

Summer Temperature and Athabasca Rainbow Trout

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Species Information

Common Name: Athabasca Rainbow Trout

Genus: *Oncorhynchus mykiss*

Stressor Details

Stressor Name: Temperature

Units: °C

Metric: Summer Stream Temperature

Scale: linear

Function Type: continuous

Vital Rate/Process: System Capacity

Life Stage & Context

Life Stages: Adults

Geography: Alberta foothills watersheds, excluding National Parks

Activity: All activities

Season: Summer (August and September)

Descriptions

Function Derivation

Landscape correlation; Published/Peer-reviewed data; Published/Non-peer-reviewed; Empirical data;

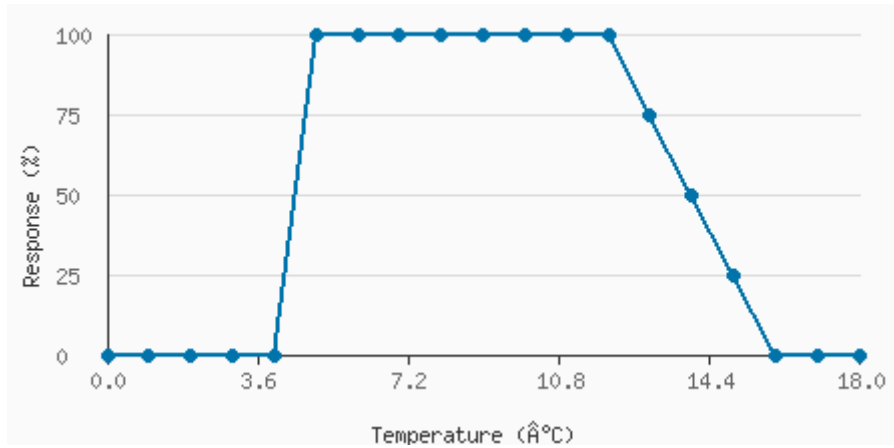
Transferability of Function

This function was developed and applied to Athabasca Rainbow Trout in Alberta foothills watersheds. The data comes from landscape correlation with Alberta native Rainbow Trout streams and is supported by values in the published literature. The function is species and range specific but could potentially be applied to other Athabasca Rainbow Trout populations with caution. It should not be applied to other populations or subspecies of Rainbow Trout, as the thermal preference of Athabasca Rainbow Trout is reported to be lower.

Source of Stressor Data

Athabasca Rainbow Trout and Westslope Cutthroat Trout inputs were derived from modelled mean summer stream temperature (°C) provided by ALCES Online© within the spatial unit of interest (e.g., HUC 10 watershed).

Stressor Response Data



Temperature (oC)	Mean System Capacity (%)	SD	low.limit	up.limit
0	0	0	0	100
1	0	0	0	100
2	0	0	0	100
3	0	0	0	100
4	0	0	0	100
5	100	0	0	100
6	100	0	0	100
7	100	0	0	100
8	100	0	0	100
9	100	0	0	100
10	100	0	0	100
11	100	0	0	100
12	100	0	0	100
13	75	0	0	100
14	50	0	0	100
15	25	0	0	100
16	0	0	0	100
17	0	0	0	100
18	0	0	0	100

Citations

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