



MONTANA FISH, WILDLIFE & PARKS

**Draft
Environmental Assessment**

**Nilan Reservoir Eurasian Watermilfoil
(*Myriophyllum spicatum*) Control Project**

7/2/2022

Draft Environmental Assessment CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Type of proposed state action:

Herbicide treatment using the active ingredient fluridone to retreat with a goal to eradicate a 1.15-acre population of Eurasian watermilfoil (*Myriophyllum spicatum*) in Nilan Reservoir found in 2021. A treatment in the fall of 2021 appears to have injured the plants and slowed growth in 2022. However further sampling within the same bay shows well established plants throughout the bay. Subsequent treatments in 2022 and 2023 if needed during the active growing season will further suppress population with the goal to kill plants or bring levels low enough to perform manual removal until eradicated.

2. Agency authority for the proposed action:

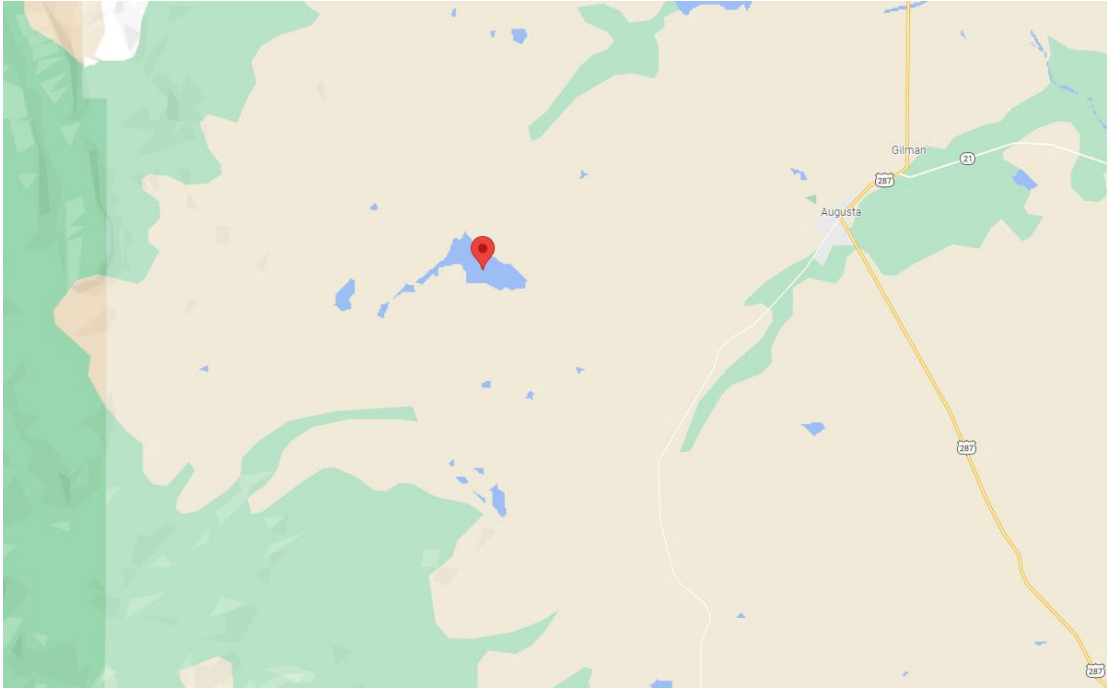
Eurasian watermilfoil is a Priority 2A state listed noxious weed under Montana Department of Agriculture (MDA) authority (MCA 7-22-2109, Rule 4.5.201). Montana Fish Wildlife & Parks (FWP) is initiating this treatment in consultation with MDA and Lewis and Clark County Noxious Weed District and with permission of the landowner (Montana Department of Natural Resources and Conservation (DNRC) under this authority.

