PRE-REHABILITATION PLAN

Big Buck (Shaw) Lake

I. PROPOSAL

A. Justification for Proposed Rehabilitation

- (1-2) Big Buck (Shaw) Lake is located on the Methow Wildlife Area near Winthrop and is a very popular lake with locals who take advantage of the excellent growth rate for planted trout. In recent years, largemouth bass were illegally introduced and have since overpopulated the lake producing very poor trout fishing. In addition, largemouth bass could during high flow years filter down into the Twisp River and interact with ESA-listed species. Lake treatment is necessary to restore the lake to trout only waters and to remove non-native species from the system.

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

- (4) Big Buck (Shaw) was successfully treated in 1977 to remove brown bullheads.

B. Physical Description of Water Proposed for Rehabilitation

- WATER: Big Buck (Shaw) Lake
- LOCATION: Sec 2 and 35, T33N, R21E, Okanogan Co.
- SURFACE ACRES: 20
- MAX. DEPTH: 26
- VOLUME: 200 acre-feet
- OUTLET: Intermittent
- STREAM: MILES N/A FLOW (cfs)
- PUBLIC ACCESS: Department of Fish and Wildlife
- LAND OWNERSHIP: Public 100%
- ESTABLISHED RESORTS: None

C. Proposed Management Actions

- WATER: Big Buck (Shaw) Lake
- TARGET SPECIES: Largemouth Bass
- DATE LAST REHABED: 1977
- PROPOSED TREATMENT DATE: Oct 2008
- REPLANTING DATE: Late-spring 2009
- SPECIES: Rainbow Trout
- STOCKING: 1,000 catchable (10”) rainbow trout, 500 fingerlings (3”-4”)
- PROPOSED TOXICANT: Rotenone, powder and liquid
- CONCENTRATION: 1 ppm
- AMOUNT (ROTENONE AT 5% ACT. INGRED): 540 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 4-5

II. PURPOSE:

- Big Buck (Shaw) Lake has been managed as a catchable trout fishery the last 10-15 years. Complete rehabilitation is necessary to restore the trout fishery and to prevent non- native species from filtering into the Twisp River during periods of high flow. Removal of all competing species is the goal of the rehabilitation.

III. INTENDED OUTCOME/MEASURE OF SUCCESS:

- We intend to restore Big Buck (Shaw) Lake to its historic trout fishery, and improve its popularity by maintaining good 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: largemouth bass

- District and Regional Habitat, Wildlife and Non-Game biologists have been appraised of our rehabilitation plans and there were no immediate concerns.

- 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 recreation. Dead fish along the shoreline will not be a public nuisance since the lake will be closed to fishing.

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 Big Buck (Shaw) 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 200 fishing days are estimated for the season. Anglers should average 2-3 fish per day within the 11"-12" range, with carryover fish to 15 inches.

VII. ECONOMIC IMPACTS:

- Rehabilitation would restore the fishery and associated economic activity. An estimated 200 angler trips will be made to Big Buck (Shaw) Lake as a result of the proposed management action, with an economic impact of $26,400 per year (2004 dollars; based on WDW estimate of $132 per trip). Catchable plants will cost the agency $1,400, and can be easily accomplished under current hatchery programs.

- The cost of treatment will be approximately $2,000, 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 1,000 rainbow trout will be stocked in the spring at 10 inches in length. In addition, fingerling rainbow plants will be tested to see if over wintering capability does exist within the lake. Creel checks will be done annually on Big Buck (Shaw) 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 number of lakes in Okanogan County with undesirable species infestations prompted this action.

- A public meeting was held in Ephrata on Tuesday, July 15th at 7pm at the WDFW Regional Office. Letters have also been written to each individual landowner.

Initiated by: Region Two Fisheries Management