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Re: Process for Listing *Upogebia Pugettensis* on the Endangered Species List (NSGLC-10-04-07)

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Dear John,

Please find below the information requested by the Hatfield Marine Science Center at Oregon State University. The following advisory opinion addresses the process of listing the native blue mud shrimp, *Upogebia pugettensis*, on the lists of endangered or threatened species required under the Endangered Species Act. In recent years, *Upogebia pugettensis* has found itself under attack from an invasive isopod, *Orthonoe griffenis*, which effectively destroys the shrimp's reproductive abilities.

The Endangered Species Act

Passed in 1973, the Endangered Species Act (ESA) is designed to protect imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation."¹ The centerpieces of the ESA are the endangered species list and the threatened species list. Once a species is listed, the ESA requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and/or the NOAA Fisheries Service to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of the species or result in the destruction or adverse modification of designated critical habitat. The

¹ 16 U.S.C. § 1531(a)(1) (2010).

ESA further prohibits the “taking” of a listed species and severely restricts trade related to the species.

Process for Listing a Species on the Endangered Species Act

Petition and 90-day Finding

Though the USFWS or NOAA Fisheries can list species on their own through their Candidate Conservation Process, the far more common method to initiate the listing process is to petition the agency directly. Because *Upogebia pugettensis* is a marine species, a petition to list the species on the endangered or threatened species list should be sent to the Northwest Regional Office of NOAA Fisheries.² The Secretary of Commerce is required, by law, to acknowledge the receipt of a petition within 30 days.³ Further, “to the maximum extent practicable, within 90 days of receiving a petition” the Secretary is required to “make a finding as to whether the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted” (90-day Finding).⁴ The phrase “substantial information” is defined as “that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted.”⁵

NOAA Fisheries has created regulations to govern the content of a petition for the listing of a species on the endangered or threatened species list. First, the document “must clearly identify itself as a petition and be dated. It must contain the name, signature, address, telephone number, if any, and the association, institution, or business affiliation, if any, of the petitioner.”⁶ Second, in making the 90-day Finding, the Secretary will consider whether the petition:

- (i) Clearly indicates the administrative measure recommended and gives the scientific and any common name of the species involved;
- (ii) Contains detailed narrative justification for the recommended measure, describing, based on available information, past and present numbers and distribution of the species involved and any threats faced by the species;
- (iii) Provides information regarding the status of the species over all or a significant portion of its range; and
- (iv) Is accompanied by appropriate supporting documentation in the form of bibliographic references, reprints of pertinent publications, copies of reports or letters from authorities, and maps.⁷

² Note, however, that because *Upogebia pugettensis* ranges across the jurisdiction of several NOAA Regional Offices (Alaska Regional Office, Northwest Regional Office and Southwest Regional Office), the petition may not end up being processed by the Northwest Regional Office. Once a petition is received it is up to the Regional Offices themselves to determine jurisdiction.

³ 50 C.F.R. § 424.14(a) (2010).

⁴ *Id.* § 424.14(b)(1).

⁵ *Id.*

⁶ *Id.* § 424.14(a).

⁷ *Id.* § 424.14(b)(2)(i)-(iv).

Finally, the petitioner has the option of including "information that describes any recommended critical habitat as to boundaries and physical features, and indicates any benefits and/or adverse effects on the species that would result from such designation."⁸ Such information, because it is optional, will not be a basis of the Secretary's 90-day Finding. Upon making the 90-day Finding, the Secretary will publish his decision in the Federal Register⁹ and contact the petitioner.