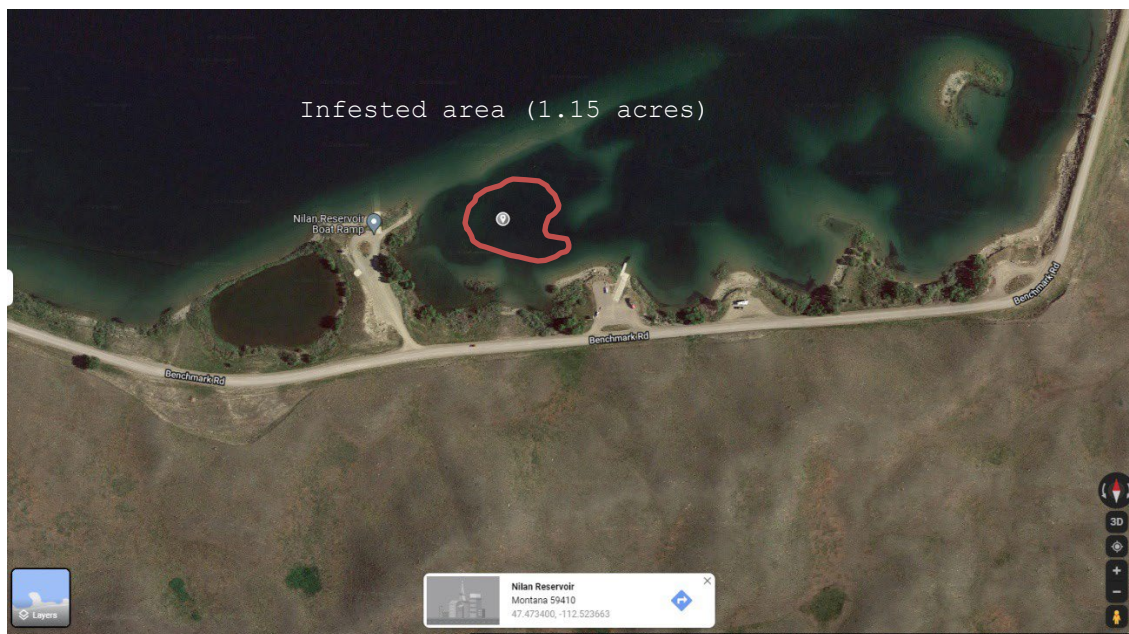
3. Anticipated Schedule:

Estimated Commencement Date of Treatment 1: 07/27/2022 (herbicide application)
Estimated Completion Date of Treatment 1: 11/31/2022 (90 days of exposure time after application)
Estimated Commencement Date of Treatment 2: 05/01/2022 (herbicide application)
Estimated Completion Date of Treatment 2: 11/31/2022 (90 days of exposure time after application)

4. Location affected by proposed action (county, range and township – included map):

South end of Nilan Reservoir between the two FWP boat ramps – 7 miles west of Augusta, MT, Lewis and Clark County. Township 20 North, Range 7 West, Section 20.





5. **Project size -- estimate the number of acres that would be directly affected that are currently:**

	<u>Acres</u>		<u>Acres</u>
(a) Developed:		(d) Floodplain	<u>0</u>
Residential	<u>0</u>		
Industrial	<u>0</u>	(e) Productive:	
(existing shop area)		Irrigated cropland	<u>0</u>
(b) Open Space/	<u>0</u>	Dry cropland	<u>0</u>
Woodlands/Recreation		Forestry	<u>0</u>
(c) Wetlands/Riparian	<u>1.15</u>	Rangeland	<u>0</u>
Areas		Other	<u>0</u>

8. **Permits, Funding & Overlapping Jurisdiction.**

(a) **Permits:** permits will be filed at least 2 weeks prior to project start.

Agency Name: MT Department of Environmental Quality

Permit: NPDES Pesticide General Permit

(b) **Funding:**

Agency Name: Montana Fish, Wildlife & Parks Funding Amount: \$1,000

(c) **Other Overlapping or Additional Jurisdictional Responsibilities:**

<u>Agency Name</u>	<u>Type of Responsibility</u>
Department of Natural Resources and Conservation	Landowner
Nilan Water Users Association	Water Rights/Water User

9. Narrative summary of the proposed action:

The department will initiate control of Eurasian watermilfoil (EWM) (*Myriophyllum spicatum*) with the goal to eradicate this newly discovered population. This is a highly invasive aquatic plant, and this is the first detection of EWM in this basin. Montana has limited populations of this species so management of this species and population is prudent to prevent further spread into other nearby waters. This is the only occurrence of EWM in the area and eradication is a high priority to prevent further spread.

EWM has the potential to outcompete native aquatic plant species, negatively impact recreation access and opportunities, and have negative economic impacts on irrigation and agriculture activities. This is a small population and as such is best to control it before it spreads throughout the reservoir and into nearby waters including irrigation ditches. The historic low reservoir levels make it an ideal time to treat since it will reduce the amount of chemical needed, costs, and potential impacts to the physical and human environment.

Application of the herbicide would occur in the small bay between the two FWP boat ramps. The reservoir is at historic low levels so the amount of water that will need to be treated is very limited. It is estimated that 1.15 acres of Eurasian watermilfoil exist with a current average depth of 3 to 4 feet.

