PRE-REHABILITATION PLAN

Blue Lake (Limebelt Region)

I. PROPOSAL

A. Justification for Proposed Rehabilitation

- (1-2) Blue Lake is an important trout fishery, which provides local residents an opportunity to fish a small body of water in a pristine setting. Recent illegal introductions of brown bullhead catfish and largemouth bass have seriously compromised the trout fishing through competition and predation. Angler usage at the lake has dropped off considerably as well prompting a recent WDFW net sampling survey, which indicated poor trout condition and an increasing spiny ray population. Treatment is needed at this time to restore the lake back to trout only water.

- (3) Primary management of these waters is for trout only.

- (4) Blue Lake has never been proposed for rehabilitation

B. Physical Description of Water Proposed for Rehabilitation

- WATER: Blue Lake (Limebelt Region)
- LOCATION: Sec 6, T35N, R26E, Okanogan Co.
- SURFACE ACRES: 16
- MAX. DEPTH: 25
- VOLUME: 240 acre-feet
- OUTLET: NONE
- STREAM: MILES N/A FLOW (cfs)
- PUBLIC ACCESS: WDFW Public Fishing Access Area
- LAND OWNERSHIP: Public 20% Private 80%;
- ESTABLISHED RESORTS: None

C. Proposed Management Actions

- WATER: Blue Lake (Limebelt Region)
- TARGET SPECIES: Brown Bullhead Catfish, Largemouth Bass
- DATE LAST REHABED: Never Rehabilitated
- PROPOSED TREATMENT DATE: Sept/Oct 2007
- REPLANTING DATE: Fall 2008
- SPECIES: Cutthroat/Eastern Brook/Tiger Trout
- STOCKING: 3,000 fingerling CT (3")/sub-yearling EBT and/or Tiger Trout
- PROPOSED TOXICANT: Rotenone, powder and liquid
- CONCENTRATION: 3 ppm
- AMOUNT (ROTENONE AT 5% ACT. INGRED): 1,946 lbs, 10 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 4-6

II. PURPOSE:

- Blue Lake has been managed as trout waters 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 Blue 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: brown bullhead catfish and largemouth bass

- District and Regional Habitat, Wildlife and Non-Game biologists have been appraised of our rehabilitation plans. Sampling was conducted in summer 2007 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 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 residents along shoreline.

- 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 Blue 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 500 fishing days are estimated for the season. Anglers should average 5-6 fish per day within the 11”-13” range.

VII. ECONOMIC IMPACTS:

- Rehabilitation would restore the fishery and associated economic activity. An estimated 500 angler trips will be made to Blue Lake as a result of the proposed management action, with an economic impact of $66,000 per year (2004 dollars; based on WDW estimate of $132 per trip). Fingerling and sub-yearling plants will cost the agency $500, and can be easily accomplished under current hatchery programs.

- The cost of treatment will be approximately $5,000, but the increase in license sales and subsequent boost to the local economy will more than offset that loss within two-three years after treatment.

VIII. RELATED MANAGEMENT ACTION:

- Approximately 3,000 fingerling cutthroat trout (3”) and 500 sub-yearling (6”) eastern brook or tiger trout will be planted in fall 2008. After the first year, subsequent fish plants will consist of fingerling trout only. Creel checks will be done annually on Blue 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.

- A public meeting will be held in Ephrata on Wednesday, July 11th at the WDFW Regional Office. Letters have been written to each individual landowner describing treatment proposal.

Initiated by: Region Two Fisheries Management