12-Month Finding

If the Secretary in his 90-day Finding determines that listing *Upogebia pugettensis* may be necessary, he has twelve months to compile the data and facilitate the public comment needed to perform a status review of the species (12-month Finding).¹⁰ In making the 12-month Finding, the Secretary can make his decision "solely on the basis of the best scientific and commercial data available to him."¹¹ In the case of the mud shrimp, using this information, the Secretary would need to determine whether *Upogebia pugettensis* is deserving of ESA protection based on any of the following five factors:

- (i) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (ii) overutilization for commercial, recreational, scientific, or educational purposes;
- (iii) disease or predation;
- (iv) the inadequacy of existing regulatory mechanisms; or
- (v) other natural or manmade factors affecting its continued existence.¹²

Using these five factors as a guide, the Secretary will decide from three possible outcomes when issuing the 12-month Finding. The Secretary could find that:

- (i) the listing is not warranted, in which case the Secretary will publish this finding in the Federal Register;
- (ii) the listing is warranted, in which case the Secretary will publish a general notice and the complete text of a proposed regulation to implement the listing of the species; or
- (iii) the listing is warranted but that -
 - a. the immediate proposal and timely promulgation of a final regulation implementing the petitioned action is precluded by pending proposals to determine whether any species is an endangered species or a threatened species; and

⁸ *Id.* § 424.14(b)(2).

⁹ The Federal Register is the official daily journal of the federal government, containing rules, proposed rules, notices, executive orders and other presidential documents. It can be found online here: <http://www.gpoaccess.gov/fr/>.

¹⁰ 16 U.S.C. § 1533(b)(3)(B) (2010).

¹¹ *Id.* § 1533(b)(1)(A).

¹² *Id.* § 1533(a)(1).

- b. expeditious progress is being made to add qualified species to either of the lists and to remove from such lists species for which the protections of the Act are no longer necessary.¹³

If the third option is chosen (“warranted, but precluded”), the species will be placed on NOAA’s Candidate List, and it will be ranked against other candidate species based on magnitude of the threat, the immediacy of the threat and the taxonomic status of the species. Taxonomic status considers “the number of populations and/or extent of range of the species affected population(s); the biological significance of the affected population(s), taking into consideration the life-history characteristics of the species and its current abundance and distribution; and whether the threats affect the species in only a portion of its range, and if so the likelihood of persistence of the species in the unaffected portions.”¹⁴ NOAA works to resolve listings of candidate species with lower numbers (higher priority) first. Species on the candidate list receive no federal protection. There are currently 90 species on NOAA’s candidate species list (82 are coral species), the earliest of which, Atlantic Sturgeon, was placed there in 2006.¹⁵

If either of the latter two options are chosen, the Secretary will make a recommendation that the species be listed as either “endangered” or “threatened.” An “endangered” species is one that “is in danger of extinction throughout all or a significant portion of its range,”¹⁶ while a “threatened” species is one “which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”¹⁷

Difficulties Presented by Mud Shrimp Listing Petition

No “Distinct Population Segment” Protection for Invertebrates

Before a decision to file a petition is made, an assessment of the threat that *Orthione griffenis* poses to the entire population of *Upogebia pugettensis* is warranted. The ESA defines “species” to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”¹⁸ It is important to note that because it is an invertebrate, “distinct population segment” protection cannot extend to *Upogebia pugettensis*. Additionally, it does not appear that the shrimp in Washington and Oregon represent a recognized subspecies of *Upogebia pugettensis*. A petition to protect *Upogebia pugettensis* under the ESA would need to show that the species was in danger of extinction or

¹³ *Id.* § 1533(b)(3)(B)(i)-(iii).

¹⁴ 74 Fed. Reg. 40540, 57805 (Aug. 12, 2009).

¹⁵ NOAA Fisheries Office of Protected Resources, *Candidate, Proposed and Delisted Species Under the Endangered Species Act (ESA)*, <http://www.nmfs.noaa.gov/pr/species/esa/other.htm>.

¹⁶ 16 U.S.C. § 1532(6) (2010).

¹⁷ *Id.* § 1532(20).

