

Noxon Rapids Reservoir and Cabinet Gorge Reservoir Herbicide Treatment Survey Report

2021 Season

Prepared for: The Sanders County Aquatic Invasive Plants Task Force

December 17, 2021



THE **OUTSIDE** IS IN US ALL.

Craig R McLane

Montana Fish, Wildlife, & Parks

1420 E 6th Ave, Helena, MT 59601

Table of Contents

Overview	4
Sampling Methods:	5
Results:	6
Species level differences among plots in 2018 - 2021	11
Untreated Control Plot Maps – Eurasian Watermilfoil (<i>Myriophyllum spicatum</i>)	17
Cab-31	18
Cab-32	19
Cab-33	20
Nox-05	21
Nox-06	22
Nox-09	23
Untreated Control Plot Maps – Curlyleaf Pondweed (<i>Potamogeton crispus</i>)	24
Cab-31	25
Cab-32	26
Cab-33	27
Nox-05	28
Nox-06	29
Nox-09	30
Treatment Plot Maps – Eurasian Watermilfoil (<i>Myriophyllum spicatum</i>)	31
Cab-05	32
Cab-06	33
Cab-12	34
Cab-20	35
Cab-29	36
Cab-30	37
Nox-01	38
Nox-02	39
Nox-03	40
Nox-04	41
Nox-08	42
Nox-11	43
Nox-31	44
Nox-52	45
Nox-73	46
Nox-77	47
Nox-78	48
Nox-79	49
Treatment Plot Maps – Curlyleaf Pondweed (<i>Potamogeton crispus</i>)	50
Cab-05	51
Cab-06	52

Cab-12.....	53
Cab-20.....	54
Cab-29.....	55
Cab-30.....	56
Nox-01.....	57
Nox-02.....	58
Nox-03.....	59
Nox-77.....	60
Nox-08.....	61
Nox-11.....	62
Nox-31.....	63
Nox-52.....	64
Nox-73.....	65
Nox-77.....	66
Nox-78.....	67
Nox-79.....	68

Overview

Montana Fish, Wildlife, & Parks (FWP) partnered with The Sanders County Aquatic Invasive Plants Task Force to survey multiple plots within Noxon Rapids Reservoir and Cabinet Gorge Reservoir in 2021. This effort guides annual treatment of Eurasian watermilfoil (EWM) within the reservoirs. FWP surveyed eighteen known EWM plots under consideration for treatment and six untreated, control plots during the week of July 12th, 2021. Those locations, noted in Figure 1, cover the length of both reservoirs.

