

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Gila Mayfly as Endangered

AGENCY: Fish and Wildlife Service, Interior.

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

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the Gila mayfly (*Lachlania dencyanna*) as endangered under the Endangered Species Act of 1973, as amended (Act), and to designate critical habitat. Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing the Gila mayfly may be warranted. Therefore, with the publication of this notice, we are initiating a review of the status of

the species to determine if listing the Gila mayfly is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding this species. Based on the status review, we will issue a 12-month finding on the petition, which will address whether the petitioned action is warranted, as provided in section 4(b)(3)(B) of the Act.

DATES: We request that we receive information on or before **[**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**]**. The deadline for submitting an electronic comment using the Federal eRulemaking Portal (see **ADDRESSES** section, below) is 11:59 p.m. Eastern Time on this date. After **[**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**]**, you must submit information directly to the Division of Policy and Directives Management (see **ADDRESSES** section below). Please note that we might not be able to address or incorporate information that we receive after the above requested date.

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

(1) *Electronically*: Go to the Federal eRulemaking Portal: *http://www.regulations.gov*. In the Search box, enter Docket No. FWS–R2–ES–2012–0051, which is the docket number for this action. Then click on the Search button. You may submit a comment by clicking on "Comment Now!"

(2) *By hard copy*: Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R2–ES–2012–0051; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM;

Arlington, VA 22203.

We will post all information we receive on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see the **Request for Information** section below for more details).

FOR FURTHER INFORMATION CONTACT: Wally "J" Murphy, Field Supervisor, New Mexico Ecological Services Field Office, 2105 Osuna Road NE, Albuquerque, NM 87113; by telephone at 505-346-2525; or by facsimile at 505-3462542. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Request for Information

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the Gila mayfly from governmental agencies, Native American Tribes, the scientific community, industry, and any other interested parties. We seek information on:

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

(a) Habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns;

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

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

(2) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act (16 U.S.C. 1531 *et seq*.), which are:

(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.

(3) Information regarding surveys for the Gila mayfly.

(4) Information regarding the effects of climate change on water temperature and water levels throughout the Gila mayfly's range.

If, after the status review, we determine that listing the Gila mayfly is warranted,

we will propose critical habitat (see definition in section 3(5)(A) of the Act) under section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, we also request data and information on:

(1) What may constitute "physical or biological features essential to the conservation of the species," within the geographical range currently occupied by the species;

(2) Where these features are currently found;

(3) Whether any of these features may require special management considerations or protection;

(4) Specific areas outside the geographical area occupied by the species that are "essential for the conservation of the species"; and

(5) What, if any, critical habitat you think we should propose for designation if the species is proposed for listing, and why such habitat meets the requirements of section 4 of the Act.

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.

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

made "solely on the basis of the best scientific and commercial data available."

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

Information and supporting documentation that we received and used in preparing this finding is available for you to review at *http://www.regulations.gov*, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Background

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

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

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly conduct a species status review, which we subsequently summarize in our 12-month finding.

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

Petition History

On September 27, 2010, we received a petition dated September 21, 2010, from the Xerces Society for Invertebrate Conservation, WildEarth Guardians, and Dr. William Patrick McCafferty requesting that the Gila mayfly be listed as endangered and that critical habitat be designated under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioners, required at 50 CFR 424.14(a). In a December 1, 2011, letter to the petitioners, we responded that we reviewed the information presented in the petition and determined that issuing an emergency regulation temporarily listing the species under section 4(b)(7) of the Act was not warranted. We also stated that due to court orders and judicially approved settlement agreements for other listing and critical habitat determinations under the Act that required nearly all of our listing and critical habitat funding for fiscal year 2011, we would not be able to further address the petition at that time but would complete the action when workload and funding allowed. This finding addresses the petition.

