DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2024–0146; FXES1111090FEDR–256–FF09E21000]

Endangered and Threatened Wildlife and Plants; 12-Month Not-Warranted Finding for the Spinytail Crayfish

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notification of finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list the spinytail crayfish (*Procambarus fitzpatricki*) as an endangered or threatened species under the Endangered Species Act of 1973, as amended (Act). The spinytail crayfish is a small, burrowing freshwater crayfish endemic to southern Mississippi. After a thorough review of the best available scientific and commercial information, we find that listing the spinytail crayfish as an endangered or threatened species is not warranted at this time. However, we ask the public to submit to us at any time any new information relevant to the status of the spinytail crayfish or its habitat.

DATES: The finding in this document was made on March 11, 2025.

ADDRESSES: A detailed description of the basis for this finding is available on the internet at *https://www.regulations.gov* under Docket No. FWS–R4–ES–2024–0146. Supporting information used to prepare this finding is also available for public inspection, by appointment, during normal business hours at the Mississippi Ecological Services Office. Please submit any new information, materials, comments, or questions concerning this finding to the person listed under **FOR FURTHER INFORMATION CONTACT**.

FOR FURTHER INFORMATION CONTACT: James Austin, Field Supervisor, Mississippi Ecological Services Field Office, 601–540–2576, *james_austin@fws.gov*. 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:

Background

Under section 4(b)(3)(B) of the Act (16 U.S.C. 1531 *et seq.*), we are required to make a finding on whether or not a petitioned action is warranted within 12 months after receiving any petition that we have determined contains substantial scientific or commercial information indicating that the petitioned action may be warranted (''12-month finding''). We must make a finding that the petitioned action is: (1) Not warranted; (2) warranted; or (3) warranted, but precluded by other listing activity. We must publish a notification of the 12-month finding in the **Federal Register**.

Summary of Information Pertaining to the Five Factors

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations at part 424 of title 50 of the Code of Federal Regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Lists of Endangered and Threatened Wildlife and Plants (Lists). The Act defines ''species'' as including 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. 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.

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 which is further described in the 2009 Memorandum Opinion on the foreseeable future from the Department of the Interior, Office of the Solicitor (M–37021, January 16, 2009; ''M-Opinion,'' available online at *https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf*). The foreseeable future extends as far into the future as the U.S. Fish and Wildlife Service and National Marine Fisheries Service can make reasonably reliable predictions about the threats to the species and the species' responses to those threats. We need not identify the foreseeable future in terms of a specific period of time. We will describe the foreseeable future on a case-by-case basis, using the best

available data and taking into account considerations such as the species' life-history characteristics, threat projection timeframes, and environmental variability. In other words, the foreseeable future is the period of time over which we can make reasonably reliable predictions. ''Reliable'' does not mean ''certain''; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.

In conducting our evaluation of the five factors provided in section 4(a)(1) of the Act to determine whether the spinytail crayfish meets the Act's definition of an ''endangered species'' or a ''threatened species,'' we considered and thoroughly evaluated the best scientific and commercial information available regarding the past, present, and future stressors and threats. We reviewed the petition, information available in our files, and other available published and unpublished information for the species. Our evaluation may include information from recognized experts; Federal, State, and Tribal governments; academic institutions; foreign governments; private entities; and other members of the public.

In accordance with the regulations at 50 CFR 424.14(h)(2)(i), this document announces the not-warranted finding on a petition to list the spinytail crayfish. We have also elected to include a brief summary of the analysis on which this finding is based. We provide the full analysis, including the reasons and data on which the finding is based, in the decisional file for the spinytail crayfish. The following is a description of the documents containing this analysis.

The species assessment form for the spinytail crayfish contains more detailed biological information, a thorough analysis of the listing factors, a list of literature cited, and an explanation of why we determined that the species does not meet the Act's definition of an ''endangered species'' or a ''threatened species.'' To inform our status review, we completed a species status assessment (SSA) report for the species. The SSA report contains a thorough review of the taxonomy, life history, ecology, current status, and projected future status for the spinytail crayfish. This supporting information can be found on the internet at *https://www.regulations.gov* under the Docket No. FWS–R4–ES–2024–0146.

