

SCOPING LETTER
ENVIRONMENT ASSESSMENT FOR THE NOXON RAPIDS RESERVOIR
EURASIAN WATERMILFOIL/CURLYLEAF PONDWEED
RESEARCH AND IMPLEMENTATION PROJECT
FEBRUARY 16, 2010

1. INTRODUCTION

Eurasian watermilfoil (*Myriophyllum spicatum*) is a non-native, submersed perennial plant that grows in aquatic environments including ponds, lakes, and rivers. At this time the only known invasion of Eurasian watermilfoil in the state of Montana is in Noxon Rapids and Cabinet Gorge Reservoirs where the plant was first discovered in 2007. Spread of this plant has the potential to impact aquatic environments and impair recreational resources. Eurasian watermilfoil is adapted to a wide range of environmental conditions and has proven to be highly competitive in environments similar to Montana. Inventory data collected in 2008 indicate that Eurasian watermilfoil infests 247 acres and 117 acres in Noxon Rapids and Cabinet Gorge Reservoirs respectively. Based on vegetation monitoring in 2009, annual spread rate for Eurasian watermilfoil in the reservoirs is about 9%. Montana's Aquatic Nuisance Species Plan lists Eurasian watermilfoil as a "priority class 3" species with a high potential for invasion, and is listed as Priority 1B plant in the state. In addition to Eurasian watermilfoil, two other non-native aquatic species, Curlyleaf pondweed and flowering rush (*Butomus umbellatus* L.) are also present in Noxon Rapids, Cabinet Gorge, and Thompson Falls Reservoirs. Presence of these non-native aquatic species in Montana increases the necessity to protect non-infested water bodies; and implement early detection, prevention, containment, control, and eradication (where feasible) to combat further spread and infestation.

Noxon Rapids Reservoir is on the Clark Fork River within Sanders County near the city of Trout Creek, Montana (Figure 1). The Noxon Rapids Reservoir is created by the Noxon Rapids Dam, which is operated by AVISTA Utilities Inc (formerly Washington Water Power), and was completed in 1952. At full capacity the reservoir creates a 7,940 surface acre area with a maximum depth of 200 feet, 35.5 miles in long, and 2 miles wide (Washington Water Power, 1995). The reservoir is used for energy production, recreation, and limited irrigation.

2. PURPOSE AND NEED FOR RESEARCH PROJECT

In 2003, Montana's Aquatic Nuisance Species (ANS) coordinator prioritized water bodies in Montana for risk of non-native aquatic species based on angler/boater use and biotic factors. Results of the prioritization ranking indicated approximately 132 high-risk water bodies in Montana. Thompson Falls, Noxon Rapids and Cabinet Gorge Reservoirs have historically been considered high-risk sites for Eurasian watermilfoil introduction and establishment due to proximity to existing infestations in Idaho and high angler/boater use. These sites have been surveyed either annually or biennially for aquatic nuisance species, including Eurasian watermilfoil, since 2003 through the ANS program. The ANS program reported Eurasian watermilfoil in Noxon Rapids and Cabinet Gorge Reservoirs in 2007.

The potential impacts caused by Eurasian watermilfoil and the ease with which the weed is spread, increases importance to contain existing infestations in Montana to protect non-infested water bodies. Infestations of Eurasian watermilfoil are known to occur in adjoining states of

Idaho, North Dakota, and South Dakota, and provinces of British Columbia, Alberta, and Saskatchewan, Canada. Idaho and North Dakota have active management programs to reduce density and abundance of the weed. As a headwater state, Montana must develop and implement a strategy to reduce impacts and potential for invasion to downstream neighbors. In addition, there is risk for movement within Montana due to high angler/boater use in both Noxon Rapids and Cabinet Gorge Reservoirs.