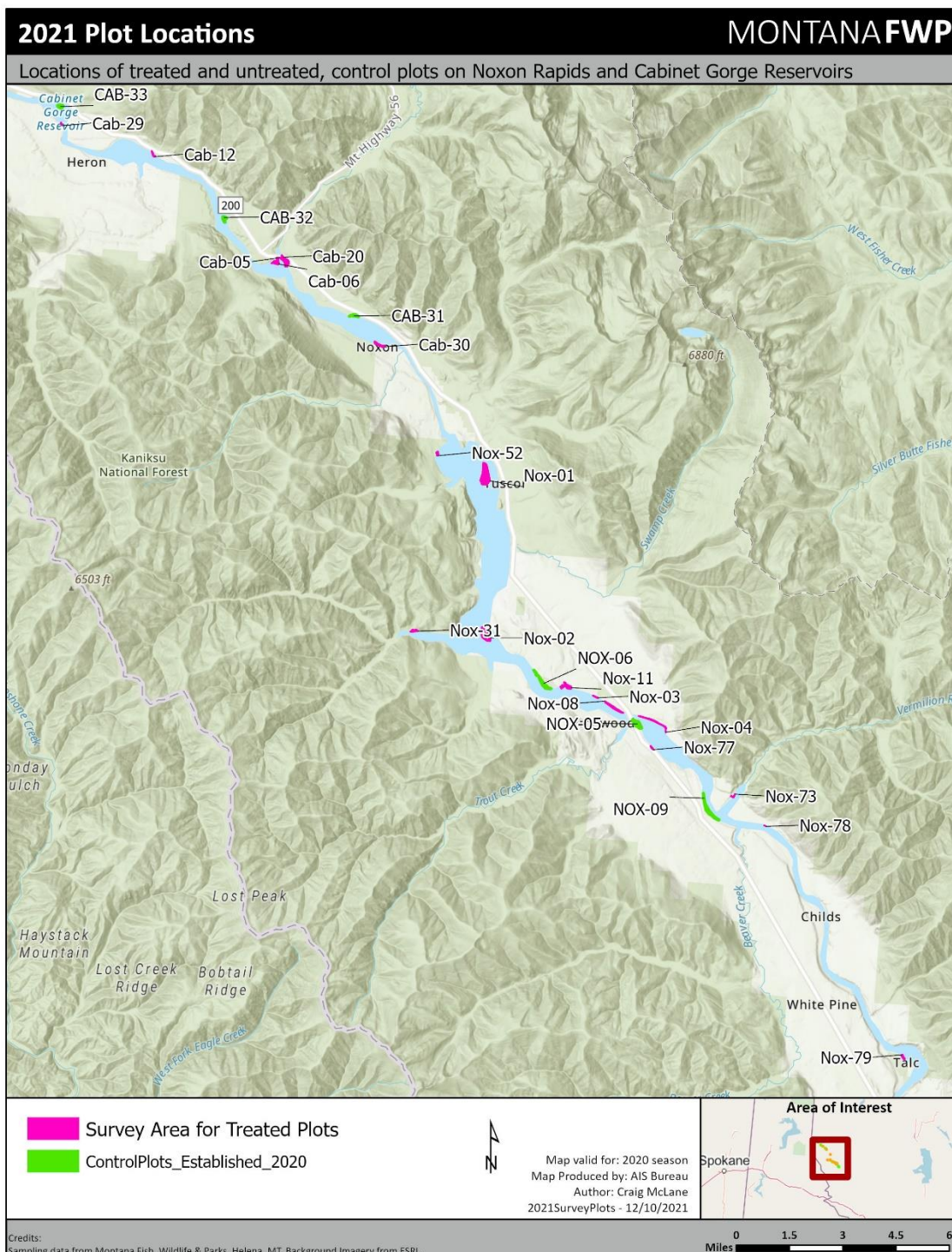


Figure 1. Locations of Survey Plots on Noxon Rapids and Cabinet Gorge Reservoirs, 2021.

Sampling Methods:

Within each plot FWP assigned and sampled a predetermined number of random points. Table 1 shows each plot, acreage, and number of points FWP sampled in 2021. FWP based plots sizes on previous survey efforts and adjusted them if it was determined that more points were needed. FWP based the number of points within each plot upon the acreage of the plot with larger plots having more points. Additionally, more complex plot shapes needed more points.

At each point, FWP technicians sampled with rakes attached to telescoping poles dropped to the bottom. Technicians collected one sample on each the starboard and port sides. Technicians spun the rake 720 degrees and then provided a percent of rake fullness. This method allows a consistent sampled area for each sample.

At the sample point level, these scores were then averaged together, and a cover class was assigned to each point. Like a Daubenmire Method of estimating cover percentages (Coulloudon et al, 1999), FWP utilized a predefined set of cover classes. The cover classes FWP used for 2019-2021 analyses are listed in Table 2. They varied from 2018, as 2018 cover classes seemed too coarse to detect changes among years.

These points were used to find the average canopy cover of each species within each plot. Potential areas of treatments were then determined based upon Eurasian watermilfoil and curlyleaf pondweed densities and are provided in the maps within the results section.

In addition, the results were compared among years. The percent change for each species was calculated for 2021 compared to 2018 and 2020. Sampling in 2018 followed a different cover class set (Table 3) so data were normalized between 2018 and subsequent years to be comparable. The sampling methods from 2019 to 2021 are the same so results are directly comparable.

Table 1. List of plots surveyed and their approximate surveyed areas and number of sample points.

