

PRE-REHABILITATION PLAN

Smalle Creek (Pend Oreille County)

Updated March 22, 2017 – Bill Baker and Brian Walker

I. PROPOSAL

A. Justification for Proposed Rehabilitation

Smalle Creek is a tributary to Calispell Creek (tributary to the Pend Oreille River) in Pend Oreille County. Presumably inhabited by Westslope Cutthroat Trout prior to stocking, Smalle Creek received plants of Eastern Brook Trout in the 1930's and again in 1980-1981. Brook Trout became established and displaced the native Westslope Cutthroat Trout, which were eventually extirpated in upper Smalle Creek above Smalle Creek Falls.

Smalle Creek is uniquely suited to Westslope Cutthroat Trout restoration due to the presence of a natural barrier preventing reinvasion by non-native fish, excellent habitat, and a monoculture of Brook Trout in the project area. Following non-native fish eradication in Smalle Creek, it is anticipated that reintroduced Westslope Cutthroat Trout will establish self-perpetuating populations and re-occupy the treated area.

B. Physical Description of Water Proposed for Rehabilitation

1. WATER: **Smalle Creek**
2. LOCATION: T33N, R42E, S13, 14, & 15 and T33N, R43E, S18, 19, 20, & 29, Pend Oreille County
3. SURFACE ACRES: N/A MAXIMUM DEPTH: N/A
4. DISCHARGE: 1.75 cfs
5. OUTLET: Tributary to Calispell Creek
6. STREAM: Yes. This is a tributary stream rehabilitation.
7. PUBLIC ACCESS: Yes
8. LAND OWNERSHIP: PUBLIC 70% (USFS), Large Timber Company (Riley Creek) 30%
9. ESTABLISHED RESORTS: None

C. Proposed Management Actions

1. WATER: **Smalle Creek**
2. TARGET SPECIES: Eastern Brook Trout
3. DATE LAST REHABED: October 14, 2015 and September 14, 2016
4. PROPOSED TREATMENT DATE: August 16, 2017
5. REPLANTING DATE: ~Spring 2018
6. SPECIES: Westslope Cutthroat Trout
7. Approximately 100 – 300 wild Westslope Cutthroat Trout of various sizes will be introduced to Smalle Creek through translocation from source populations in the Pend Oreille River basin. Artificial rearing of fertilized gametes through use of Remote Site Incubators (RSI) may also be employed if sufficient fish are unavailable for translocation.
8. PROPOSED TOXICANT: Rotenone, liquid and powder. CONCENTRATION: 1-3 ppm
AMOUNT (ROTENONE AT 5% ACT. INGRED): 3-7 gal liquid and 10 lbs powder.
9. METHOD OF APPLICATION: Drip can, backpack sprayer, and rotenone/gelatin/sand mixture.

II. PURPOSE:

Historically widespread and abundant throughout the lower Pend Oreille River Basin, Westslope Cutthroat Trout have experienced significant constriction of range and abundance within the last 100 years. Proposed restoration of the Westslope Cutthroat Trout population in Smalle Creek is consistent with WDFW's goal to "conserve and protect native fish and wildlife". In addition, this work would aid in restoring ecosystem function, provide source stocks of genetically pure cutthroat for the future, and act as a buffer against future petitioning of Westslope Cutthroat Trout under the Endangered Species Act (ESA).

III. INTENDED OUTCOME/MEASURE OF SUCCESS:

WDFW intends to restore Westslope Cutthroat Trout to Smalle Creek. This project has two objectives:

1. Eradicate non-native Eastern Brook Trout from upper Smalle Creek and its tributaries.
2. Re-establish a self-sustaining, healthy population of Westslope Cutthroat Trout in the treated area.

The successful achievement of Objective 1 would be readily apparent following the final rotenone treatment when no fish carcasses are observed in the treatment section. Environmental DNA (eDNA) analysis will also be utilized throughout the Smalle Creek watershed to detect presence of Brook Trout. A reproducing population of WCT, expanding both in population size and spatial distribution, would indicate successful completion of Objective 2. Successful achievement of Objective 2 may take 3+ years.