Previous Federal Action(s)

On June 25, 2007, we received a formal petition dated June 18, 2007, from Forest Guardians (now WildEarth Guardians), requesting that we: (1) Consider all full species in our Southwest Region ranked as G1 or G2 by the organization NatureServe, except those that are currently listed, proposed for listing, or candidates for listing; and (2) List each species as either endangered or threatened with critical habitat. The petitioned group of species included the Gila mayfly. The petition incorporated all analyses, references, and

documentation provided by NatureServe in its online database at http://www.natureserve.org/ into the petition. We sent a letter dated July 11, 2007, to Forest Guardians acknowledging receipt of the petition and stating that the petition was under review by staff in our Southwest Regional Office. On December 16, 2009 (74 FR 66866), we published a partial 90-day finding on the petition, which included the Gila mayfly. In that finding, we found that the petition did not present substantial information indicating that listing the Gila mayfly may be warranted.

Species Information

The following information is from the 2010 petition and information readily available in our files.

Mayflies are elongate, soft-bodied insects in the order Ephemeroptera. The aquatic nymphs (larvae) have many of the same features as the terrestrial adults, differing mainly in the lack of wings and by the presence of gills on the abdomen (Edmunds and Waltz 1996, p. 127). Mayfly adults generally have two pairs of wings: somewhat triangular forewings and much smaller hind wings.

The Gila mayfly is a member of the family Oligoneuriidae, commonly known as the brush-legged mayflies. The presence of mid-dorsal abdominal tubercles (small projections on the mid-back) is unique to Gila mayfly nymphs and will readily distinguish this species from all other known nymphs in the genus *Lachlania*. Gila

mayfly nymphs are 15–17 millimeters (mm) (0.6–0.7 inches (in)) in body length (Koss and Edmunds 1970, p. 55). Gila mayfly adults are distinguished from other *Lachlania* species by the pattern of veins on the wings. In particular, this species differs from another mayfly, *L. saskatchewanensis*, by the greater number of crossveins in the forewing of the Gila mayfly. We accept the characterization of the Gila mayfly as a species because it was properly described in peer-reviewed literature (Koss and Edmunds 1970, pp. 55-65).

The Gila mayfly is the only mayfly species endemic to New Mexico, where it is known from two sites (an unnamed tributary and the East Fork of the Gila River), in the upper Gila River drainage (Koss and Edmunds 1970, p. 59; McCafferty *et al.* 1997, pp. 303-304). Nine other species of mayflies co-occur in the Gila River system, but they have larger ranges and are found in Arizona as well as New Mexico (McCafferty *et al.* 1997, p. 308). The Gila mayfly was first documented in July 1967, when one nymph was collected in Grant County, New Mexico, in an unnamed tributary to the Gila River, 1.6 kilometers (km) (1 mile (mi)) south of Cliff, New Mexico (Koss and Edmunds 1970, pp. 59-60). Sixty-three adults and 223 nymphs were subsequently collected in 1967, at the type locality, approximately 64 km (40 mi) upstream from the first locality, in the East Fork of the Gila River (Koss and Edmunds 1970, pp. 59-60). Unfortunately, no population estimates were conducted at the time of these collections.

The petitioners claim that 2 adults and 10 nymphs were collected in 1969, but because no literature is cited to verify this claim, we are not sure that this information is

reliable. We were unable to verify this information, and therefore, we cannot substantiate that the species was collected in 1969. We have no information in our files, nor was there any in the petition, of additional surveys being made until 1987. Between 1987 and 1999, 12 surveys were conducted at previously known Gila mayfly locations, but no Gila mayflies were found despite targeted collection of mayflies. Also, these 12 surveys were conducted during the summer months when nymphs could be found (New Mexico Environment Department (NMED) 2002, p. 7). Likewise, the petition states that extensive benthic macroinvertebrate (invertebrates living on the bottom of the stream that are large enough to see without the aid of a microscope) monitoring work in other portions of the watershed has not revealed this species, although we do not have information to verify this claim. According to the petition, the Gila mayfly is not known to have been observed or collected since 1969.

Gila mayfly habitat is largely unknown, but nymphs have been found clinging to sticks and other vegetation caught in crevices among rocks in rivers and streams (Koss and Edmunds 1970, p. 61). At the time of first collection, the East Fork of the Gila River was described as being warm, turbid, rapid, and 0.15 to 1.8 meters (0.5 to 2 feet) deep (Koss and Edmunds 1970, p. 61).

