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September 19, 2025

Attn: Catherine Yeargan  
Field Supervisor  
USFWS Texas Coastal and Central Plains Field Office  
3233 Curtis Dr  
Fort Worth, Texas 76116

RE: Draft Peppered Chub Recovery Plan (NMERT# 5070)

Dear Ms. Yeargan,

The New Mexico Department of Game and Fish (Department) and the New Mexico Interstate Stream Commission (NMISC), collectively the Agencies, appreciate the opportunity to review and provide feedback on the draft Recovery Plan for Peppered Chub (*Macrhybopsis tetranema*). The Agencies agree with the U.S. Fish and Wildlife Service (Service) that a recovery plan for Peppered Chub is needed and increasing the redundancy, resiliency, and representation of the species is a high priority.

The Agencies support Criteria 1 and 4 as these are supported by research, contain objective and measurable benchmarks, and achievement of these criteria will increase the redundancy and representation of the species. While we agree with these criteria that address increasing Peppered Chub populations on the landscape, the other criteria are vague and are not objective, measurable, or clearly defined. Additionally, the recovery plan lacks an understanding of the critical baseline abiotic needs and habitat data that are a prerequisite to establishing recovery criteria.

Criterion 2 does not meet the standard of objective and measurable. Criterion 2b does not define what qualifies as stable or increasing flows, and as noted in Criterion 2a, baseflows necessary to maintain peppered chub are currently unknown. The Agencies appreciate the Service acknowledging that not all necessary scientific data is available, and that Criterion 2 will be updated as information becomes available. However, in our experience recovery plans are not frequently updated and to make progress towards recovery of the species, clear criteria are needed. If Criteria 1 and 4 are met, then it is likely that the habitat is suitable. Since the necessary data to create a measurable criterion based on flows is lacking, we request removal of Criterion

2. In particular, the criteria to determine required baseflows is research and more appropriate in the Recovery Implementation Strategy.

Criterion 3 also contains sub-criteria that are neither objective nor measurable. For example, simply determining water quality conditions and hydrologic patterns as stated in Criterion 3a does not meet this standard. Additionally, the Service states “Channel width and complexity are stable and improving” in Criterion 3b but does not provide an exact definition of how this will be measured. It is unclear whether “improving” means to increase complexity of habitat, or if it is desired to decrease homogeneity of channelized habitat. Also, if habitat conditions are not currently ideal, then maintaining stable conditions of that habitat is unwise. Stable channel conditions in general are not ideal for pelagic spawning fish that need dynamic flows and habitat such as inundated floodplains for recruitment (Pease et al. 2006; Widmer et al. 2010). Similar to above, if Criteria 1 and 4 are met, it is likely that the hydrologic patterns, water quality, and habitat are suitable for all life stages of Peppered Chub. We believe the items in Criterion 3 are more suited to actions in the Recovery Implementation Strategy.

Establishing and maintaining viable populations of Peppered Chub (as addressed in Criteria 1 and 4) is contingent upon suitable flow regimes, hydrologic conditions, and water quality and quantity parameters. Given the uncertainties surrounding these factors, Criteria 2 and 3 are redundant, especially considering that there is insufficient knowledge to establish specific, measurable criteria. We maintain that Criteria 1 and 4, which address the primary factors for downlisting and delisting Peppered Chub, are more appropriate recovery criteria and that Criteria 2 and 3 represent actions that should be identified in the Recovery Implementation Strategy.

The Recovery Plan indicates that the Service understands that the Recovery Strategy for Peppered Chub is predicated on an increased understanding of Peppered Chub and implementation will necessitate inclusion of the best available scientific data as it becomes available. Throughout the Recovery Plan, the Service acknowledges the lack of information regarding the fish and its habitat. The Agencies agree that a lack of information undermines the effectiveness of decision-making and implementation of the recovery strategy to support the Peppered Chub. We strongly encourage emphasis on additional research and data collection to improve scientific understanding about Peppered Chub and its habitat needs, especially as outlined in Actions 16 (see comment below), 17, and 20. Understanding the intersection of the species’ needs and water availability, especially in a climate-changed world, will be critical for recovery actions. We understand that Table 2 is an estimate of costs associated with the Recovery Plan but does not indicate a commitment of funds by any organization. However, we urge the Service to prioritize funding such research to inform decision-making to support the fish and its habitat. The Service should consider dedicating funds for speedy and effective research efforts.

Finally, we have one specific comment regarding the draft Recovery Plan language:

- Action 16 was changed from Action 11 and has been reclassified from “Habitat Conservation and Restoration” to “Research and Management.” The Agencies recommend rephrasing Action 16 to reflect this change by emphasizing research and development of hydrologic regimes, not implementation. Action 1 implements the research in Action 16. Therefore, we recommend rephrasing “Utilize existing information and conduct additional research to develop and implement hydrologic regimes throughout the management units . . .” to “Utilize existing information and conduct additional

research to inform the development and implementation of hydrologic regimes throughout the management units . . .”

The Agencies thank you again for the opportunity to provide comments on the draft Recovery Plan for Peppered Chub. The Department, with support from NMISC, leads data collection on Peppered Chub populations in New Mexico in cooperation with the Service’s New Mexico Fish and Wildlife Conservation Office and has firsthand knowledge and expertise that is critical to generating measurable criteria and recovery actions. The Agencies would welcome the opportunity to engage in the development of a Recovery Implementation Strategy for Peppered Chub. If you have any questions or require additional information, please contact Nathan Thompson via phone at (505) 709-5195 or email at [nathan.thompson@dgf.nm.gov](mailto:nathan.thompson@dgf.nm.gov).

Sincerely,

Kirk Patten  
Chief, Fisheries Management Division

#### **References**

- Pease, A. A., Davis, J. J., Edwards, M. S., & Turner, T. F. (2006). Habitat and resource use by larval and juvenile fishes in an arid-land river (Rio Grande, New Mexico). *Freshwater Biology* 51:475–486.
- Widmer, A., J. I. Fluder, J. Kehmeier, C. Medley, and R. Valdez. 2012. Drift and retention of pelagic spawning minnow eggs in a regulated river. *River Research and Applications* 28:192–203.