Plot	Potentially Treat/ Control	Approx. Plot Size (ac)	#Sample Points
C05	Potential Treat	27.8	43
C06	Potential Treat	4	25
C12	Potential Treat	1.5	19
C20	Potential Treat	1	10
C29	Potential Treat	0.5	10
C30	Potential Treat	2	26
C31	Control	3.7	10
C32	Control	3.7	10
C33	Control	6.4	10
N01	Potential Treat	69.7	50
N02	Potential Treat	44.1	40
N03	Potential Treat	2.3	19
N04	Potential Treat	13	31
N05	Control	22.0	8
N06	Control	13.6	10
N08	Potential Treat	15.9	38
N09	Control	16.8	11
N11	Potential Treat	17.3	41
N31	Potential Treat	6.1	30
N52	Potential Treat	3.2	9
N73	Potential Treat	2	15
N77	Potential Treat	0.5	18
N78	Potential Treat	0.3	9
N79	Potential Treat	4	23

Table 2. Cover class and range of coverage for 2019 and 2021 sampling efforts.

Cover Class – 2019-2021	Range of Coverage	Midpoint of Range
0	0	0.0
1	1 to 2	1.5
2	3 to 5	3.6
3	6 to 15	10.1
4	16 to 25	20.1
5	26 to 40	32.6
6	41 to 60	50.1
7	61 to 75	67.6
8	76 to 85	80.1
9	86 to 95	90.1
10	96-100	97.6

Table 3. Cover class and range of coverage for 2018 sampling efforts.

Cover Class - 2018	Range of Coverage	Midpoint of Range
0	0	0.0
1	1 to 20	10.5
2	21 to 40	30.5
3	41 to 60	50.5
4	61 to 80	70.5
5	81 to 100	90.5

Results:

Table 4 contains the survey results showing acreage of Eurasian watermilfoil within the potential treatment areas and untreated control plots in 2018-2021. Table 5 shows the estimated acreage of curlyleaf pondweed within each plot for 2020 and 2021. Table 6-10 show the 2018-2021 estimated cover based on rake fullness calculations.

Table 4. Pre-treatment acres of Eurasian watermilfoil within each plot (2018-2021).

Plot	Acres of EWM - 2021	Acres of EWM - 2020	Acres of EWM - 2019	Acres of EWM - 2018	Plot Location
Cab-05[†]	4.0	1.8	12.1	11.4	Southeast of Bull River Bridge on Hwy 200
Cab-06^{**}	0	3.7	4.2	6.1	Southwest of Bull River Bridge on Hwy 200
Cab-12^{**†}	0	0.3	1.7	1.2	Big Eddy Campground
Cab-20[†]	0	0.0	0.0	0.4	Bull River Campground
Cab-29^{**}	0	1.2	0.5	0.8	Heron Boat Ramp
Cab-30^{**†}	0	2.1	2.3	3.4	Noxon Community Park
Cab-31 (Untreated Control)	1.9	1.9	No Survey	No Survey	Northwest of Heron Bridge
Cab-32 (Untreated Control)	4.0	2.9	No Survey	No Survey	Downstream of Bull River at Power Lines
Cab-33 (Untreated Control)	0	0	No Survey	No Survey	North of Heron Boat Ramp
Nox-01^{^†}	35.2	0	34.0	12.3	Near Rock Island - Mid Lake
Nox-02^{^†}	32.2	25.6	21.3	2.1	Mid Lake at entrance to Marten Creek Bay
Nox-03^{^***}	1.3	1.2	1.4	2.3	North Shore Campground
Nox-04^{^***}	1.3	5.9	7.7	6.2	North Shore Shoreline East of Hwy 200 Bridge
Nox-05 (Untreated Control)	3.6	1.2	No Survey	No Survey	South Shoreline E of Hwy 200 Bridge
Nox-06 (Untreated Control)	10.4	approx. 1	No Survey	No Survey	North shoreline West of Train Bridge
Nox-08^{^††}	8.5	0.3	8.2	10.6	North Shore Shoreline W of Hwy 200 Bridge
Nox-09 (Untreated Control)	No Survey (Boat Trouble)	0	No Survey	No Survey	South Shoreline across from Vermillion Bay
Nox-11[†]	13.5	0.1	9.6	6.7	West of Train Bridge on N side
Nox-31^{**†}	0	2.1	3.7	2.3	Marten Creek Campground
Nox-52^{**}	0	0	0.8	1.9	South Shore Campground
Nox-61	No Survey	No Survey	No Survey	0.0	Flatiron Fishing Access Site
Nox-73^{^†}	.5	0.0	0.6	0.0	Vermillion Bay Boat Ramp
Nox-77^{**}	0	0.2	0.4	0.5	Trout Creek Boat Ramp
Nox-78^{**}	0 (snorkel Survey estimate)	0.0	0.1	0.2	Kirby Gulch Boat Ramp
Nox-79^{^††}	No Survey (Boat Trouble)	0.0	0.7	1.1	Finley Flats Campground