The Eurasian Milfoil Task Force (EMTF) was formed in November 2007 in order to develop and administer methods to control and prevent further spread of Eurasian watermilfoil. Weed control and eradication is most effective when addressed with an Integrated Weed Management (IWM) approach. IWM is a comprehensive approach to weed control suggested in the Montana Weed Management Plan (Montana Noxious Weed Summit Advisory Council and Weed Management Task Force, 2008). Components of IWM can include: education, prevention, mechanical control, biological control, and chemical control. The EMTF approach to Eurasian milfoil control is an IWM approach as they have used multiple techniques in an attempt to control the spread of the weed. Some IWM activities that have been completed to date include: install fabric barriers to limit Eurasian watermilfoil spread by fragmentation at "high risk" sites, including boat launches and docks; initiate a public/decision maker education program by hosting a public information meeting; and, quantify Eurasian watermilfoil infestations on three reservoirs along the lower Clark Fork River. As part of the IWM approach, the EMTF proposes to study the feasibility of herbicides as a management tool for controlling EWM. The Sanders County Weed District and the Eurasian watermilfoil Task Force received a 2009 Montana Noxious Weed Trust Fund Grant to conduct a dye and herbicide treatment plot study in order to determine the concentration and plot size required to effectively remove the infestation with herbicide. The necessary funds were granted to the EMTF to conduct dye studies to determine the potential behavior of applied herbicides and to treat the research plots with 2,4-D or Triclopyr.

The following activities have been conducted at Noxon Rapids and Cabinet Gorge Reservoirs since Eurasian watermilfoil was initially reported in 2007 to address management criteria set forth in the Montana Aquatic Nuisance Species Plan:

- 1) Task force was formed to direct management of Eurasian watermilfoil and other non-native aquatic plants.
- 2) Aquatic vegetation inventory of Noxon Rapids, Cabinet Gorge, and Thompson Falls Reservoirs was completed in August 2008 and updated in 2009 by Dr. John Madsen of Mississippi State University;
- 3) 27,000 square feet of barrier fabric was installed at high risk locations, including Forest Service boat ramp sites;
- 4) A public informational meeting was held with stakeholders, local and state decision-makers, the general public and experts on non-native aquatic vegetation in August 2008;
- 5) A statewide invasive aquatic plant plan (that includes Eurasian watermilfoil) is being written;
- 6) A public education program is being developed with funding from the Montana Noxious Weed Trust Fund, and Task Force partners.

- 7) In 2009, a dye and herbicide research trial (Phase 1 of this project) on Eurasian watermilfoil and Curlyleaf Pondweed on up to 40 acres in Noxon Rapids Reservoir was completed. The purpose of this research was to determine effectiveness of herbicide treatment for selectively controlling invasive non-native aquatic plants and feasibility of including herbicides in an integrated management approach.

In addition, to these activities listed above further research is needed to determine effectiveness of several US EPA approved and labeled herbicides as part of an integrated management program to control Eurasian watermilfoil and Curlyleaf pondweed, aquatic plant community response to herbicide treatments, and quantify flow characteristics in Noxon reservoir. The purpose of the Environmental Assessment would be to identify and review environmental effects of conducting Phase 2 of the herbicide research trial on Eurasian watermilfoil and Curlyleaf pondweed on 100 to 200 acres in Noxon Rapids Reservoir. Phase 2 is being funded by a Montana Department of Natural Resources and Conservation Reclamation and Development Grant and a NWTF Grant (pending). Results from evaluations of Phase 1 and 2 (2009-2010) if approved could be utilized in developing a long-term, cost effective operational program for managing non-native aquatic plants in Noxon Rapids Reservoir. In addition, results could be applied to develop site-specific evaluations and operational control programs for other AVISTA systems in the region, including Cabinet Gorge Reservoir, Lake Coeur d'Alene, and Lake Spokane.

3. PROPOSED ACTION

The Proposed Action Alternative would allow Sanders County Extension and the Eurasian Watermilfoil (EWM) Task Force to conduct Phase 2 of the herbicide research project on Eurasian watermilfoil and Curlyleaf pondweed on 100 to 200 acres in Noxon Rapids Reservoir. The purpose of this proposed research project is to determine the effectiveness of herbicide treatment on controlling invasive non-aquatic plants aquatic plants and the feasibility of including herbicides in an integrated management approach. Integrated weed management methods would be applied on up to 200 acres per year of the reservoir on an ongoing basis.