Previous Federal Actions

On April 20, 2010, we received a petition from the Center for Biological Diversity, Alabama Rivers Alliance, Clinch Coalition, Dogwood Alliance, Gulf Restoration Network, Tennessee Forests Council, and West Virginia Highlands to list 404 aquatic, riparian, and wetland species, including the spinytail crayfish, as endangered or threatened species under the Act. On September 27, 2011, we published a 90-day finding (76 FR 59836) that the petition contained substantial information indicating listing may be warranted for the species. This document constitutes our 12-month finding on the April 20, 2010, petition to list the spinytail crayfish under the Act.

Summary of Finding

The spinytail crayfish is a small (approximately 1.67 inches (4.24 centimeters) in length) burrowing crayfish species that can be differentiated from other crayfishes through rostral (a stiff beaklike projection on the head), claw, hook, and carapace morphology. The species is a narrow-ranging endemic to southern Mississippi; its range is restricted to areas between the Wolf River (to the west) and Pascagoula River (to the east). The distribution of the species is within Forrest, George, Jackson, Pearl River, Perry, and Stone Counties, Mississippi. The spinytail crayfish occupies a wide range of environments, including wet pine savannas and pitcher plant bogs, roadside ditches and other developed/disturbed settings, as well as in shallow ephemeral/seasonal waterbodies. Of the 29 known populations of spinytail crayfish, there are 18 current populations and 11 historical populations. Observations across a wide array of open, wet, grassy areas suggests the species occupies differing habitats with similar structural condition (open canopy with low-statured, herbaceous vegetation) within the broader matrix of land cover(s) that dominate the ecoregions within which it occurs (Gulf Coast Flatwoods; Southern Pine Plains and Hills; Barrier Islands and Coastal Marshes; and Floodplains and Low Terraces). Ephemeral wetlands lacking fish predators are also a universal aspect of the species' habitat.

Habitat elements that support a stable environment important to an individual spinytail crayfish are divided into two ecological conditions—within the burrow and outside of the burrow. A stable environment is defined herein as a burrow and surrounding habitat (*i.e.,* pitcher plant bogs) that have the ability to support life history functions within a natural range of variation. Elements inside the burrow habitat include sufficient water, soil moisture, and ambient temperature to prevent desiccation and to support egg incubation and post-embryonic development; dissolved oxygen content adequate to support crayfish respiration or access to air/water interface to prevent gills from drying out; water quality suitable for survival, and sufficient food sources. Important elements outside of the burrow habitat include all the above plus the presence of shallow, ephemeral waterbodies to serve as nursery and foraging habitat. In addition, substrate composition in both environments is an important component since burrowing crayfish depend on relatively fine substrate particles (*e.g.,* silt, sand, clay) that enhance the ease of burrowing to provide shelter and cover from predators, and to engineer chimney structures to facilitate burrow ventilation. Collectively, these elements allow for spinytail crayfish to have sufficient food and shelter resources to grow, reach maturity, and reproduce. For populations to be resilient, they need healthy demography (*i.e.,* stable or positive growth rates of individuals of both sexes), sufficient functional connectivity of physical habitats to allow for gene flow among subpopulations, successful dispersal opportunity (physical connectivity between suitable habitat) and dispersal ability (species vagility, or ability to move), and sufficient habitat quality and quantity to support healthy individuals.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the spinytail crayfish, and we evaluated all relevant factors under the five listing factors, including any regulatory mechanisms and conservation measures addressing these threats. The primary threats affecting the spinytail crayfish's biological status now and in the foreseeable future include habitat modification from development and climate change (particularly associated with potential future changes to hydrology), including sea level rise (SLR).

After evaluating threats to the species and assessing the cumulative effect of the threats under the section 4(a)(1) factors, our analysis indicates effects of drought and contemporary land uses (*e.g.,* agriculture, urbanization, development) are not currently affecting populations and thus do not pose an imminent threat to the species. The 18 moderately to highly resilient spinytail crayfish populations are distributed across the known range of the species. Thirteen of these resilient populations were recently discovered, and the known range of the species has expanded since 2017. While this

species' range is restricted because it is a narrow endemic (thus catastrophes pose an inherent risk to the species), threats are not of a magnitude to have large impacts on the species. Furthermore, we do not anticipate changes in the magnitude or frequency or type of catastrophic events such as extreme drought; therefore, the number and distribution of sufficiently resilient populations are likely to continue to enable the species to withstand catastrophic events.