[^]= plots treated in 2021; ^{*} = plots treated in 2020; [†] = plots treated in 2019; ^{††} = plots treated in 2018

Table 5. Pre-treatment acres of curlyleaf pondweed within each plot for 2020 and 2021. No treatments targeting curlyleaf pondweed have been conducted.

Plot	Acres of curlyleaf pondweed - 2021	Acres of curlyleaf pondweed - 2020	Plot Location
Cab-05[†]	9.0	8.1	SE of Bull River Bridge on Hwy 200
Cab-06^{*†}	0.0	3.7	SW of Bull River Bridge on Hwy 200
Cab-12^{*††}	0.0	1.1	Big Eddy Campground
Cab-20[‡]	0.0	0.4	Bull River Campground
Cab-29^{††}	0.0	0	Heron Boat Ramp
Cab-30^{*††}	0.0	0.4	Noxon Community Park
Cab-31 (Untreated Control)	0.0	0.6	NW of Heron Bridge
Cab-32 (Untreated Control)	0.8	0.0	Downstream Bull River at Power Lines
Cab-33 (Untreated Control)	0.0	0.0	North of Heron Boat Ramp
Nox-01^{^†}	11.5	17.8	Near Rock Island - Mid Lake
Nox-02^{^†}	9.0	17.4	Mid Lake at entrance to Marten Creek Bay
Nox-03^{^*††}	0.2	1.2	North Shore Campground
Nox-04^{^*††}	4.9	5.9	North Shore Shoreline E of Hwy 200 Bridge
Nox-05 (Untreated Control)	0.5	0.0	South Shoreline E of Hwy 200 Bridge
Nox-06 (Untreated Control)	4.9	1.4	North shoreline West of Train Bridge
Nox-08^{^††}	7.9	7.9	North Shore Shoreline W of Hwy 200 Bridge
Nox-09 (Untreated Control)	No Survey (Boat Trouble)	0.0	South Shoreline across from Vermillion Bay
Nox-11[†]	6.1	5.8	W of Train Bridge on N side
Nox-31^{*††}	3.9	4.4	Marten Creek Campground
Nox-52^{††}	0.0	0.1	South Shore Campground
Nox-61	No Survey	No Survey	Flatiron Fishing Access Site
Nox-73^{^†}	0.6	0.6	Vermillion Bay Boat Ramp
Nox-77^{††}	0.0	0.1	Trout Creek Boat Ramp
Nox-78^{††}	0.0	0.0	Kirby Gulch Boat Ramp
Nox-79^{^††}	No Survey (Boat Trouble)	0.1	Finley Flats Campground

Year treated for Eurasian watermilfoil: ^= 2021; * = 2020; † = 2019; ‡ = 2018

Tables 6-11. Calculated % canopy cover (based on modified Daubenmire Method using rake fullness as a substitute of percent cover for 2018-2021.)