In general, mayfly eggs are deposited into water (Edmunds and Waltz 1996, p. 126). The time it takes for eggs to hatch varies between mayfly species, and it may range from several weeks to nearly a year (Edmunds and Waltz 1996, p. 126). Mayflies emerge from the eggs as aquatic nymphs, which is the stage at which they spend the majority of

their life cycle. Some species of mayflies remain as nymphs for approximately 2 weeks, while others may remain nymphs for up to 2 years (Edmunds and Waltz 1996, p. 126). In general, the length of time they remain at the nymph stage appears to depend on water temperature (Edmunds and Waltz 1996, p. 126). Koss and Edmunds (1970, p. 61) observed that in July, most Gila mayfly nymphs appeared to be 1 to 2 weeks from emergence. Once mayfly nymphs do emerge and become terrestrial, most adults live for 2 hours to 3 days (Edmunds and Waltz 1996, p. 127). However, Koss and Edmunds (1970, pp. 61-62) also noted that Gila mayfly adults were collected in September, indicating that nymphs could possibly be found from July through September.

Commonly, mayfly nymphs are collectors or scrapers feeding on a variety of water particles and algae, as well as some large plants and animal material (Edmunds and Waltz 1996, p. 126). Mayfly feeding habits vary throughout their life cycle. Newly hatched nymphs feed primarily on fine particles of detritus (undissolved organic material), while larger individuals frequently feed on algae (Edmunds and Waltz 1996, p. 126). Adult mayflies have nonfunctioning mouthparts and do not feed (Edmunds and Waltz 1996, p. 127).

In conclusion, the current distribution, abundance, and status of the Gila mayfly are largely unknown. Given that the species has not been verified in the wild since 1967 despite multiple surveys, it is possible that the Gila mayfly may be extinct or that the survey efforts were not adequate to detect any remaining individuals. As part of this finding, we are requesting additional information on the species' status and distribution.

Evaluation of Information for this Finding

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

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

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

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

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

In considering what factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat and we then attempt to determine how significant a threat it is. If the threat is significant, it may drive or contribute to the risk of extinction of the species such that the species may warrant

listing as endangered or threatened as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively may not be sufficient to compel a finding that listing may be warranted. The information shall contain evidence sufficient to suggest that these factors may be operative threats that act on the species to the point that the species may meet the definition of endangered or threatened under the Act.

In making this 90-day finding, we evaluated whether information regarding threats to the Gila mayfly, as presented in the petition and other information readily available in our files, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

The petition presented information regarding the following factors as potential threats to the Gila mayfly: impaired water quality and siltation from grazing and recreational activities, small population size, and climate change. We present a discussion of these factors.

Regarding factor A (the present or threatened destruction, modification, or curtailment of its habitat or range), the petition asserts that habitat alterations through impaired water quality and siltation from grazing and recreational activities are threats to the Gila mayfly. To support the petition's claim that impaired water quality may impact

the species, they cite the Environmental Protection Agency's (EPA) water quality impairment report (EPA 2010, pp. 1-2), which states that aluminum levels are above the total maximum daily load (TMDL) designated for the East Fork Gila River, and cites the probable cause of this impairment as being from off-road vehicles and forestry practices. Further, the report states that the East Fork of the Gila River is unlikely to support a coldwater fishery due to these levels of aluminum (EPA 2010, p. 2). The petition states that aluminum is toxic to aquatic insects and cite several papers in support of this (Tabak and Gibbs 1991, pp. 157-166; Regerand *et al.* 2005, pp. 192-198; Kegley *et al.* 2009, p. 1).

Regarding siltation, the petition cites a report by Jacobi (2000), which states that silt constituted nearly 75 percent of the substrate in known Gila mayfly locations. Because the Gila mayfly uses crevices and other small spaces in the substrate, siltation may result in the filling in of these crevices and, therefore, less habitat available. Increased siltation may be due to historical overgrazing and intense recreation. To support the petition's claim that grazing may affect the Gila mayfly, they cite several personal communications regarding the health of the riparian area along the East Fork of the Gila River, as well as a U.S. Forest Service report regarding the two grazing allotments in the area (U.S. Forest Service 2009, pp. 1-3). Also, the petition cites the New Mexico Environment Department's (NMED) TMDL designation for the East Fork of the Gila River, which discusses grazing as a source of impairment for the river (NMED 2002, p. 8). Information in our files supports the petition's claims that habitat destruction and modification may impact the species.

