

## STREAM MANAGEMENT PLAN

### Water(s): Highline Creek (Pend Oreille Co.)

**Location:** The Highline Creek treatment area is located approximately 4 miles east of Metaline Falls.

	<b>Distance:</b>	<b>Max Depth:</b>	<b>Discharge:</b>
<b>Highline Creek</b>	0.77 miles	N/A	Up to 1.25 cfs

**Water Source:** Numerous springs and seeps, rainfall and snowmelt run-off.

**Outflow:** Tributary to Sullivan Creek (tributary to the Pend Oreille River).

### Management History:

Westslope Cutthroat Trout (WCT) *Oncorhynchus clarki lewisi* are native to the Pend Oreille River watershed in Washington, but have declined in abundance and range. With the decline of WCT abundance and range, cooperative efforts between WDFW, Seattle City Light, and the Kalispel Tribe of Indians Natural Resource Department are underway in Pend Oreille County to restore native WCT to selected stream sections. Highline Creek was presumably inhabited by native WCT, but a portion of Highline Creek impounded by a log-crib dam in support of Diamond Match Company milling operations was stocked with Brook Trout *Salvelinus fontinalis* in 1965 (WDFW unpublished data). Sampling conducted between 2015-2017 detected no WCT in Highline Creek (WDFW, unpublished data). During the same timeframe, Brook Trout were sampled throughout the Highline Creek watershed. Sculpin *Cottus* spp. were sampled in Highline Creek in fall 2016, and tissue samples were collected for genetic analysis. The WDFW Molecular Genetics Laboratory identified the species as Slimy Sculpin *Cottus cognatus*. Slimy Sculpin are native to the Sullivan Creek drainage, and are presumed to be native to Highline Creek.

Highline Creek is well-suited to WCT restoration due to the presence of a complete upstream fish passage barrier (historic log-crib splash dam) to prevent reinvasion by non-native fish, excellent habitat, and a simple fish community. The portion of Highline Creek above the log crib dam was rehabilitated (treated with rotenone) in September 2017 and again in August 2018. Slimy Sculpin present in the treatment area were salvaged, enumerated, and translocated to Sullivan Creek prior to the initial treatment. It is anticipated that following non-native fish eradication in Highline Creek, WCT will be reintroduced to the project area and establish a self-sustaining population. Following successful restoration of WCT, Slimy Sculpin will be collected from Sullivan Creek and restored to Highline Creek, as well.

Highline Creek is managed under Washington Department of Fish and Wildlife (WDFW) special rules (Sullivan Creek and tributaries), including a standard stream fishing season (Saturday before Memorial Day – October 31), Selective gear rules, provision for release of all Cutthroat Trout, and statewide harvest rules for other game fish. Statewide rules include no size

restrictions or daily limit for Brook Trout.

*T&E Flora and Fauna:* Professionals from multiple resource agencies have visited this site over the last 50 years. No known report exists of any threatened or endangered species habitually found in or near this stream. Occasional visits from both bald *Haliaeetus leucocephalus* and golden *Aquila chrysaetos* eagles occur, although no nests of these two species are known in the area. The Highline Creek treatment area is located within the home range of the Salmo Pack of wolves *Canis lupus*, but wolves are unlikely to be present in the area during treatment due to increased human presence, traffic, and activity in the days surrounding treatment.

### **Current Management Objectives:**

This project has three objectives:

1. Salvage Slimy Sculpin from the Highline Creek treatment area and translocate them to Sullivan Creek.
2. Eradicate non-native Brook Trout from Highline Creek and its tributaries above the log crib dam.
3. Re-establish self-sustaining, healthy populations of WCT and Slimy Sculpin in Highline Creek and its tributaries above the log crib dam.

Objective 1 was achieved by translocating 37 Sculpin from the project area to Sullivan Creek prior to the initial treatment. Sculpin were collected via single pass electrofishing effort throughout the Highline Creek project area, held overnight, and transported to Sullivan Creek within 24 hours. Objective 2 will be achieved when non-native Brook Trout are completely removed from the project area. Follow-up environmental DNA (eDNA) sampling will be utilized to confirm eradication of Brook Trout. Reproducing populations of WCT and Slimy Sculpin, expanding both in population size and spatial distribution, would indicate completion of Objective 3. Achievement of Objective 3 may take multiple years.

### **1. Fishery Objectives:**

None - While this fishery may experience light angling pressure, species restoration and conservation are the main goals of this action. Westslope Cutthroat Trout size will be small (generally < 6 inches in length), and the fishery is unlikely to receive much interest from the general public.

### **2. Angler use objective: 0 days**

### 3. Stocking Objectives:

<b>Number of Fish Stocked</b>					
<b><u>Stream</u></b>	<b>Species</b>	<b>Total</b>	<b>Fish/ Acre</b>	<b>FPP</b>	<b>Planting Month</b>
Highline Creek	WCT	300	N/A	4-50	Summer/Fall 2020; translocation from wild source populations.
Highline Creek	Slimy Sculpin	TBD	N/A	20-100	Summer/Fall 2021 or 2022; translocation from wild source populations.
Highline Creek	WCT	TBD	N/A	4-50	Additional translocation as needed from 2020-2024.

### Management Strategy:

1. Ensure non-native fish eradication (or have not been illegally reintroduced).
2. Translocate 300 genetically pure, wild WCT from Sullivan Creek to Highline Creek following eradication of Brook Trout. Translocate Slimy Sculpin (number to be determined) from Sullivan Creek to Highline Creek following successful re-establishment of WCT.
3. Monitor the restored WCT and Slimy Sculpin populations through electrofishing to assess population size, spatial distribution, and genetic metrics.