

PRE-REHABILITATION PLAN

West Medical Lake (Spokane County)

I. PROPOSAL

A. Justification for Proposed Rehabilitation

West Medical Lake has historically been one of the most popular lowland lake opening day (fourth Saturday in April) trout fisheries in Washington State. During peak productivity of this fishery as much as 30 percent of the harvest for District 2 opening day waters can occur on this lake.

Illegal introductions of undesirable fish species have plagued trout production on this lake over the last several decades. Most recently the unwanted expansion of Goldfish have compromised the trout fishery in this lake to the point that catch rates and angler use are substandard, and it is no longer economically viable to support with fry plants. Through the use of rotenone and physical removal, it is anticipated that rehabilitating this lake will restore this productive and popular trout fishery.

B. Physical Description of Water Proposed for Rehabilitation

1. WATER: West Medical Lake

2. LOCATION: Sec 11,12,13,14 and 24, T24 N, R40E, one mile west of Medical Lake, Spokane County
3. SURFACE ACRES: 223 MAXIMUM DEPTH: 35 feet
4. VOLUME: 5,042 acre-feet; 13,701,468,246 lbs H₂O
5. OUTLET: Intermittent, dry at the time of treatment
6. STREAM: NO
7. PUBLIC ACCESS: Yes
8. LAND OWNERSHIP: PUBLIC 100% (WDFW, DNR, Eastern State Hospital, Washington State Veterans Cemetery)
9. ESTABLISHED RESORTS: One, West Medical Lake Resort, resort access is leased from the State of Washington, DNR.

C. Proposed Management Actions

1. WATER: West Medical Lake

2. TARGET SPECIES: Goldfish, unconfirmed Tench and Pumpkinseed Sunfish
3. DATE LAST REHABED: October 2009
4. PROPOSED TREATMENT DATE: October-November, 2018
5. REPLANTING DATE: Spring 2019
6. SPECIES: Rainbow Trout, Brown Trout
7. CATCHABLES: 20,000-30,000 RB, 5,000-7,000 BT, FINGERLINGS: 100,000-140,000 RB, BROOD: 300-400 BT
8. PROPOSED TOXICANT: Rotenone, powder and liquid CONCENTRATION: 3.3 ppm
AMOUNT (ROTENONE AT 5% ACT. INGRED): 41,000 lbs., 140 gal
9. METHOD OF APPLICATION: pumper boat slurry and airboat spray
10. CREW DESCRIPTION: Leader(s) Randall Osborne, Personnel ~ 15

II. PURPOSE:

The Washington Department of Fish and Wildlife (WDFW) provides many types of fisheries in response to public desires. WDFW manages both trout and warmwater recreational fisheries using multiple species of fish, providing diverse recreational angling opportunity. Public demand for, and participation in, production trout fisheries is high. These fisheries are prized as opportunities for families to recreate together, as well as providing an appropriate challenge for occasional or novice anglers. Lowland Lakes Opening Day trout fisheries provide a relaxed recreational opportunity, giving anglers outdoor opportunity during the spring, summer, and fall months, and are also integral to state and local economies.

Alternatives to rehabilitation are costly or impractical. To maintain a fishery comparable to the current fingerling-stocked trout fishery in this water with catchable-sized fish would require 60,000 to 112,000 catchable rainbow trout. Stocking catchable sized fish costs almost ten times the cost of a fry plant, and Region 1 lacks the hatchery space and water to institute a catchable fish-stocking program as a substitute for lake rehabilitation. Regardless of fish size at stocking, interspecific competition with undesirable fish limits fish growth and condition, and trout survival can be compromised. Ultimately, in the face of competition with undesirable fish, reduced trout recruitment and fish quality lead to an undesirable trout fishery.