Table 6. 2021	C05	C06	C12	C20	C29	C30	N01^	N02^	N03^	N04^	N08^	N11	N31	N52	N73^	N77	N78	N79^
Elodea spp.	12.3	31.9	19.9	12.9	21.0	13.0	4.5	41.9	18.1	23.0	14.2	19.3	30.4	4.3	8.9	2.8	-	-
Coontail	33.0	19.2	28.9	0	0	3.3	5.6	24.5	29.8	9.7	14.9	9.7	4.4	18.8	25.3	0	-	-
Eurasian watermilfoil	11.0	2.5	1.3	2.0	0.2	0.1	10.3	19.8	14.9	3.2	22.4	19.0	1.8	2.4	7.1	2.6	-	-
Curlyleaf pondweed	12.2	0	2.5	0	0	0.1	1.3	0.4	2.6	5.7	16.6	18.7	27.3	0.7	4.4	0	-	-
Native narrow-leaved pondweed spp.	0	0	0	0	0	4.4	2.1	1.8	2.2	4.3	19.3	4.4	1.9	0.2	1.4	2.7	-	-
White water buttercup	20.8	23.4	0.4	0.4	0	0.4	11.6	0.1	0.5	16.1	13.7	2.6	0	0.2	6.2	0	-	-
Chara spp.	1.6	0	0.1	0	0.2	0.8	18.9	2.4	5.1	6.1	6.6	18.3	1.3	11.9	0.1	5.3	-	-
Richardson's pondweed	0	0	0	3.3	0	0	0	0	1.7	1.3	0	0	0.3	0.0	2.2	2.5	-	-
Flowering rush	0	0	0	0	0	0.1	0	0.6	0	0	0	0	0	2.3	0	0	-	-
White-stemmed pondweed	0	0	0	0	0	0	0	0.8	0	0	0.6	0	0	8.0	0	0	-	-
Northern watermilfoil	0	0	0	0	0	0	0.1	0.3	0	0	0	0	0	0	0	0	-	-

^=Plots treated in 2021; Unable to sample N78 and N79 due to boat troubles

Untreated Controls

Table 7. 2021	C31	C32	C33	N05	N06	N09
Elodea spp.	26.4	18.6	12.9	28.3	8.2	-
Coontail	46.6	43.6	62.1	26.3	44.6	-
Eurasian watermilfoil	10.3	5.6	0	14.5	25.2	-
Curlyleaf pondweed	0	0	0	1.0	10.1	-
Native narrow-leaved pondweed spp.	0	0	0	0.4	3.4	-
White water buttercup	0	25.5	0	0.4	0.2	-
Chara spp.	0	0	0.0	10.6	0	-
Richardson's pondweed	0	0	0	0	0	-
Flowering rush	0	0	0	0	0.4	-
White-stemmed pondweed	0	0	0	0	1.0	-
Northern watermilfoil	0	0	0	0	0	-

Unable to sample N09 due to boat troubles

Table 8. 2020	C05	C06*	C12*	C20	C29	C30*	N01	N02	N03*	N04*	N08	N11	N31*	N52	N61	N73	N77	N78	N79
Elodea spp.	3.6	7.8	18.1	11.9	9.4	23.8	1.1	3.6	12.4	5.8	13.2	0.5	13.3	0	NA	0.1	0.6	5.3	1.8
Coontail	12.9	13.8	11.8	0	0	2.3	6.2	13.3	6.5	7.7	9.5	4.1	12.4	11.3	NA	11.6	3.3	0	12.1
Eurasian watermilfoil	0.1	0.6	1.2	0	0.7	1.1	0	0.8	2.8	4.9	0.1	0	1.5	0	NA	0.1	3.0	0	0.1
Curlyleaf pondweed	15.2	1.0	1.2	11.2	0	0	0.6	1.5	3.8	5.5	10.6	8.7	20.9	0.6	NA	4.0	0.2	0	0.1
Native narrow-leaved pondweed spp.	0	0	0	0	0	1.7	0.9	1.4	0.1	0	4.6	2.8	0.3	0.5	NA	0	0.2	9.4	1.2
White water buttercup	10.1	15.3	0.7	0	0	0.3	4.3	0	2.0	1.8	4.0	0.1	0.8	0	NA	1.0	0.0	0	0.1
Chara spp.	0.2	0	0	0	0	0.4	0.2	0.3	0	0.2	0.1	0	0.1	2.7	NA	0	0.1	0	0.6
Richardson's pondweed	0	0	0	0	0	0.1	0.1	0	0	0	0.1	0	0	0	NA	0	0.0	0	0.1
Flowering rush	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0.2	NA	0	0.0	0	0
White-stemmed pondweed	0	0	0	0	0	0	0	0	0	0.6	0.8	0	1.5	0.2	NA	0	0.0	0	0
Northern watermilfoil	0	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	NA	0.1	0.0	0	0

