Request for Qualifications

Analysis of Treatment Alternatives for Invasive Watermilfoil in Noxon and Cabinet Gorge Reservoirs, Sanders County, Montana

Project Overview

The Sanders County Aquatic Invasive Plants Task Force (Task Force), in cooperation with Montana Department of Natural Resources (DNRC) and Montana Fish Wildlife & Parks (FWP), seeks an experienced natural resource consultant to conduct analysis of management and treatment alternatives for invasive watermilfoil. The purpose of this project is to provide an objective analysis of treatment alternatives – including but not limited to no treatment as well as treatments utilizing biological, mechanical, chemical, and cultural control prescriptions - to address established invasive watermilfoil populations in Noxon and Cabinet Gorge Reservoirs.

Project Background

Eurasian watermilfoil (EWM) was confirmed in Noxon and Cabinet Gorge reservoirs in 2007, the first identified infestation of invasive watermilfoil in Montana. Initial studies indicated EWM covered 247 acres in Noxon and 117 acres in Cabinet, and spread at a rate of about 9.8% annually in the reservoirs. The Sanders County Commissioners established the Aquatic Invasive Plants Task Force (Task Force) in 2008 to develop and implement an integrated weed management approach to contain and manage invasive watermilfoil. The associated Environmental Assessment prescribed herbicide treatments on a maximum of 200 acres per year, and trial studies of herbicide applications were conducted in 2009 and 2010.

Utilizing an upstream-to-downstream approach, the Task Force began annual large-scale herbicide treatments in 2012 on 172 acres in Noxon Reservoir (small scale treatments took place in 2009 and 2010). In 2014, treatments were expanded to include plots in Cabinet Gorge Reservoir.

Control measures have also included diver dredging in small, narrow plots where herbicide use has proved challenging and bottom barriers have been used at high-use docks and ramps (both private and public) to reduce the risk of boats transporting weed fragments. Management efforts also include monitoring surveys, education and outreach, coordinating with Montana Fish, Wildlife & Parks and Idaho Department of Agriculture on mandatory boat check stations to prevent invasive aquatic plants from being transported to non-infested areas, and monthly meetings to evaluate the program and plan next steps.

Annual monitoring of treatment plots one year after treatment indicates EWM control rates of 75% to 100% since intensive herbicide treatments began in 2012. In large EWM stands, herbicide treatments have control rates of 80% to 98% in Noxon Reservoir and 85% to 88% in Cabinet Gorge Reservoir. Monitoring indicates that treatments have been somewhat less effective on narrow strips along the shoreline due to challenges with water depth and the contour of the reservoir bed.

The goal of the herbicide treatment program has been to achieve a maintenance level, where invasive watermilfoil can be managed through bottom barriers, boat inspections, boater education and driver dredging/removal, while herbicide treatments are applied in small acreages as needed.

Unfortunately, in 2015, an unexpected reinvasion of invasive watermilfoil into previously treated plots and the establishment of several new infestations in Noxon Reservoir were discovered and attributed to a mild winter, low spring runoff and extremely warm spring and summer temperatures. While this was a wide-spread phenomenon throughout the Northwest, this event has raised questions about the long-term ability to control invasive watermilfoil, including the effectiveness of herbicides as a treatment method.

In addition, hybrid watermilfoil was discovered in Noxon Reservoir in 2015. In 2016 a two-year research project was initiated by Dr. Ryan Thum of Montana State University to determine genotype and distribution of the hybrid species and the effectiveness of herbicide treatment on hybrid milfoil. Research results will be available in 2017.

Scope of Services

Sanders County seeks a consultant with relevant experience in the management of invasive aquatic plant communities to analyze the variety of methods for treating invasive watermilfoil. This analysis will include a discussion of benefits and drawbacks to each type of treatment, and the extent to which each treatment method addresses the management goals and objectives developed by the Task Force. The plan does not need to include any education or outreach recommendations.

The final work product will include a report that provides a comprehensive analysis of each method of treatment (as well as a "no treatment" alternative), including:

a. The relative effectiveness of each treatment method for treating and halting the spread of invasive watermilfoil in a run-of-the river reservoir setting,
b. The extent to which each method supports and/or contradicts the management goals and supporting objectives contained in the Sanders County Aquatic Invasive Plants Management Goals and Objectives (Exhibit 1),
c. The relative cost structure associated with each treatment alternative.

The Task Force agrees to provide any existing survey and treatment information, relevant plans, bathymetry mapping, and assessment documents in a timely manner, and provide access to relevant stakeholders as needed.

Project Deliverables

The project deliverables will include a final analysis report which aligns with the mission, goals and objectives of the Sanders County Aquatic Invasive Plants Task Force, within the context of adopted policies and plans governing operations and management of Noxon and Cabinet Gorge Reservoirs. The contractor shall prepare a draft report and any related documents to be reviewed by the Task Force. Revisions will occur as needed and the contractor shall provide a final, revised report.

The analysis report will be utilized by the Task Force, DNRC, and FWP, to prioritize various treatment alternatives in order to determine the alternative or combination of alternatives that will provide the

greatest control of invasive watermilfoil with the most support for management goals and objectives within the existing environmental, operational, and financial parameters.

Pre-submission Questions

Any questions about this RFQ must be addressed in writing to Kim Bergstrom, Task Force Facilitator, pinnacle@blackfoot.net, on or before 5 pm on 2.08.2017. Questions must include:

1. Company Name and address
2. Contact information, including name, address, email address and telephone number
3. Clear reference to section and item of question

The Task Force will provide a formal written addendum to all RFQ recipients by 5 pm on 2/10/17 to questions received by the deadline.

