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SUPPLEMENT MANAGEMENT STATEMENT FOR WESTSLOPE CUTTHROAT TROUT IN THE SWAN DRAINAGE

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INTRODUCTION

This supplement describes the fisheries management strategy that will be used in the Swan drainage in northwest Montana. It is part of a five-year management plan for the entire drainage that is being prepared by the Fisheries Division of the Montana Department of Fish, Wildlife and Parks. This supplement is necessary to describe work that is already in progress in the Swan. The Flathead National Forest is cooperating in this effort by providing funding and personnel for work on selected streams within their ownership.

BACKGROUND

Westslope cutthroat trout and bull trout are the trout species native to the Swan drainage. Cutthroat trout have declined to a very low level believed to have resulted from a combination of several factors. These impacts to the fishery include: 1) logging and forest road construction; 2) human development of the Swan Valley; 3) construction of Bigfork Dam; and 4) introduction of non-native species.

Logging and associated road construction expanded in the early 1950's penetrating all major tributaries of the drainage. Changes in sediment transport, water yield, and stream channel characteristics have cumulatively impacted trout spawning and rearing habitat.

Increased human development has also altered fish habitat and numbers through improved access, road construction, and agricultural and residential development.

Bigfork Dam was constructed on the Swan River in 1902 and a poorly designed fishway made it a major obstacle for spawning fish migrating from Flathead Lake. The fish ladder was ugraded in 1962, but subsequent fish use has been limited because of design flaws and the length of time required to render the ladder operative. Consequently, the fisheries within the Swan can be considered isolated from the remainder of the Flathead drainage.

Introduction of non-native species has been very detrimental to indigenous populations of westslope cutthroat trout. Brook trout, rainbow trout, Yellowstone cutthroat, kokanee, and northern pike are now present in the drainage. Rainbow and brook trout were first planted in the drainage in the mid-1920's and have expanded their range to many tributaries. Kokanee were planted in Lindbergh and Holland lakes from the late 1940's until present, and northern pike were illegally introduced sometime in the 1970's.

The major influence of non-native trout introductions appears to be the displacement of westslope cutthroat by brook trout in the lower gradient reaches of tributary streams and the Swan River. Hatching earlier in the spring than cutthroat gives brook trout an early size advantage over cutthroat. With this advantage, they select preferred habitat and basically dominate and outcompete cutthroat trout. Brook trout also are more prolific spawners than cutthroat, being able to adapt to lower quality conditions than cutthroat. Rainbow trout have similarly occupied cutthroat trout habitat and have been known to hybridize

with cutthroat trout. We believe that these factors are the reasons for the decline of westslope cutthroat in the Swan drainage.

GOALS AND STRATEGIES

The goal of fisheries management for the Swan drainage is to produce a high quality, wild trout fishery. The bull trout population is in good condition and is being monitored to ensure existing or elevated numbers. Our present emphasis will be on westslope cutthroat trout. To reach this goal, we plan to re-establish migratory cutthroat populations in selected tributaries to help rebuild the population in the Swan. This strategy will consist of removing brook trout in selected tributaries and making imprint plants of genetically pure westslope cutthroat trout. To prevent migration of brook trout back into tributaries, barriers will be installed to block their passage during fall spawning movements. This project is experimental and will include evaluation for presence of juveniles and the later return of adult spawning fish. At that time we will evaluate for potential future management strategies in other streams.

Stream Selection

Available inventory and population data was reviewed to determine which streams had the best potential for re-establishment of migratory westslope cutthroat trout. Streams with bull trout populations were eliminated from consideration first, followed by those with high trout densities so as not to jeopardize native populations or above average fisheries. This would include streams containing above average numbers of brook trout. From the remaining streams, habitat was reviewed as well as the presence of resident cutthroat in the upper reaches that will act to "seed" downstream sections following brook trout removal.

Soup, Wyman, and Hall creeks appear to be the best candidate streams for westslope cutthroat re-establishment in the Swan. Wyman Creek is small with mixed national forest and private ownership. It is nearly undisturbed and is in close proximity to Swan Lake, allowing easy access to returning spawning fish. The habitat is of good quality and landowner permission has been obtained.

Soup Creek is a larger drainage falling almost entirely on State Forest land. There is evidence from local people and inventory data that migratory cutthroat once used the Soup Creek drainage. Spawning and rearing habitat is very high quality, and the migration corridor from the lake system is relatively short. Resident cutthroat are also found in the upper, high gradient reaches that will again act to seed downstream areas when brook trout are removed.

Hall Creek is a relatively small drainage located on the Flathead National Forest with private ownership near its mouth. This drainage also contains excellent habitat and drains directly into Swan Lake providing a good passage corridor.

Methods

The following sequential methods will be employed on the project:

1. Conduct public meetings on projects and submit appropriate news releases.
2. Secure necessary permits for structure placements and chemical rehabilitation.
3. Inventory streams for fish distribution and barrier sites.
4. Construct and place barriers to brook trout.
5. Chemically rehabilitate streams with Rotenone and detoxify downstream sections where necessary.
6. Restock streams with pure strain westslope cutthroat from hatchery source.
7. Make egg plants the following spring of pure strain westslope cutthroat.
8. Evaluate success of re-introduction.

Work Schedule

Projects have already begun on Wyman and Soup creeks, and physical work will be completed by fall 1988. Hall Creek work will be conducted in 1989. Below is an itinerary for completed and scheduled work.

1988

March-April

1. Conduct public meetings on Swan Fisheries Management Plan in Condon, Swan Lake, and Kalispell.

May

1. Continue negotiation with PP&L for Bigfork fish ladder renovation.
2. Inventory tributaries (Soup, Wyman, Hall).
3. Meet with Swan River State Forest personnel and discuss plan.
4. Meet with Soup Creek landowner on project.
5. Gain landowner approval for Wyman project.

June

1. Clear outlet channel in Wyman Lake of debris for lowering the lake level and flushing the stream channel.
2. Negotiate with PP&L on Bigfork fish ladder improvements.
3. Locate barrier sites--Soup, Wyman creeks.
4. Determine Rotenone needs for stream chemical rehabilitation.
5. Place order to State hatcheries for fish plants.
6. Inventory Wyman Lake for loon nesting with Lynn Kelly; survey was negative--no loons nesting at Wyman Lake.
7. Lower Wyman Lake level gradually by outlet clearing.
8. Apply to Water Quality Bureau for Rotenone permits and discuss signing of Soup Creek campground during rehabilitation project.

July

1. Write PER for Rotenone use in Soup and Wyman.

2. Design and construct barriers.
3. Determine highest upstream distribution of brook trout in Soup Creek and locate Rotenone stations.
4. Order Rotenone and $KMnO_4$ (for detoxification).
5. Finish draining Wyman Lake.

August

1. Install barriers for brook trout in Wyman and Soup creeks.
2. Shock and transplant brook trout from streams to suitable pond or lake.
3. Secure Rotenone, $KMnO_4$, and permits.
4. News release of rehabilitation timing.
5. Rehabilitate Wyman Creek--3 tributaries week of August 15; 5 gallons Rotenone.
6. Rehabilitate Soup Creek and inlet tributaries and ponds and detoxify; 5 gallons Rotenone; 40 pounds $KMnO_4$.

September

1. Restock Wyman Creek with 5,000 Wct 2 weeks after treatment.
2. Restock Soup Creek with 50,000 Wct 2 weeks after treatment.