Under the Proposed Action results from evaluations of Phase 1 and 2 (2009-2010) could be utilized in developing a long-term, cost effective operational program for managing non-native aquatic plants in Noxon Rapids Reservoir. In addition, these results could be applied to develop site-specific evaluations and operational control programs for other AVISTA systems in the region, including Cabinet Gorge Reservoir, Lake Coeur d'Alene, and Lake Spokane. The following describes the Proposed Action in more detail:

- a. The Proposed Action would primarily be based upon results of the Phase 1 water-exchange and herbicide trials in Noxon Rapids Reservoir (July-August 2009), conducted by the US Army Engineer Research and Development Center (ERDC) and the Aquatic Ecosystem Restoration Foundation (AERF). Herbicides, formulations application rates, evaluation sites, application techniques and applicators, vegetation assessment methods and cooperating personnel/groups would be selected and approved by the ERDC. This quality control oversight would be required to maintain the scientific integrity of the work, and to compare results of previous studies conducted by the ERDC at Noxon Rapids Reservoir and similar sites.

- b. Phase 2 (July-August 2010) would include replicated strip treatments and un-replicated block treatments will be planned, directed, and conducted by ERDC's Chemical Control and Physiological Processes Team (CCPPT), in collaboration with the AERF and other cooperators.
- c. The proposed strip and block treatments are described in detail below:

Replicated strip treatments (~ 1000 ft x ~ 50-75 ft in size, ≥ 1 acre).

Evaluate applications of quick-acting contact type herbicides including:

- (a) liquid diquat (Reward);
 - (b) liquid endothall (Aquathol K);
 - (c) liquid diquat (Reward) + liquid endothall (Aquathol K);
 - (d) granular endothall (Aquathol Super K);
 - (e) liquid flumioxazin (pending USEPA and MT registration); and
 - (f) other combinations of above compounds as appropriate.
- Treatments would be conducted in strips (bands) of aquatic vegetation infested with EWM and CLP located along the shoreline of the reservoir. These treatments would be targeted for upstream areas, and if successful could greatly limit the continued re-introduction of the target plants to downstream areas of the reservoir and watershed.
 - Application rates would be based upon preliminary, on-site, water exchange studies using the inert rhodamine WT dye, and discharge patterns from Noxon dam that would provide minimal water exchange conditions in treated areas, and maximum herbicide contact time around target plants.
 - Applications would be made using deep-water precision application technology and/or traditional subsurface application methods (e.g. airboat fitted with boom and weighted trailing hoses, and/or granular spreaders or inductors).
 - Appropriate areas would be selected as reference (check) plots, and would not be treated with herbicides.
 - Water exchange would be measured in conjunction with these treatments. In addition, treatment timing would be based upon discharge patterns from Noxon Dam that will provide minimal water exchange conditions at time of treatment, and maximum herbicide contact time around target plants in the treated areas.
 - Water samples would be collected to measure aqueous herbicide residues in selected sites and times within treated plots (and at off-plot sites if necessary).
 - All strip treatment scenarios would be replicated three times per growing season, including the untreated references. Untreated buffer zones would be maintained between treated plots to prevent cross contamination.
 - Quantitative pre- and post-treatment assessments of the aquatic plant community, 4 weeks after treatment (WAT) and 52 WAT, would be conducted to document efficacy on target plants and impacts on non-target vegetation.

Un-replicated block treatments (≥ 10 acres in size, up to ~ 100 total acres).

- Refine liquid endothall (Aquathol K)/triclopyr application rates used in Phase 1 (2009), and evaluate this combination for efficacious, selective and cost effective control of EWM and CLP.
- Evaluate applications of triclopyr, alone, in an effort to reduce costs of treatments.
- Treatments would be conducted in large contiguous blocks of EWM/CLP-infested plant stands found along shorelines, in embayments/coves, or in appropriate sites off-shore. If successful, these types of treatments could significantly reduce the total amount of submersed invasive plants in the reservoir.
- Water exchange would not be measured prior to these treatments, but may be measured during treatment events. Treatment timing would primarily be based upon discharge patterns from Noxon Dam that would provide minimal water exchange conditions at time of treatment, and maximum herbicide contact time around target plants in the treatment areas.
- Water samples would be collected to measure aqueous herbicide residues in selected sites and times within treated plots (and at off-plot sites if necessary).
- Applications would be made using a variable-depth injection, precision application technology system.
- Appropriate areas would be selected as reference (check) plots, and will not be treated with herbicides.
- Quantitative pre- and post-treatment assessments of the aquatic plant community, 4 weeks after treatment (WAT) and 52 WAT, would be conducted to document efficacy on target plants and impacts on non-target vegetation.