IV. RESOURCE IMPACTS:

1. The population of the target species, Eastern Brook Trout, will be eradicated.
2. Regional Lands, Habitat, Wildlife and Non-Game managers have been apprised of the proposed Smalle Creek rehabilitation. No unmitigated concerns have been expressed on the potential impacts to non-targeted species.
3. According to Bradbury (1986), the effects of rotenone on benthos are variable, depending on the concentrations and species. Crustaceans are most tolerant while the smaller insects are most affected. Immediate reduction of populations averages 25%, and survival doubles when access to bottom sediments exists. Benthic communities generally recover to at least pretreatment levels within two months. Zooplankton is more severely impacted, and communities generally take two to twelve months to fully recover. While relatively tolerant of even heavy doses of rotenone, amphibians (especially larval) are at risk, and herptiles are affected somewhat less so. Almost no chance of eliminating an entire population exists.
4. Professional biologists and other naturalists have visited these sites frequently over the past 50 years. To our knowledge, no endemic, rare, threatened or otherwise listed species will be

impacted by the rehabilitation. The Smalle Creek treatment area is located within the Dirty Shirt wolf *Canis lupus* pack home range, but wolves are unlikely to occupy the area during treatment due to increased human presence, traffic, and activity in the days surrounding treatment.

V. MITIGATING FOR ADVERSE IMPACTS:

1. Drinking water will be provided to landowners downstream of the project area (who use stream water for drinking) during the period of rotenone presence in the project area. Removal of the majority of dead fish is planned. Dead fish will be buried on USFS property. Additionally, water filtration may be supplied to downstream landowners who obtain drinking water from the stream if collection of fish carcasses is deemed insufficient to alleviate public health concerns related to bacteria from decomposing fish in the stream.
2. Late summer/fall rehabilitation will not interfere with spring nesting of waterfowl or breeding of adult/rearing of juvenile amphibians.
3. Livestock use of the waters to be treated will not be significantly affected. The concentration of rotenone used in the treatment will be far below that considered harmful to mammals or birds. Landowners will be notified of the rehabilitation and consequent exposure of livestock to rotenone.
4. No endemic, rare, threatened or otherwise listed species are known to inhabit this area. The Smalle Creek treatment area is located within the Dirty Shirt wolf pack home range, but wolves are unlikely to occupy the area during treatment due to increased human presence, traffic, and activity in the days surrounding treatment.
5. Appropriate respirators and other personal protective equipment (PPE) will be utilized by staff involved with mixing and distributing liquid and powder rotenone per the American Fisheries Society Rotenone Standard Operating Procedure (SOP) manual.
6. The stream will be posted according to Department of Ecology guidelines to notify the public of the treatment and discourage the public from possessing or consuming dead fish.

VI. RECREATIONAL IMPACT:

Recreational use of the Smalle Creek drainage is limited. Eastern Brook Trout in the treatment area are small in size (4 – 6”) and do not receive significant angling pressure. Following successful Brook Trout eradication, Westslope Cutthroat Trout will provide limited angling opportunity following translocation, but will also be of small size. Hunting, wood gathering, berry picking, and hiking likely occur on or near Smalle Creek, but should not be adversely affected by the treatment.

Angling will be impacted by the change in species, as Westslope Cutthroat Trout will have more restrictive harvest regulations (2 fish per day) than those in place for Eastern Brook Trout (5 fish per day).

VII. ECONOMIC IMPACTS:

Economic impacts will be limited for this project area. Angling pressure is very light in the Smalle Creek treatment section, and contributes little to the local economy. Cost to WDFW to conduct this treatment and reintroduction is estimated at \$291,000, but this project will be funded primarily through contracts with the Kalispel Tribe of Indians (Bonneville Power Administration mitigation funds) and the Pend Oreille Public Utility District #1 (Federal Energy Regulatory Commission mitigation funds).

As noted previously, the re-establishment of Westslope Cutthroat Trout in Smalle Creek is intended to provide some buffer against the listing of the species under the ESA. An ESA listing of Westslope Cutthroat Trout could impact area farming/ranching, logging, and mining operations, which comprise a significant portion of Pend Oreille County's economy.

VIII. RELATED MANAGEMENT ACTION:

See I.C.6. and I.C.7 for fish planting data

Reintroduced Westslope Cutthroat Trout will require periodic monitoring to ensure the health and persistence of the population. Following 3 years of rotenone treatment and subsequent re-establishment of Westslope Cutthroat Trout, annual electrofishing surveys will be conducted to monitor population abundance, spatial distribution, and genetic metrics. Passive Integrated Transponder (PIT) tags may be utilized to identify individual fish, track movement, and to estimate population size through mark/recapture surveys. PIT tag readers may be installed at several locations on Smalle Creek for the aforementioned purposes.

IX. PUBLIC CONTACT:

Public meetings will be held sometime between May and July 2017 in Cusick, and Olympia to explain WDFW's 2017-18 rehabilitation proposals, assess public opinion, and address local concerns.

Initiated by: Region 1, District 1 Fisheries Management