The adaptive capacity evaluation suggests that the species' current representation, while naturally low because it is a narrow endemic, has not been diminished from historical representation (*i.e.,* through range contraction or extirpation of populations). The spinytail crayfish has high estimated viability across its narrow range. The current condition analysis indicates that the ''3Rs''—resiliency, representation, and redundancy—are sufficient to support the overall viability of the species. Thus, after assessing the best available information, we conclude that the spinytail crayfish is not in danger of extinction throughout all of its range.

Our analyses using projections 20 to 40 years into the future, representing high and low landscape suitability, indicate that conditions are not expected to decline to a level where the species' viability is impacted. Even a changing climate is not expected to pose increased risks in the future, and environmental conditions are expected to continue to meet life history requirements. Thus, in a foreseeable future of up to 40 years, we can make reasonable predictions that the spinytail crayfish will not be affected significantly by the threat of development or a changing climate. Best available future SLR projections even beyond our future scenario timeframes indicate that one population will have between 8 and 20 percent of its habitat area inundated by 2100, while another population will have 1.7–4.2 percent of its habitat area inundated by 2100 (see Chapter 5 of the SSA Report, pp. 41–49). Due to spinytail crayfish having some potential tolerance to salinity and the small areas of each population's habitat that could potentially be inundated, we do not expect SLR to result in population-level extirpation.

Given the species' current condition and the lack of threats that the species is expected to experience under future scenarios over the next 40 years, no reductions in resilience, redundancy, or representation are anticipated, and viability is expected to be maintained in the future. The results of our analyses highlight that spinytail crayfish exhibits a high degree of resistance to disturbance, indicating the species has a low susceptibility to threats and a high degree of stability. After assessing the best available information, we conclude that the spinytail crayfish is not likely to become endangered within the foreseeable future throughout all of its range.

For the spinytail crayfish, we considered whether the threats or their effects on the species are greater in any portion of the species' range than in other portions such that the species is in danger of extinction now or likely to become so within the foreseeable future in that portion. We examined the following threats: habitat modification from development, climate change and projected SLR, including cumulative effects. As discussed in our rangewide analysis, these threats are not posing an imminent threat to the species anywhere within the range. Additionally, we found that these threats are not disproportionately affecting the spinytail crayfish in any portion of its range. All populations have high to moderate resiliency in the near term and are distributed such that the species is at low risk from catastrophic events such as severe drought. Therefore, we found no portion of the spinytail crayfish's range where the biological condition of the species differs from its condition elsewhere in its range such that the status of the species in that portion differs from its status in any other portion of the species' range. As a result of our finding that the spinytail crayfish is not in danger of extinction or likely to become so within the foreseeable future throughout any portion of its range, we do not need to determine whether any portion of its range is ''significant.'' Therefore, no portion of the species' range provides a basis for determining that the species is in danger of extinction or likely to become so within the foreseeable future throughout a significant portion of its range.

After assessing the best available information, we concluded that the spinytail crayfish is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the spinytail crayfish as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the spinytail crayfish species assessment form, SSA report, and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R4–ES–2024–0146 (see **ADDRESSES**, above).

Peer Review

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 in listing actions under the Act, we solicited independent scientific reviews of the information contained in the spinytail crayfish SSA report. We sent the SSA report to six independent peer reviewers and received three responses. Results of this structured peer review process can be found at *https://www.regulations.gov* under Docket No. FWS–R4–ES–2024–0146. We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

New Information

We request that you submit any new information concerning the taxonomy of, biology of, ecology of, status of, or stressors to the spinytail crayfish to the person specified above under **FOR FURTHER INFORMATION CONTACT**, whenever it becomes available. New information will help us monitor the species and make appropriate decisions about its conservation and status. We encourage local agencies and stakeholders to continue cooperative monitoring and conservation efforts.

References

A complete list of the references used in this petition finding is available in the species assessment form, which is available on the internet at *https://www.regulations.gov* under Docket No. FWS–R4–ES–2024–0146 (see **ADDRESSES**, above) and upon request from the field office (see **FOR FURTHER INFORMATION CONTACT**, above).

Authors

The primary authors of this document are the staff members of the Species Assessment Team, Ecological Services Program.

Authority

The authority for this action is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Paul Souza,

Regional Director, Region 8, Exercising the Delegated Authority of the Director, U.S. Fish and Wildlife Service.

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