10. Description and analysis of reasonable alternatives:

Alternative A: No Action. Under the No Action Alternative, FWP would not initiate control efforts of this population of EWM. This action would allow the invasive plant to remain in the reservoir and potentially spread unimpeded throughout the rest of the reservoir and into the irrigation canals and other downstream sources.

Alternative B: The **proposed action** is to use an aquatically labeled herbicide with the active ingredient of fluridone to eradicate the population. Fluridone is a slow-acting systemic herbicide used to control EWM and other underwater plants. It may be applied as a pellet or as a liquid. Like other systemic herbicides, it moves from submersed foliage to roots or immersed foliage. The proposed action would use the liquid formulation. A plant's susceptibility to fluridone is associated with its uptake rate and rate of translocation. Fluridone is absorbed from water by plant shoots and from the soil by the roots of aquatic vascular plants.

Fluridone interferes with the synthesis of RNA, proteins, and carotenoid pigments and thereby affects photosynthesis of the targeted plants. Specifically, fluridone inhibits the formation of carotene, a plant pigment, causing the rapid degradation of chlorophyll by sunlight, preventing the formation of carbohydrates necessary to sustain the plant.

It is estimated that up to 1 quart of herbicide applied with a backpack sprayer from shore will be needed to reach a concentration not to exceed 45 ppb (parts per billion) for each application. If at the time of treatment, the reservoir's elevation is approximately 4,222 feet the infested bay will be isolated from the main lake preventing any water exchange as the channel will be dried. If necessary to reduce potential dilution of the chemical out of the bay, a non-permeable curtain will be installed at the mouth of the bay if it is still connected to the main lake. This will prevent water exchange between the treatment area and the remainder of the lake for the entirety of the control project. A second treatment within that 90-day treatment period could occur to maintain concentrations at the desired level.

11. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency: None

PART II. ENVIRONMENTAL REVIEW CHECKLIST

Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Geology and soil quality, stability and moisture				X		
2. Air quality or objectionable odors				X		
3. Water quality, quantity and distribution (surface or groundwater)			X			See A below
4. Existing water right or reservation			X		X	See B below
5. Vegetation cover, quantity and quality		X positive				See C below
6. Unique, endangered, or fragile vegetative species				X		
6. Terrestrial or aquatic life and/or habitats			X		X	See D below
7. Unique, endangered, or fragile wildlife or fisheries species				X		
8. Introduction of new species into an area				X		
9. Changes to abundance or movement of species			X		X	See E below

A. **Impact to #3:** There will be a minor discharge of herbicide into state waters. One quart or less of herbicide will be used during each treatment. Proper permitting through DEQ and following all herbicide labels will reduce the potential impacts to surface water. Any non-expected water exchange between the treatment area and the rest of the lake will see rapid dilution of herbicide outside the control area due to the large water volume. This will drop concentrations well below label limits of 150 ppb per growing season.

B. **Impact to #4:** The herbicide could impact water users and those with water rights to be able to utilize water during the irrigation season if herbicide levels at the outlets exceeded 5 ppb. If the reservoir level drops and isolates the bay, no treated water in the bay will be entering the main reservoir and will not impact irrigation. If there is still connectivity between the bay and lake the small volume of water being treated would quickly dilute below that threshold as the water mixes with the main lake water. The installed barrier will further slow infiltration to levels below the 5ppb threshold. In the event of a large water increase event or failure of the barrier approximately 75 acre-feet of water would dilute the 7.5 acre-feet of treated water to levels below 5 ppb. As of 6/30/22 there was approximately 3,429 acre-feet at the current

reservoir level of 4,425, which is much more water than needed to lower concentrations to levels that would not impact irrigation.

- C. **Impact to #5:** Both native and invasive aquatic plant species will be impacted by the proposed action. EWM out-competes native plant species and the removal of EWM will provide a positive impact to native aquatic plant communities. Native plant communities within the treatment will likely be negatively impacted as many of those species will also be susceptible to the active ingredient. However, the treatment area is very small and native plants will be able to reestablish themselves quickly following treatment.
- D. **Impact to #6:** Terrestrial life will not be impacted by the proposed action. Fluridone applied at below the approved concentration rate has not been found to be toxic to waterfowl and wildlife. Laboratory animals (mice, rats, dogs) fed with fluridone in their diets showed little signs of toxicity even when fed levels which far exceed potential human exposure from use of fluridone. Fluridone is not considered to be a carcinogen or mutagen and is not associated with reproductive or developmental effects in test animals (WADOH, 2000).

