Habitat Loss and Plains Sucker System Capacity

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Species Information

Common Name: Plains Sucker
Genus: Pantosteus jordani

Stressor Details

Stressor Name: Habitat loss
Units: % lost
Metric: Total habitat loss
Scale: linear
Function Type: continuous
Vital Rate/Process: Survival

Life Stage & Context

Life Stages: Adults
Geography: Saskatchewan
Activity: All activities
Season: All seasons

Descriptions

Overview

> Habitat loss is defined as a proportion of the total habitat that has been lost (relative to pristine or historical conditions). Habitat loss could also be the amount of habitat that has been converted to non-suitable habitat.

Function Derivation

> Expert opinion

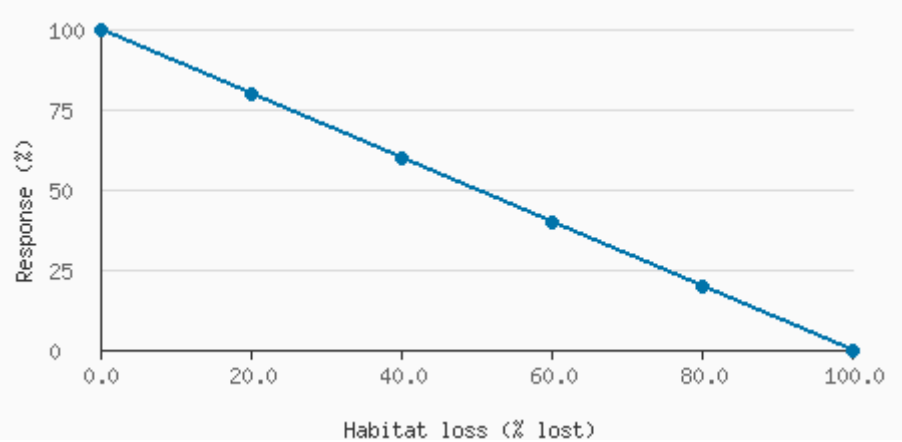
Transferability of Function

> This stressor-response function is suitable for use on Plains Sucker populations in the Saskatchewan-Nelson and Missouri River drainages in Southern Alberta and Saskatchewan. It may be reasonable to assume the SR function can be applied to Cordilleran Sucker, given the similarity of their physical characteristics (prior to 2023 both species were classified under a single species, Mountain Sucker); however, there is no data to confirm this assumption. Therefore, more data is required and caution should be taken when using this function on other species.

Source of Stressor Data

> Practical application of the SR function necessitates that users obtain estimates of stressor magnitude (level) in the target system. We don’t currently have data on habitat loss or biomass density data to compare pre- and post- habitat destruction.

Stressor Response Data



Habitat Loss	Mean System Capacity (%)	SD	low.limit	up.limit
0	100	0	0	100
20	80	0	0	100
40	60	0	0	100
60	40	0	0	100
80	20	0	0	100
100	0	0	0	100

Citations

Jarvis, L. 2022. Habitat loss stressor-response function for Plains Sucker. Department of Fisheries and Oceans CEMPRA model for Plains Sucker.