To support the petition's claim that recreation contributes to siltation in the East Fork of the Gila River, they cite several personal communications regarding the use of the Grapevine Campground, which is directly adjacent to the type locality of the Gila mayfly and where all but one specimen has been found. The petition states that recreation results in increased erosion and sedimentation from foot, bike, car, and off-highway vehicle traffic, as well as runoff of pollutants from roads and off-road vehicle trails, introduction of bacteria and excess nutrients from dog and horse waste, manipulation and alteration of streamflow by swimmers, and the trampling of streamside riparian habitat by campers, hikers, rafters, and fishermen. The petition suggests that siltation and other habitat impairments also create a barrier to Gila mayfly dispersal by limiting survival of nymphs that drift downstream.

After reviewing the petition, information presented by the petitioner, and information readily available in our files, we have determined that there is substantial information to indicate the Gila mayfly may warrant listing as a result of impaired water quality due to possible increased aluminum levels and siltation.

Regarding factors B (overutilization for commercial, recreational, scientific, or educational purposes), C (disease or predation), and D (the inadequacy of existing regulatory mechanisms), the petition did not provide any information that these factors may threaten the Gila mayfly. Regarding factor E (other natural or manmade factors affecting its continued existence), the petition suggests that climate change and the Gila

mayfly's small population size threaten its continued existence. We will further evaluate these factors, along with any other potential factors, during our status review and will report our findings in the subsequent 12-month finding.

Finding

Because habitat degradation, such as possible increased aluminum levels and documented substrate siltation and turbidity, may have occurred in the East Fork of the Gila River where the majority of individuals were once found, we find that the petition presents substantial information indicating that the petitioned action may be warranted. The petition states that aluminum is toxic to aquatic insects and cite several papers in support of this (Tabak and Gibbs 1991, pp. 157-166; Regerand *et al.* 2005, pp. 192-198; Kegley *et al.* 2009, p. 1). Also, the petition cites a report by Jacobi (2000), which states that silt constituted nearly 75 percent of the substrate in known Gila mayfly locations. Because the Gila mayfly uses crevices and other small spaces in the substrate, siltation may result in the filling in of these crevices and, therefore, result in less habitat availability. Additionally, information in the petition and readily available in our files indicates that the Gila mayfly has not been observed or collected in the last 50 years. Between 1987 and 1999, 12 surveys were conducted at the known Gila mayfly locations, but no Gila mayflies were found despite targeted collection of mayflies. Given that the species has not been verified in the wild since 1967 despite multiple surveys, it is possible that the Gila mayfly may be extinct or that the survey efforts were not adequate enough to detect any remaining individuals. Hence, the information presented by the

petition and readily available in our files contains evidence sufficient to suggest that these stresssors may be operative threats that act on the species to the point that the species may meet the definition of endangered or threatened under the Act. Therefore, on the basis of our determination under section 4(b)(3)(A) of the Act, we determine that the petition presents substantial scientific or commercial information indicating that listing the Gila mayfly throughout its entire range may be warranted as a result of impaired water quality due to possible increased aluminum levels and siltation.

This finding was made primarily based on information provided under factor A, and we will evaluate all information under the five factors during the status review under section 4(b)(3)(B) of the Act. We will fully evaluate these potential threats during our status review, pursuant to the Act's requirement to review the best available scientific information when making our 12-month finding. Accordingly, we encourage the public to consider and submit information related to these and any other threats that may be operating on the Gila mayfly (see "**Request for Information**").

References Cited

A complete list of references cited is available on the Internet at *http://www.regulations.gov* and upon request from the New Mexico Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this notice are the staff members of the New Mexico Ecological Services Field Office.

Authority

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

Date: July 16, 2012

Daniel M. Ashe

Director, U.S. Fish and Wildlife Service

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