Project Budget

A complete project budget must be included with all submissions.

Status Report Date

A project status report shall be submitted no later than April 20, 2017.

Project Completion Date

The project completion date shall be no later than 5 pm MST, May 22, 2017.

RFQ Outline and Content Requirements

The following information must be submitted in the project proposal:

a. Table of Contents
b. Consultant Description/Capabilities:
    a. A brief company history that includes examples of relevant project experience and similar analyses.
    b. Description of experience and capabilities relevant to an analysis of treatment alternatives for invasive watermilfoil.
    c. The experience and qualifications of key personnel and staff proposed to be assigned to the project.
c. References: Provide (3) references, including name, telephone number and email address for verification of consultant's past performance, preferably on similar projects.
d. Project proposal: A narrative addressing the scope of work and the timeline for the alternatives analysis.
e. Project budget: An overall budget with estimated cost and expenses for project components.

RFQ Due Date and Submittal Requirements

Responses are due by 10:00 am MST, 2/22/2017

Submittal package should be marked "Alternatives Analysis" and contain six paper copies and one digital copy. Submittal package should be mailed or delivered to:
Sanders County Clerk and Recorder
PO Box 517
1111 Main St
Thompson Falls, MT 59873

RFQ Timeline Summary

Release date	1/31/2017
Pre-submission questions due	5 pm 2/8/2017
Addendum response to questions provided by	5 pm 2/10/2017
RFQ due date	2/22/2017
Contracted awarded by	3/1/2017
Project completed by	5/22/2017

Evaluation Criteria and Selection Process

The contract will be awarded to the consultant whose qualifications, experience and cost proposal are deemed most advantageous to Sanders County. Sanders County reserves the right to reject any and all proposals. The following criteria will be used evaluate the proposals:

1. Ability of consultant to prepare a complete alternatives analysis as described above.
2. Previous experience in the development of an alternatives analysis
3. Feedback pertaining to consultant from provided references and/or past experience with Sanders County
4. Verification of project timeline
5. Cost proposal

Exhibit 1

Sanders County Aquatic Invasive Plants Management Goals and Objectives

Goal: Manage aquatic invasive plants at a level that sustains a healthy aquatic environment supportive of native plant populations, fisheries, wildlife, water quality, recreation, and local economies.

Target Species: Eurasian and hybrid watermilfoil

Objectives

Native and Recreational Fisheries: Sustain the native and recreational fisheries. Need supporting information regarding effects (positive and negative) of AIP on the fishery resource. Assumption is that if EWM dominates the system, negative impacts are likely due to lack of diversity.

Non-Fishery Species: Sustain non-fishery animal species that rely on riparian and littoral areas, such as semi-aquatic mammals, amphibians, and avian populations, as well as the native aquatic and riparian plant species (submerged, floating, and emergent) that these species rely on. Need supporting information regarding effects (positive and negative) of AIP on the riparian zones. Assumption is that if EWM dominates the system, negative impacts are likely due to lack of bio-diversity.

Water Quality: Maintain water quality within generally acceptable levels, including but not limited to turbidity, water temperature, and dissolved oxygen, as well as localized and reservoir-wide water exchange.

Recreation and Aesthetics: Improve access to recreation opportunities, both water-based and on shorelines, and maintain or improve aesthetic values.

Hydropower Generation: Maintain ability for hydropower generation. While presence of aquatic invasive plants do not directly impact power generation on the Projects, consideration must be given to impacts of management alternatives on power generation, as well as the potential impacts of aquatic invasive plant management to resource values that are supported through power generation (recreation, land use, etc.) to help protect those investments.

Economics: Sustain local economies that are dependent on recreation. The water bodies are State resources that benefit residents of Montana as well as neighboring states and countries.

Integration: Manage aquatic invasive plant populations locally while being mindful of potential impacts resulting from management actions to other resources in the region.

Management Alternatives

Alternative 1: No management action.

Alternative 2: Active management, which may include an integrated approach of various treatment alternatives.

Treatment Alternatives

The following options should be examined for strengths and weaknesses as part of a treatment alternatives analysis, and should include examination of risks, effectiveness, anticipated benefits and drawbacks, costs, sustainability, and social factors related to achieving the program goal.

Biological: The science of biological control of aquatic invasive plants is in its infancy. The effects of various species of weevils are being studied in the US and worldwide, but the science is not yet conclusive nor is the treatment applicable on a large scale.

Mechanical (harvesting, diver dredging, bottom barriers): Due to watermilfoil's ability to spread by fragmentation, mechanical harvesting and removal is difficult to implement effectively in locations with high water exchange. Bottom barriers inhibit growth and can be effective at specific locations, such as docks and boat launches, though use is somewhat limited by lake bottom topography, substrate, and size of the watermilfoil stand. However, bottom barriers do not selectively target invasive species, but remove all vegetation, native and non-native alike.

Chemical: Selective herbicides effectively treat watermilfoil by killing or injuring invasive plants while having little or no effect on native plants.

Cultural: A reservoir drawdown to expose littoral zones may impact invasive species by exposing them to freezing temperatures. However, drawdowns are non-selective and will also impact native plant populations as well as invasives. In addition, there are potential impacts to riparian habitats and wildlife, fish populations, private shoreline wells (which may be impacted by lowering the water table), recreation activities and access, limitations imparted under the Federal Energy Regulatory Commission (FERC) License No. 2075, and reduction in Avista Corporation's ability to generate power at the Cabinet Gorge and Noxon Rapids Hydroelectric projects during drawdowns. These factors (and others) must be thoroughly considered and analyzed under this action.