Annual Integrated Weed Management Treatment of Noxon Rapid Reservoir

Annual treatment of weed infestations in Noxon Rapids Reservoir Herbicides would be conducted using an Integrated Weed Management approach. This would include the following activities:

- Application of herbicides on up to 200 acres of Noxon Rapids Reservoir that are infested with the subject weeds for up to 5 years (Figure 2). After this a maintenance program to treat scattered beds would be implemented for the following 15 years. The formulations, application rates, evaluation sites and application techniques would follow methods and rates outlined in the proposed research portion of the proposed action. The proposed action assumes that the research results would recommend no significant increases in these rates or changes in application methods or areas. If the methods or rates increase substantively, then another environmental review may be warranted.
- Application and maintenance of physical barriers on up to 5 acres of the reservoir near boat ramps.

4. PRELIMINARY ISSUES

The following issues and concerns have been identified by the Eurasian Watermilfoil Task Force on behalf of Sanders County Weed District through discussion and may be used as a general guideline for discussion at scoping seasons. The EWM Task Force encourages submission by the public of additional issues pertaining to the proposed

research project for consideration.

- What were the results of the 2009 research project?
- What were the impacts identified from the 2009 research project
- What is the proposed annual treatment and long term maintenance of weed infestations in Noxon Rapids Reservoir?

5. PUBLIC INPUT/COMMENT PERIOD

Public input is important in establishing the level and scope of analysis. The public is encouraged to participate throughout the environmental analysis process to help identify the level of analysis needed to focus on significant issues and concerns related to the proposed research project, select alternatives to the proposed action, and any other issues or concerns needing analysis are being addressed to ensure complete analysis. Copies of the scoping document will be mailed or emailed to individuals, agencies, and organizations on the EWM Task Force mailing list. The general public will be notified by announcements sent to the Thompson Falls Sanders County Ledger <http://www.scedger.net/> and The Missoulian <http://www.missoulian.com>. The notice and this scoping document will also be posted on the Sanders County Extension website <http://www.co.sanders.mt.us/Pages/ExtensionMSU.html> and on the Noxon Cabinet Shoreline Coalition's website at www.ncshorelines.com. The EWM Task Force will hold two open house style public meetings. The meetings will be held on March 11, 2010; from 10 AM to 12 PM at the Emergency Services Building at 401 Noxon Avenue in Noxon and from 6 PM to 8 PM in the Courtroom of the Sanders County Courthouse at 1111 Main Street, Thompson Falls.

The purpose of these meetings is to help determine the scope of the EA and to identify issues to be addressed by the EA. Individuals providing verbal comments at the meetings are requested to provide a copy of their comments for the record. Written comments will be accepted by the EWM Task Force through March 22, 2010. Written comments at the meetings will be accepted, as well as email or mailed comments directed to:

Eurasian Watermilfoil Task Force
c/o John Halpop
2504 Tradewinds Way, Suite 1B
Thompson Falls, MT 59873
jhalpop@montana.edu

The meetings will be held to share information and receive comments related to the proposed Phase 2 research and implementation project in Noxon Rapids Reservoir. A representative from the EWM Task Force will provide a brief description of the proposed research project. There will also be a presentation on the EA process. After presentations, attendees will have an opportunity to speak with the EWM Task Force technical staff with expertise in various disciplines and to submit written comments. The EWM Task Force will make reasonable accommodations for person with disabilities who wish to participate in the meetings or who need alternative accessible format of this notice. For this accommodation, please contact, John Halpop 406-827-6934.

A comment form is included at the end of this scoping letter for your convenience.

REFERENCES

Montana Noxious Weed Summit Advisory Council - Weed Management Task Force. 2008. Montana Weed Management Plan.

Washington Water Power. 1995. Initial Stage Consultation Document for Noxon Rapids and Cabinet Gorge Hydroelectric Projects.

Wersal, Ryan M., Madsen, J.D., and Cheshier, J.C.. 2009. Eurasian Watermilfoil Monitoring and mapping in Noxon Rapids Reservoir for 2009. Geosystems Research Institute.