

## **PRE-REHABILITATION PLAN**

### **Chopaka Lake**

#### **I. PROPOSAL**

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

- (1-2) Chopaka Lake has been one of the premier fly-fishing trout waters in the state of Washington for many years. Illegal introductions of smallmouth bass back in the 1980's seemed to show no ill effects on the trout fishery, but in recent years, the bass population has increased to the point where trout survival has been compromised. Fingerling trout plants have produced very few yearling fish the following spring and the trout population structure has been skewed to reveal just a few large individual fish inhabiting the lake. In addition, late spring sampling of smallmouth bass indicated that much of the stomach contents of the bass contained remnants of the smaller-size rainbow plants. Planting larger rainbow trout could prolong the fishery, but are much more expensive to produce at the hatcheries and could be used at other less productive waters instead. Whereas this might be an attractive alternative, it does not solve the problem of an increasing bass population and subsequent future effects on the fishery. In order to provide a quality fishing experience for the type of angler that fishes Chopaka, a trout only concept must be used. The fact that bass are caught on a regular basis by anglers diminishes the aesthetics and has contributed to a severe decline in angler use of the lake. Treatment of the lake is needed to restore the quality fishery that once existed.
- (3) Primary management of these waters is for trout only.
- (4) Chopaka Lake was proposed for treatment in October 1986 for removal of invasive species, but was not done at that time.

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

- WATER: Chopaka Lake
- LOCATION: Sec 4, T39N, R25E, and Sec 33, T40N, R25E, Okanogan Co.
- SURFACE ACRES: 149
- MAX. DEPTH: 79
- VOLUME: 6,556 acre-feet
- OUTLET: Chopaka Creek (intermittent)
- STREAM: MILES N/A FLOW (cfs)
- PUBLIC ACCESS: Bureau of Land Management, Department of Natural Resources
- LAND OWNERSHIP: Public 80% Private 20%;
- ESTABLISHED RESORTS: None

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

- WATER: Chopaka Lake
- TARGET SPECIES: Smallmouth Bass
- DATE LAST REHABED: Never Rehabilitated
- PROPOSED TREATMENT DATE: Sept 2007
- REPLANTING DATE: Late-spring 2008
- SPECIES: Rainbow trout
- STOCKING: 5,000 catchables (12") and 8,000 fingerlings (4")
- PROPOSED TOXICANT: Rotenone, powder and liquid
- CONCENTRATION: 1 ppm
- AMOUNT (ROTENONE AT 5% ACT. INGRED): 17,719 lbs, 30 gal liquid

- METHOD OF APPLICATION: pumper boats - slurry and spray; ATV with sprayer; small boat with small sprayer, backpack sprayers
- CREW DESCRIPTION: Leader Robert Jateff, Personnel 10-12

## II. PURPOSE:

- Chopaka Lake has been managed as quality trout water since the 1970's. Complete rehabilitation is the only feasible method of restoring these waters to the trout only management scheme. Complete removal of all competing species is the goal of the rehabilitation.

## III. INTENDED OUTCOME/MEASURE OF SUCCESS:

- We intend to restore Chopaka Lake to its historic trout fishery, and improve its popularity by maintaining quality trout throughout the duration of the season. Success of this measure will be apparent during annual creel surveys and population sampling. Given a reasonable chance of eliminating the populations of undesirable species, the beneficial effects should be noticeable one-two years post treatment.

## IV. RESOURCE IMPACTS:

- Target species: smallmouth bass
- District and Regional Habitat, Wildlife and Non-Game biologists have been appraised of our rehabilitation plans. Net sampling was conducted in 2006 to determine if any state listed aquatic species existed within the lake (none were found). No objections were raised, and only cautionary concerns were expressed on the potential impacts to non-targeted species.
- 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 the population average 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.
- Participation in the trout fisheries should exceed that currently found for existing fisheries. The water in the lake is used for both stock watering and recreation. Dead fish along the shoreline will not be a public nuisance since the lake will be closed to fishing and there are no shoreline residents.
- Observations by local WDFW habitat and wildlife biologists indicate presence of waterfowl that are partially dependent upon fish as a food source. Restocking of the lake post-rehab with sufficient fingerlings should provide an uninterrupted food source for the fish eating birds.

