PRE-REHABILITATION PLAN

Byron Ponds Management Unit
Sunnyside Wildlife Area

I. PROPOSAL

A. Justification for Proposed Rehabilitation

Ponds within the proposed treatment area (TA) were treated with rotenone in 1986 to remove undesirable fish species including carp and provide a better aquatic environment for waterfowl production. Breeding duck use increased dramatically post-treatment. Numbers of duck broods peaked at very high levels in the late 1980s and declined annually to pre-treatment (very low) numbers by the late 1990s. Carp were observed in most ponds in the TA by the late-1980s. The dominance of carp is the likely cause of the dramatic decline in observed duck use.

B. Physical Description of Water Proposed for Rehabilitation

l. WATER: Byron Pond, an irregular-shaped, connected pond system, fed by springs and underground irrigation drains.
2. LOCATION: Sections 9,10,11,12, T8N, R23E; Yakima County
3. SURFACE ACRES: 83.72 MAXIMUM DEPTH: 4 feet
4. VOLUME: 47,935,940 gal H2O (147.11 acre-feet)
5. OUTLET: Water leaves the wildlife area, travels through two private ownerships before falling over a basalt cliff into the Yakima River.
6. STREAM: Unnamed drainage ditch, about 3 miles in length. FLOW: 0.5 to 0.8 cfs, based on 3 readings in May/June 2007. Flow can reach 1.0 cfs in winter.
7. PUBLIC ACCESS: 98% of the TA is public land. Of that, about 50% is open for public recreation. The other 50% is the Byron Reserve where public access is allowed, but restricted to certain activities.
8. LAND OWNERSHIP: PUBLIC 98% PRIVATE 2 % Parts of both the incoming and outgoing canals are on private lands.
9. ESTABLISHED RESORTS: None

C. Proposed Management Actions

1. WATER: A single, continuous pond, the incoming canal and outgoing canal, all the way to the water control structure where **outflow will be stopped** during treatment.
2. TARGET SPECIES: carp
3. DATE LAST REHABED: 1986
4. PROPOSED TREATMENT DATE: February-March 2008
5. REPLANTING DATE: to be determined
6. SPECIES: possible restock with bass and bluegill
7. CATCHABLES: N/A ; FINGERLINGS: N/A
8. PROPOSED TOXICANT: Rotenone, liquid CONCENTRATION: 4 ppm
   AMOUNT (ROTENONE AT 5% ACT. INGRED): 196 gal.
9. METHOD OF APPLICATION: helicopter and ground spray
10. CREW DESCRIPTION: Leader(s) Rocky Ross; Personnel ~ 6

II. PURPOSE:

Rehabilitation of the TA serves the purposes of fisheries and waterfowl. Removal of carp will increase invertebrate production and enhance food availability for desired ducks, fish species, and other species of aquatic wildlife.

III. INTENDED OUTCOME/MEASURE OF SUCCESS:

Waterfowl surveys will be conducted in July (duck brood count), August (molting ducks), and Oct.-Jan. (monthly aerial surveys for migrant/wintering waterfowl). Random creel surveys and biological sampling, as well as public comment, will be the measure of success for fisheries, if established. The complete elimination of carp from a system of this type is a challenge, but a planned drawdown, plus burning of emergent vegetation should expose all water surfaces for a complete treatment. Without a complete kill, 5 - 6 years of benefit would still be realized before rehabilitation is again necessary.

IV. RESOURCE IMPACTS:

1. The intent is that populations of the target species, (carp) will be severely and negatively impacted.

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 larvae) are at risk, and turtles are affected somewhat less so.

2. District and Regional Fisheries, Habitat, and Wildlife biologists support the proposed rehabilitation plan.

3. The fishery has already been lost, but could be re-established again soon after treatment. Creating a successful fishery risks increased human use of the area and the associated impacts to habitat and wildlife. Public access can be structured to minimize disturbance to waterfowl while nesting/rearing. These waters are not a source of potable water for humans or livestock. The area will be closed to angling, and other recreational uses such as wildlife viewing during the planned period of treatment. Landowners will be notified, and letters of concurrence will be obtained from all water rights holders .

4. Professional biologists and other naturalists have visited this site frequently over the past 40 years. The WDFW Habitat and Wildlife Programs and PHS maps have been consulted. The TA is used heavily by waterfowl when carp populations are low or absent. The proposed treatment would increase use by desirable wildlife species. No wildlife uses will be impacted in a negative way by the proposed rotenone treatment.

V. MITIGATING FOR ADVERSE IMPACTS:

1. Human disturbance resulting from the improved fishery will be managed by limiting access during critical nesting/brood rearing seasons. This is already a walk-in site. Rehabilitation will be completed before the nesting season begins. The diverse habitat in the TA is home to much and varied wildlife, all of which would benefit from the increased aquatic food production after carp removal No removal of dead fish is planned as the nutrient base contained therein is best returned to the lake.

2. No "downstream" resources will be impacted. Water within the TA will be first drawn down to minimum levels, then the flow will be stopped by a planned, improved water control structure on the east end of the project. Water will be retained in the TA until all traces of rotenone are gone.

3. No endemic, rare, threatened or otherwise listed species known to inhabit this area will be adversely affected by the proposed treatment.

4. Protective wear for the eyes, face and hands will be required for all purveyors of rotenone.

5. Ponds 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:

The increased number of ducks produced in the waters to be treated will be available to hunters.

Almost no fishery currently exists, so angling opportunity could be greatly enhanced. Hard data are not available to accurately judge CPUE on these waters because a shortage of manpower prohibits surveying all the area year around lakes and ponds on a regular basis. Angling pressure in the TA is has been "low key" and consistent in the past, rather than intense and concentrated temporarily as on opening day waters. Recreational opportunity will be increased.

VII. ECONOMIC IMPACTS:

The number of waterfowl hunting trips would be expected to increase, but an estimate of the magnitude of the increase would be difficult to predict. Given the discussion in part VI, and due to the as yet undetermined nature of the fishery, the expected economic value is also difficult to estimate. However, as recreational opportunity increases, economic values in the local area increase. Even a minimal fishery could be expected to generate several hundred additional angling trips, resulting in an increased economic impact totaling $7-8,000 per year to the state's economy (1991 dollars; based on WDFW's

estimate of $37.90 per trip). Rehabilitation would bring back the fishery and associated economic activity.

VIII. RELATED MANAGEMENT ACTION:

Assessment surveys for waterfowl production and other wildlife would follow treatment, and will be compared with historical data. If a fishery is deemed desirable and a good fit with waterfowl objectives, broodstock to re-populate these waters would likely be captured from other systems.

IX. PUBLIC CONTACT:

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. An announcement will be provided statewide and to area papers and radio stations and hand delivered or mailed to landowners and residents near the lakes. The project will also be discussed with the District 4 Team and the Citizen Advisory Group for the Sunnyside Wildlife Area

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. No questions concerning the Byron Ponds arose.

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. The general opinion was that the project was a good idea and that the re-started fishery was anticipated to be a good thing for anglers in the Spokane area. No questions concerning the Byron Ponds 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.

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.

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 Three, Wildlife Program and Lands Division