Aquatic life could be impacted. Fishes will be pushed out of the treatment area or collected and removed before placement of the entrance curtain to ensure most fish are not caught in the treatment area. However, federal and state pesticide regulations and strict application guidelines are in place to minimize exposure of non-target organisms. As a manufactured chemical that is released into the environment, fluridone has been extensively evaluated for non-target impacts in aquatic ecosystems, through the federal and state registration process and through product development. Aquatic organisms will have only limited exposure to fluridone in the water as a result of dispersion, dilution and microbial degradation of the chemical into carbon, hydrogen, oxygen and organic acids, even during an extended application period.

The maximum proposed rate is 45 ppb which is significantly lower than lethal levels to invertebrates and fish and lower than tested levels to impacts to them. No adverse effects were observed on crayfish, bass, bluegill, catfish, soft-shell turtles, frogs, water snakes, and waterfowl from the use of 100 ppb to 1000ppb of fluridone during field experiments.

- E. **Impacts to #9:** For a short time during the implementation of the proposed action, aquatic species will not be able to move between the treatment area and the rest of the lake. Those species including macroinvertebrates will be trapped within the treatment area. It is unlikely that there would be major impacts to those species since the low dose of chemical should not negatively impact macroinvertebrates. We will remove the curtain separating the two areas as soon as possible to reduce any impacts due to separation.

B. HUMAN ENVIRONMENT

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Noise and/or electrical effects				X		
2. Land use				X		
3. Risk and/or health hazards			X		X	See F below
4. Community impact				X		
5. Public services/taxes/utilities				X		
6. Potential revenue and/or project maintenance costs				X		
7. Aesthetics and recreation			X			See G below
8. Cultural and historic resources				X		
9. Evaluation of significance				X		
10. Generate public controversy			X		X	See H below

F. **Impact to #3.** According to the chemical label, if application rates are 150 ppb or less, treated water may be used immediately with no waiting period for drinking (potable) water (including watering livestock and pets), fishing or swimming. The maximum application rate of 45 ppb in the proposed action will mitigate any potential issues. There are no potable water intakes on the lake so the risk of being introduced into drinking water is minimal and would be outside of a ¼ mile restriction for concentration above 20ppb as described in the label.

G. **Impact to #7:** During the treatment period no boats will be allowed to enter the proposed treatment area. The impact during this time will be minor as the current reservoir level is low enough to expose the bottom of the boat ramps making launching difficult to impossible depending on boat size. Small craft such as kayaks or canoes could be launched and would not be able to use the treatment area. Signs will be placed asking the public to stay out of the area.

H. **Impact to # 10:** The public is often very sensitive to applications of pesticides into water. To ensure the least potential impact to the physical and human environment every effort will be made to reduce the amount of herbicide uses. In addition, timing of the application will ensure that recreation is not impacted and exposure to the chemical will be very limited. Proper signing will notify potential recreationist with recommendations to avoid the area. Following all regulations and label recommendation will further reduce any impacts.

PART III. NARRATIVE EVALUATION AND COMMENT

The proposed action is to treat a 1.5-acre area within a small bay of Nilan Reservoir with the aquatic herbicide fluridone to eradicate Eurasian watermilfoil. This retreatment will not cause any major impacts to the physical environment or human environment. There will be no cumulative effects and minor impacts will be short-lived, lasting 90 days after the chemical application date. Efforts to control Eurasian watermilfoil at this time will greatly reduce the potential negative impacts from it in the future.

PART IV. PUBLIC PARTICIPATION

1. Public involvement:

The public will be notified in the following manners to comment on this current EA, the proposed action and alternatives:

- Public notices in the Helena Independent Record and the Great Falls Tribune.
- Public notice on the Fish, Wildlife & Parks webpage: www.fwp.mt.gov

Copies of this environmental assessment will be distributed to the neighboring landowners and interested parties to ensure their knowledge of the proposed project.

This level of public notice and participation is appropriate for a project of this scope having limited impacts, many of which can be mitigated.

2. Duration of comment period:

The public comment period will extend for (5) days following the publication of the second legal notice in area newspapers. Written comments will be accepted until 5:00 p.m., July 29, 2022 and can be mailed to the address below or at FWPfishcomments@mt.gov

MT Fish, Wildlife, & Parks
Attn: Craig McLane
P.O. Box 200701
Helena, MT 59620-0701

PART V. EA PREPARATION

1. Based on the significance criteria evaluated in this EA, is an EIS required? No If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

The small treatment area and timing of the treatment greatly reduces any potential negative impact to the environment, economy, and human health and safety.

2. Person(s) responsible for preparing the EA:

Craig McLane
Tom Woolf

3. List of agencies or offices consulted during preparation of the EA:

Montana Department of Natural Resources and Conservation
Nilan Water Users Association