## V. MITIGATING FOR ADVERSE IMPACTS:

- Trout survival and growth will be greatly enhanced. No removal of dead fish is planned as the nutrient base contained therein is best returned to the lake. Disturbance of waterfowl during treatment or by the anticipated fishery will be offset by increased food availability as the uncontrollable numbers of spiny-rayed fishes are eliminated in favor of easily balanced populations of trout.
- Water will be confined to the lake proper, and treatment will be conducted in the fall when the lake is at its lowest level.
- Protective gear for the eyes, face, hands and clothes will be supplied on-site for all purveyors of rotenone.
- 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. The landowners will be notified of the rehabilitation and consequent exposure of livestock to rotenone.

## VI. RECREATIONAL IMPACT: also see I.A., II and III

- Recreational angling opportunity will be increased if the undesirable species are removed from Chopaka Lake. The level of participation will dwindle to almost nothing if no action is taken immediately. Given the success of the planned management action, as many as 1,000-2,000 fishing days are estimated for the season. Anglers should average 5-6 fish per day within the 14"-20" range. Yearling trout should average about 12"-14", two year old fish 14"-16", and three to four year old fish 16"-20".

## VII. ECONOMIC IMPACTS:

- Rehabilitation would restore the fishery and associated economic activity. An estimated 1,000-2,000 angler trips will be made to Chopaka Lake as a result of the proposed management action, with an economic impact ranging from \$132,000 to \$264,000 per year (2004 dollars; based on WDW estimate of \$132 per trip). Fingerling plants will cost the agency \$1,120, and can be easily accomplished under current hatchery programs.
- The cost of treatment will be approximately \$30,000, but the increase in license sales and subsequent boost to the local economy will more than offset that loss within two-to-three years after treatment.

## VIII. RELATED MANAGEMENT ACTION:

- Approximately 5,000 catchable (12") rainbow trout will be stocked in the early spring to provide immediate fishing opportunity with a follow up of 8,000 fingerling (4") rainbow trout in late spring. After the first year, subsequent fish plants will consist of fingerling trout only. Creel checks will be done annually on Chopaka Lake, as well as monitoring for invasive species. Aggressive techniques will be employed when competing species are first noticed, to help in controlling the population and to reduce the possibility of any future rehab.

## IX. PUBLIC CONTACT:

Public concern over the increasing numbers of lakes in Okanogan County with undesirable species infestations prompted this action.

Public meetings were held during July 2007 in Ephrata, Spokane, Prosser, and Olympia to explain DFW's 2007-08 rehabilitation proposals, assess public opinion, and address local concerns. The announcement was provided statewide and to area papers and radio stations and mailed to landowners and residents near the lakes.

The public meeting in Ephrata was held at 7 p.m. on July 11 at the WDFW Northcentral Region Office. Four people attended, including a representative of the WA Dept of Ecology. Most questions concerned the rehabilitation program in general. The public participants were primarily interested in the Chopaka and Sprague lake treatments, and all were in favor.

The public meeting in Spokane was held at 6 p.m. on July 12 at the WDFW Eastern Region Office. Twenty-five people attended, most to discuss the Sprague Lake proposal, and the overall meeting tone was positive. No questions concerning Chopaka Lake arose.

The public meeting in Prosser was held at 7 p.m. July 12 at the Benton Rural Electric Association building. Two people attended. The public participants were primarily interested in the Byron and Sprague lake treatments, and all were in favor. No questions concerning Chopaka Lake arose.

The public meeting in Olympia was held at 7 pm on July 10, 2007 at the Dept of Natural Resources Building. No one from the public attended.

With approximately 50% of the lake's users living outside Okanogan County, actual percentages pro and con are difficult to obtain. Public support may be best judged by the number of participants in the fishery (vis a vis Recreational Impacts).

Comments on the SEPA for rehabilitations statewide will also be accepted during the month of August. The SEPA can be found on WDFW or WA Dept of Ecology's web sites, or at County offices (usually Planning Commission). Additional comments may be sent directly to WDFW via mail or e-mail.

Initiated by: Region Two Fisheries Management