¹⁸ *Id.* § 1532(17). Under the ESA, “distinct population segment” of vertebrate fish and wildlife populations may be given protection if the population is both “discrete and significant.” *Northwest Ecosystem Alliance v. USFWS*, 475 F.3d 1136, 1138 (9th Cir. 2007). For example, the northern population of the bog turtle is protected as a threatened species while its southern population is not.

likely to become endangered across its entire range, which I understand extends from Alaska to California.

If *Orthonoe griffenis* is affecting *Upogebia pugettensis* populations across its entire range, or showing signs of spreading into other parts of the range, it would show strong support for listing under the “disease or predation” factor and a petition may be successful. If such a threat cannot be shown, than an ESA petition is not likely to succeed. Likewise, if it can be shown that the shrimp being affected off the coasts of Oregon and Washington belongs to a subspecies of *Upogebia pugettensis*, a petition may be successful under the “disease and predation” factor.

No Protection Under Oregon Endangered Species Act

Many states have their own versions of the Endangered Species Act to protect species from extinction within their borders. The goal of the Oregon ESA is similar to the federal statute: the conservation of threatened or endangered wildlife through “the use of methods and procedures necessary to bring a species to the point at which [protective] measures are no longer necessary.”¹⁹ Species listed under the Oregon ESA are managed by the State Fish and Wildlife Department. However, the Oregon Fish and Wildlife Department defines “wildlife” to specifically exclude invertebrates, meaning that invertebrates like *Upogebia pugettensis* are not eligible to receive protection under the Oregon ESA.²⁰

Conclusion

The process for getting *Upogebia pugettensis* protected under the Endangered Species Act would begin with a petition to NOAA Fisheries. If the Secretary of Commerce determines that the petition contains substantial information that the listing may be warranted, he will begin a 12-month status review of the species. It seems that *Upogebia pugettensis* would have a strong case for protection under the “disease or predation” and “inadequacy of existing regulatory mechanisms” factors.

There will be significant hurdles to a successful listing, however. First, unless it can be shown that *Upogebia pugettensis* populations are being affected across the entire range of the species or that the shrimp being affected belong to a recognizable subspecies, it is unlikely that the species will be found to warrant protection under the language of the statute. Second, even if threats to the entire population can be shown, the realities of the listing process would make a “warranted, but precluded” finding likely, a fate that could result in years without protection.

Third, even if *Upogebia pugettensis* is successfully listed, the Endangered Species Act may not provide adequate protection under these circumstances. Once a species is listed as threatened or endangered, it is offered the protections of critical habitat designation and a recovery plan. In the

¹⁹ STATE OF OREGON LEGISLATIVE COMMITTEE SERVICES, BACKGROUND BRIEF ON ENDANGERED SPECIES, May 2004 at 2, available at: http://www.leg.state.or.us/comm/commsrvs/background_briefs2004/Natural%20Resources/HD_Endangered_Species2004.pdf (quoting O.R.S. § 496.171(1) (2010)).

²⁰ *Id.* at 3.

case of *Upogebia pugettensis*, the setting aside of critical habitat would not change the *Orthione* threat. The development of a recovery plan would likely be a good way to gather more information about the *Orthione* threat, but is still unlikely to be an effective tool. The ESA gives the Secretary the option not to develop a plan if he thinks the species is unlikely to benefit from it. The statute specifically cites species that are threatened by "construction and other development projects or other forms of economic activity" as those which are most likely to benefit from plans.²¹ While threats to *Upogebia pugettensis* from chemicals used to protect oysters would likely be considered a threat from economic activity, the threat from *Orthione griffenis* would not.

Despite what may come as discouraging news, I hope you find this information useful. The Law Center would be happy to conduct any follow-up research if you have any additional questions. The above information is intended as advisory research only and does not constitute legal Representation of Oregon Sea Grant or its constituents. It represents our interpretations of the relevant laws and regulations.

Sincerely,



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Ocean and Coastal Law Fellow

²¹ 16 U.S.C. § 1533(f)(1)(A) (2010).