Report on the Progress Towards the Implementation of the Management Plan for the Rocky Mountain Sculpin (*Cottus* sp.), Westslope populations for the Period 2021 to 2025



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For copies of the recovery document, or for additional information on species at risk, including Committee on the Status of Endangered Wildlife in Canada (COSEWIC) status report, and other related documents, please visit the Species at Risk Public Registry.

Cover photo: Photo of Rocky Mountain Sculpin by Tyana Rudolfsen, DFO

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Preface

The *Species at Risk Act* (S.C. 2002, c.29) (SARA) requires the competent minister(s) to monitor and report on the implementation of recovery documents (that is, recovery strategies, action plans, and management plans) for species at risk. These reports must describe the progress made towards the species' recovery or conservation[1].

The Minister of Fisheries is the competent minister for aquatic species at risk. Fisheries and Oceans Canada (DFO) has prepared this progress report.

Reporting on the progress toward implementing recovery documents includes reporting on the collective efforts of the competent minister(s), provincial and territorial governments, and all other parties involved in carrying out actions that contribute to the species' recovery or conservation.

As stated in the preamble to SARA, success in the recovery and conservation of species at risk depends on the commitment and cooperation of many contributors, and will not be achieved by DFO, or any other jurisdiction, alone. All Canadians are invited to join in supporting and implementing the recovery documents, for the benefit of the species and Canadian society as a whole.

Acknowledgements

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[1]"Recovery" applies to species listed under SARA as threatened, endangered or extirpated, which require a recovery strategy and one or more action plan(s). "Conservation" applies to species listed under SARA as special concern, which require a management plan.

Executive summary

This report summarizes the progress made by Fisheries and Oceans Canada (DFO) and its partners towards implementing the management plan for the Rocky Mountain Sculpin, Westslope populations, during the period 2021 and 2025. During the reporting period, progress was made toward 3 of the 4 broad strategies including the development of standardized monitoring methods, research on range expansion and species taxonomy, and ongoing habitat protection measures. However, the status of the management objective could not be assessed due to remaining information gaps.

For more information on the contents of this document, please contact the Species at Risk Program (DFO.PACSAR-LEPPAC.MPO@dfo-mpo.gc.ca).

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1 Introduction

SPECIAL CONCERN



Rocky Mountain Sculpin, Westslope populations (*Cottus* sp.). Photo by Tyana Rudolfsen, DFO

Fisheries and Oceans Canada (DFO) and its partners have made progress towards the implementation of the conservation measures identified in the "Management Plan for the Rocky Mountain Sculpin (*Cottus* sp.), Westslope populations, in Canada" (DFO 2020), through the actions undertaken between February 2021 and February 2025, to support the conservation of the Rocky Mountain Sculpin, Westslope populations. The management plan provides detailed information on the species, its threats, its needs, management objectives, and conservation measures.

This progress report is part of a series of documents for this species that should be taken into consideration together, including the management plan. Refer to the species profile for Rocky Mountain Sculpin, Westslope populations on the Species at Risk Public Registry for more information and related documents.

2 Progress towards meeting the management objectives for the Rocky Mountain Sculpin, Westslope populations

Management objectives establish, to the extent possible, the conditions that are necessary for the conservation of the species. The management objective for the Rocky Mountain Sculpin, Westslope populations, is to:

- maintain self-sustaining populations throughout their current distribution to ensure the species' long-term viability in the wild

Four broad strategies were identified in the management plan to meet the management objective for the Rocky Mountain Sculpin, Westslope populations. Conservation actions were undertaken by DFO and its partners under 3 broad strategies. Some key achievements are described below. Several conservation measures from the proposed Management Plan for Rocky Mountain Sculpin (*Cottus* sp.), Westslope populations, in Canada (DFO 2018) were implemented prior to publication of the final management plan in 2021. Summaries of these conservation measures are included below, despite having occurred before the reporting period.