III. INTENDED OUTCOME/MEASURE OF SUCCESS:

WDFW intends to restore West Medical Lake to a popular, easily accessible trout fishery based primarily on fingerling-stocked trout. The average catch rates should be 3 to 5 fish/angler on the opener with a sustained harvest of 2 to 3 fish/angler for the duration of the season. Spring fry should be a minimum of 11 inches, and carryover harvest should be 5 to 10 percent of the overall harvest. Success will be measured during Opening Day and random creel contacts and biological surveys. Given a reasonable chance of reducing the populations of undesirable species dramatically, the beneficial effects should last approximately 7 to 8 years under current management schemes. In addition to reasons listed under Resource, Recreational and Economic Impacts, to abandon this lake as a trout fishery is to invite other incursions across the state in trout only managed lakes.

IV. RESOURCE IMPACTS:

1. The population of the target species Goldfish, and possibly tench, pumpkinseed sunfish will be severely and negatively impacted. The aforementioned species are exotic species that are not desired for a fishery under the current lake management plan.
2. Regional Lands, Habitat, Wildlife and Non-Game managers have been appraised 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 lake 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 fishery associated with our activities. West Medical Lake will be stocked to provide a fishery with catchable sized Rainbow Trout and Brown Trout in the spring of 2019 prior to the Lowland Lakes Opening Day.

5. Professional biologists and other naturalists have visited these sites frequently over the past 40 years. To our knowledge, no endemic, rare, threatened or otherwise listed species will be adversely impacted by the rehabilitation.

V. MITIGATING FOR ADVERSE IMPACTS:

1. Trout fry survival and growth for the proposed water will be greatly enhanced, and the future trout fishery will attain the previous status. No removal of dead fish is planned as the nutrient base contained therein is best returned to the lake.

2. Fall rehabilitation will not interfere with waterfowl spring nesting. The eradication of the undesirable fishes will also benefit waterfowl through increased production of invertebrates. Stocked populations of trout will not be anywhere near as numerous as the current undesirable fish population.

3. Fall rehabilitation will not interfere with bald eagle spring nesting. Besides bald eagles, no Washington State Endangered, Threatened, or Sensitive species are known to inhabit this area.

4. Livestock use of the water 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 will be notified of the rehabilitation and consequent exposure of livestock to rotenone.

5. Required personal protective equipment (PPE) will be worn by all staff participating in the rotenone treatment.

6. The lake 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:

See Section III.

Angler success should reach 3-5 fish/angler on the opener and 2-3 fish/angler sustained harvest for the duration of the season. Yearling trout should average about 11 inches. Carryovers should

be expected to be about 5 to 10 percent of the catch and average 13 inches for 2-year-olds and 16 inches for 3-year-olds.

VII. ECONOMIC IMPACTS:

An estimated minimum of 35,000 trips are made to West Medical Lake annually as a result of current fish management. This results in an increased economic impact totaling \$1.09 million per year (2011 dollars; based on the U.S. Fish and Wildlife Service 2011 National Survey of Fishing, Hunting, and Wildlife-associated Recreation estimate of \$31 per trip). If the project is successful for 8 years, it will generate a minimum of \$8.72 million in economic activity. The total annual cost to plant this lake with trout fry is less than \$7,000. The rehabilitation will cost the Department about \$150,000 (including costs of rotenone, time, travel, etc.). The investment by the state will be realized after the first year following treatment.

Estimates for the cost of the enforcement action necessary to curtail the activity of the individuals responsible for illegal fish plants are not available. However, this cost might be looked upon as a statewide expenditure since some preventive benefit would certainly occur as perpetrators find out the Department takes illegal transport and planting of fish seriously.

VIII. RELATED MANAGEMENT ACTION:

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

Increased penalties and enforcement activities are desirable if WDFW is going to dissuade illegal stocking of state managed waters. Educating the public about the costs in Department dollars and time with emphasis on what WDFW might be able to accomplish with those resources would be a very worthwhile activity for O & E. This may result in stemming recruitment to this ill-advised group and turning local opinion against the offenders.

IX. PUBLIC CONTACT:

Public meetings will be held during May 2018 in Spokane, Colville and Olympia to explain WDFW's 2018 rehabilitation proposals, assess public opinion, and address local concerns.

X. REFERENCES

Bradbury, A. 1986. Rotenone and trout stocking. Washington Department of Game, Fisheries Management Division. Fisheries Management Report 86-2.

Initiated by: Region One, District 2 Fisheries Management