* = plots treated in 2020

Untreated Controls - First Surveyed in 2020

Table 9. 2020	C31	C32	C33	N05	N06	N09
Elodea spp.	4.7	11.0	7.6	1.6	12.5	0.5
Coontail	27.4	9.1	71.8	14.5	28.4	11.3
Eurasian watermilfoil	4.1	19.1	0	4.5	26.7	0
Curlyleaf pondweed	0.7	0	0	0	0.9	0
Native narrow-leaved pondweed spp.	0	0	0	1.7	1.2	1.6
White water buttercup	0	9.9	0	0	0	0
Chara spp.	0	0	0	0	0	0
Richardson's pondweed	0	0	0	0	0	0
Flowering rush	0	0	0	0	0	0
White-stemmed pondweed	0	0	0	0.2	1.0	0
Northern watermilfoil	0	0	0	0.6	0	0

Table 10. 2019	C05[†]	C06[†]	C12[†]	C20	C29[†]	C30[†]	N01	N02[†]	N03[†]	N04[†]	N08[†]	N11[†]	N31[†]	N52[†]	N61	N73[†]	N77[†]	N78[†]	N79[†]
Elodea spp.	7	19	24	30	31	5	6	40	0.2	19	3	9	12	1	NA	20	2	44	6
Coontail	18	14	17	0.2	0	2	17	27	10	23	18	53	12	12	NA	27	2	0.25	21
Eurasian watermilfoil	7	3	5	0	1	2	33	26	1	5	2	26	4	1	NA	26	3	6	0.3
Curlyleaf pondweed	10	0.1	4	10	0	0	0.03	0.1	2	5	7	1	28	1	NA	2	0	0	0.1
Native narrow-leaved pondweed spp.	0.1	0.2	0	0	0	3	1	1	0.3	0.1	1	2	0.4	1	NA	0	0	1	7
White water buttercup	6	5	0.1	0	0	0	1	0.1	0	0.4	0.5	0.6	0	0	NA	1	1	2	0.1
Chara spp.	1	0	0.1	0	0	0.2	0.1	0.1	0	0.1	0.2	0.3	0	1	NA	0	0	0	1
Richardson's pondweed	0	0	0	0.2	0	1	0.03	0	0	0	0.1	0.1	0	1	NA	0	0.2	0	0.1
Flowering rush	0	0	0	0	0	0.1	0	0	0	0	0	0.05	0	1	NA	0	0	0	0
White-stemmed pondweed	0	0	0	0	0	0	0	0.1	0	0	0.2	0	0	0	NA	0	0	0	0
Northern watermilfoil	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	NA	0	0	0	0
Grass leaved pondweed	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	NA	0	0	0	0
Waternymph spp.	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	NA	0	0	0	0

† = plots treated in 2019

Table 11. 2018	C05	C06	C12	C20	C29	C30	N01	N02	N03[‡]	N04[‡]	N08[‡]	N11	N31[‡]	N52[‡]	N61	N73	N77[‡]	N78[‡]	N79[‡]
Elodea spp.	19	30	11	24	7	7	25	8	2	11	6	12	15	2	0	10	2	17	9
Coontail	25	29	19	0	0	11	13	15	29	16	25	19	32	4	0	19	6	0	20
Eurasian watermilfoil	22	18	21	5	25	9	23	6	13	11	19	28	14	13	0	6	7	7	2
Curlyleaf pondweed	23	3	5	4	0	0.6	2	1	8	6	8	6	1	0	0	4	1	0	3
Leafy pondweed	0.5	3	1	2	0	7	6	7	0.5	6	14	15	14	4	0	0	1	7	2
White water buttercup	7	5	2	0.6	0	0	4	0	0	0	0	2	0	0	0	1	0	2	0
Chara spp.	5	0	1	0	0	3	3	0.5	0.5	8	9	8	0	20	0	4	3	0	0
Richardson's pondweed	0	2	2	1	0	9	4	7	2	2	2	3	0	5	0	1	3	0	0
Flowering rush	0	0	0	0	0	0.6	0.6	3	0	0	1	0	0	4	0	0	0	2	0.6
Northern watermilfoil	2	0	0	0	0	0	5	1	0.5	1	0	0.6	0	2	0	0.9	2	0	0.6
Grass leaved pondweed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isoetes spp.	0.5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alpine pondweed	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Ribbon leaf pondweed	0	0	0	0	0	0	2	0	0	0	0	0	0	0.5	0	0	0	0	0.6
Sheathed pondweed	0	0.5	0	0	0	3	0	0	0.5	0	0	0	0	0	0	0	0	0	0