Broad strategy 1: inventory and monitoring

- a standardized field-sampling method was developed to assess occurrence and relative abundance of Rocky Mountain Sculpin populations in Canada. This protocol specifies access points, optimal sampling periods, recommended sampling frequency, electrofishing methods, and key habitat attributes to record for Rocky Mountain Sculpin, Westslope populations, within the Flathead River and its tributaries (Macnaughton et al. 2019)

Broad strategy 2: research

- Rudolfsen et al. (2019) found Rocky Mountain Sculpin, Westslope populations, at higher elevations than previously recorded, suggesting an upstream range expansion. The study also found that environmental factors, particularly elevation and water conductivity, influence the spatial extent of hybrid zones between Rocky Mountain Sculpin and Slimy Sculpin (*Cottus cognatus*). While hybridization is not currently considered a significant threat, likely due to differences in habitat use between the 2 species, the results highlight the need for ongoing monitoring to assess how environmental changes may affect hybridization dynamics and species persistence
- a genetic analysis by Young et al. (2022) supported that Rocky Mountain Sculpin populations form a distinct lineage that is genetically differentiated from other *Cottus* species, indicating they are strong candidates for recognition as a distinct species

Broad strategy 3: management and coordination

- the Government of British Columbia's (BC) Ministry of Environment and Parks actively patrols 2 large access management areas within the Flathead River Watershed: the Upper Flathead Access Management Area and the East Flathead Access Management Area. Motorized vehicle use in these areas is limited under the Motor Vehicle Prohibition Regulation (under BC's *Wildlife Act*) which prevents degradation of Rocky Mountain Sculpin, Westslope populations, habitat (Ministry of Environment and Parks 2021; Yetter and Gordon pers. comm. 2025)

Broad strategy 4: stewardship and outreach

- no action was taken on this broad strategy during the reporting period

Achievement of the management objective is evaluated using performance indicators. Table 1 provides an overview of the status of performance indicators as of the end of the reporting period. Performance indicators that were partially met or not met are

discussed in the “Knowledge gaps and future priorities” section below.

Table 1: Status of performance indicators for Rocky Mountain Sculpin, Westslope populations, for the period February 2021 to February 2025.

Performance indicator	Status[2]
Observe a stable or positive population abundance	Not met
Observe a preservation or expansion of distribution, taking into account natural variation	Partially met, underway

3 Key gaps and future priorities for the Rocky Mountain Sculpin, Westslope populations

During the reporting period (February 2021 to February 2025), activities were conducted to support 3 of the 4 broad strategies. There is not enough information to assess the status of the management objective, as 1 performance indicator was not met and the second is only partially met. Priority next steps may include, but are not limited to:

- implementing a long-term monitoring plan to assess performance indicators and measure progress towards achieving the management objective
- continuing research to better understand causes of mortality, winter and nocturnal habitat requirements, and limiting factors to population growth of Rocky Mountain Sculpin, Westslope populations
- incorporating information on Rocky Mountain Sculpin, Westslope populations, into existing stewardship programs, and developing and distributing educational public outreach materials
- encouraging landowners, industry and relevant levels of government to consider the species and its threats in the development, implementation, and updating of land use plans, official community plans, by-laws and management guidelines

[2]**Met**: the performance indicator has been met and no further action is required
Met, ongoing: the performance indicator has been met, but efforts will continue until such time the population is considered to be recovered
Not met: the performance indicator has not been met, and little to no progress has been made
Partially met, underway: the performance indicator has not been met, but there has been moderate to significant progress made

4 Concluding statement

During the reporting period, progress was made toward implementing the conservation measures and broad strategies identified in the management plan for the Rocky Mountain Sculpin, Westslope populations. Progress was made toward 3 of the 4 broad strategies; however, the status of the management objective could not be assessed due to remaining information gaps. Progress to date includes development of standardized monitoring methods, research on range expansion and taxonomic distinctiveness, and ongoing habitat protection measures in the Flathead River watershed. Priority next steps include continued research and long-term monitoring, strengthened stewardship and outreach, and greater integration of species considerations into land and water management decisions.

DFO remains committed to the conservation of all aquatic species at risk. The work that has been initiated and completed to date has built a strong foundation for the continued management of the Rocky Mountain Sculpin, Westslope populations. DFO and its partners will continue to work towards the achievement of the management objectives for the Rocky Mountain Sculpin, Westslope populations, and welcome the participation of additional partners.

5 References

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