

# **PRE-REHABILITATION PLAN**

## **Cee Cee Ah Creek (Pend Oreille County)**

### **I. PROPOSAL**

#### **A. Justification for Proposed Rehabilitation**

The Washington Department of Fish and Wildlife (WDFW) and Kalispel Natural Resource Department (KNRD) propose to eradicate nonnative fishes in Cee Cee Ah Creek to restore a native fish species assemblage.

The decline and extinction of native populations of cutthroat trout throughout the western United States are often associated with the introduction of nonnative salmonids.

Stocking of nonnative brook trout in Pend Oreille River tributaries began as early as 1933 and continued through 1992, although most stocking of brook trout in those streams ceased by 1982. Competition and displacement by brook trout appear to be the primary impacts to native westslope cutthroat trout populations in Cee Cee Ah Creek and other Pend Oreille River tributaries. Since 1995, KNRD has sampled 274 sites in Pend Oreille River tributaries; westslope cutthroat trout were observed in only 50% of the sites. Of the 137 sites where westslope cutthroat trout were present, 45 (33%) of the sites contained isolated allopatric populations. Mean cutthroat trout density in allopatric sites (mean 14.4 fish/100m<sup>2</sup>) was significantly greater than westslope cutthroat density in sites sympatric with brook trout (mean 4.4 fish/100m<sup>2</sup>,  $P < 0.001$  by  $t$  test).

Because of negative interactions with brook trout, westslope cutthroat trout may have recently been extirpated in a handful of tributary streams to the Pend Oreille River. A survey conducted in 1996 in upper Cee Cee Ah Creek found 1 cutthroat trout and 118 brook trout in six 30 meter snorkeling stations. In seven years of snorkeling to monitor habitat enhancement sites, KNRD observed only 3 cutthroat trout while brook trout numbered 1,767. Finally, in 2002 KNRD crews electrofished upper Cee Cee Ah Creek to obtain cutthroat trout samples for genetic analysis. Despite a comprehensive effort that extended into the headwaters beyond habitat occupied by fish, no cutthroat trout were captured.

The extirpation of westslope cutthroat from Cee Cee Ah creek is likely the result of an expanding brook trout population. In an attempt to reverse the downward trend in westslope cutthroat populations within the Pend Oreille River drainage, the upper 5 miles of Cee Cee Ah Creek was treated with rotenone to eliminate brook trout in 2008 and 2009. An estimated 6700 brook trout were removed from the treatment section of Cee Cee Ah Creek in 2008, and approximately 30 brook trout were removed during the 2009 treatment. An additional treatment is scheduled for fall 2010. Following brook trout eradication, a native westslope cutthroat trout population will be re-established.

#### **B. Physical Description of Water Proposed for Rehabilitation**

1. WATER: **Upper Cee Cee Ah Creek**
2. LOCATION: Sec 1, 11, 12, 14, 15, 21, 22,28 T34N R44E, Pend Oreille Co.
3. REACH LENGTH: 5.15 miles
4. FLOW (cfs):  $\leq 1$ cfs FLOW VELOCITY: .027 m/s mean velocity. Some areas have higher

and lower velocities based on gradient.

5. BARRIERS: Yes – barrier falls will be the bottom of treatment reach. Detoxification will occur at the barrier falls using potassium permanganate.

6. 7. PUBLIC ACCESS: Yes

8. LAND OWNERSHIP: PRIVATE 20% (Commercial timber lands) PUBLIC 80% (U.S. Forest Service)

### **C. Proposed Management Actions**

1. WATER: **Upper Cee Cee Ah Creek**

2. TARGET SPECIES: brook trout

3. DATE LAST REHABED: Never

4. PROPOSED TREATMENT DATE: Stream reach will be treated once or twice in September 2010. Timing, number and duration of treatment(s) will be based on the spatial distribution of brook trout in the treatment reach.

5. REPLANTING DATE: To be determined based on consultation with co-managers.

6. SPECIES: Native westslope cutthroat trout

7. PROPOSED TOXICANT: Rotenone, liquid CONCENTRATION: 0.5 to 1 ppm

AMOUNT (ROTENONE AT 5% ACT. INGRED): approx. 20 gal. – 10 gallons per treatment: Actual amount of rotenone used will be determined prior to project based on flow volume and velocity.

PROPOSED DETOXICANT: Potassium permanganate

AMOUNT: 50 lbs – Actual amount of permanganate used will be prescribed after determination of flow volume, velocity and dbiological organic demand.

8. METHOD OF APPLICATION: drip can, backpack sprayer

9. CREW DESCRIPTION: Leader(s) Chris Donley, Personnel ~ 35

### **II. PURPOSE:**

The Washington Department of Fish and Wildlife and Kalispel Natural Resource Department see a need to eradicate non-native fishes in streams flowing into the Pend Oreille River to restore native fish assemblages. Westslope cutthroat are disappearing in their native range partly because of interspecific competition with non-native brook trout. Removing brook trout from Cee Cee Ah Creek will eliminate a limiting factor to producing a healthy self-sustaining westslope cutthroat trout population.

### **III. INTENDED OUTCOME/MEASURE OF SUCCESS:**

WDFW and KNRD intend to restore a self-sustaining, utilizable population of native westslope cutthroat trout in upper Cee Cee Ah Creek.

### **IV. RESOURCE IMPACTS:**

1. The population of the target species, brook trout, will be severely and negatively impacted. The aforementioned species are an exotic species that is not desired for the fish population under the current management direction.

2. U.S. Forest Service, private commercial timber companies, and the WDFW Regional Lands, Habitat, Wildlife and Non-Game managers have been apprised of our rehabilitation plans. 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. During treatment the stream will be closed to angling, and other recreational uses such as boating, and swimming will be curtailed during the planned period of treatment. There will be no loss of a desired fishery associated with our activities. The native westslope population will be re-established by 2011, but angling for this section of stream will be affected for several years post implementation.

5. 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.

## **V. MITIGATING FOR ADVERSE IMPACTS:**

1. Westslope cutthroat trout recruitment and growth for the proposed water will be greatly enhanced. No removal of dead fish is planned as the nutrient base contained therein is best returned to the stream.

2. 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. The landowners or lessees 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.

5. Protective wear for the eyes, face and hands will be available for all purveyors of rotenone.

6. Stream reach 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:**

Current recreational fishery use for this reach of stream is negligible. The overall loss to recreational angling does not cause enough concern to generate a need for mitigating the loss. There are hundreds of miles of remaining fish bearing streams, and multiple lakes in the area stocked with trout by WDFW, to absorb the loss of five miles of stream reach from the

recreational fishery.

**VII. ECONOMIC IMPACTS:**

None to Negligible economic impacts.

**VIII. RELATED MANAGEMENT ACTION:**

Post treatment 2010 there will be fish presence/absence surveys conducted during field season 2010 to determine the efficacy of the treatment. If no brook trout are found the project will move on to reintroduction of westslope cutthroat trout. If there are brook trout remaining, the stream will be treated with rotenone in Fall 2011.

Post treatment(s), WDFW and KNRD will determine the stock and stocking density of westslope cutthroat trout that is appropriate to reestablish the fish population in upper Cee Cee Ah Creek. Westslope cutthroat trout will be reintroduced by Spring 2011 at the latest.

**IX. PUBLIC CONTACT:**

Public meetings will be held during July 2010 in Usk, Ephrata and Olympia to explain WDFW's 2010-11 rehabilitation proposals, assess public opinion, and address local concerns.

**Initiated by: Region One, District 1 Fisheries Management**