‡ = plots treated in 2018

Species level differences among plots in 2018 - 2021

Percent change among years were calculated and results are in the tables below for each species. It is difficult to make much inference of change due to herbicide treatments alone as several different factors could contribute to said changes. Natural environmental variations such as water flows, temperatures, and hybridization strains could cause significant local macrophyte community variations and responses to herbicide among years. Additionally, sample methods varied with the use of a rake attached to a rope in 2018 versus a pole-attached rake in subsequent years. More sampling points per plot were collected in 2019 and again in 2020 (2021 numbers like 2020) compared to 2018 to increase analysis power.

The pole-attached rake implemented in 2019 helped improve repeatability of sample area. A rope attached rake can have variations in sampled area due to distance the rake was tossed, the depth of the water thus changing the angle of retrieval, and the rate of retrieval. In general, the pole-attached method appears more precise, but anecdotal evidence suggests it underestimates plant cover at the plot level. Subsequent consistent sampling among years will improve the overall sampling effort's precision but accuracy needs to be further evaluated. Even if the rake-pole sampling method underestimates cover, inference of variations among years can still be made in the future. Three control plots for each reservoir were added in 2020 to help decipher changes in abundances due to environmental changes such as water temperature, water clarity, etc. Subsequent sampling on control plots will continue.

Tables 12-22 show the calculated rake fulness used to compare EWM abundance among years for each plot. Percent changes represent those differences between 2020 and 2021 and between 2018 and 2021.

Table 12. <i>Myriophyllum spicatum</i>						
Eurasian watermilfoil						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
C05	21.9	7.4	0.1	11.0	10900	-50
C06	17.9	3.4	0.6	2.5	317	-86
C12	21.0	5.2	1.2	1.3	8	-94
C20	4.6	0	0	2.0	2 Increase from 0	-57
C29	24.8	0.9	0.7	0.2	-71	-99
C30	8.7	1.9	1.1	0.1	-91	-99
C31 ^C	No Survey	No Survey	4.1	10.3	151	N/A
C32 ^C	No Survey	No Survey	19.1	5.6	-71	N/A
C33 ^C	No Survey	No Survey	0	0	0	N/A
N01	23.0	33.1	0	10.3	10.3 Increase from 0	-55
N02	6.2	26.0	0.8	19.8	2375	219
N03	13.3	0.5	2.8	14.9	432	12
N04	11.4	4.7	4.9	3.2	-35	-72
N05 ^C	No Survey	No Survey	4.5	14.5	222	N/A
N06 ^C	No Survey	No Survey	26.7	25.2	-6	N/A
N08	19.4	1.9	0.1	22.4	22300	15
N09 ^C	No Survey	No Survey	0	No Survey	N/A	N/A
N11	27.8	26.0	0	19.0	19.0 Increase from 0	-32
N31	14.1	4.2	1.5	1.8	20	-87
N52	12.8	0.8	0	2.4	2.4 Increase from 0	-81
N61	0.0	No Survey	No Survey	No Survey	N/A	N/A
N73	6.1	25.9	0.1	7.1	7000	16
N77	6.6	3.4	3.0	2.6	-13	-61
N78	7.0	5.6	0	N/A	N/A	N/A
N79	1.7	0.3	0.1	N/A	N/A	N/A

^C = Control Plots (First surveyed in 2020)

Table 13. <i>Butomus umbellatus</i> Flowering rush						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
C05	0	0	0	0	0	0
C06	0	0	0	0	0	0
C12	0	0	0	0	0	0
C20	0	0	0	0	0	0
C29	0	0	0	0	0	0
C30	0.6	0.1	0.1	0.1	0	-83
C31 ^c	No Survey	No Survey	0	0	0	N/A
C32 ^c	No Survey	No Survey	0	0	0	N/A
C33 ^c	No Survey	No Survey	0	0	0	N/A
N01	0.6	0	0.1	0	-100	-100
N02	3.1	0	0	0.6	0.6 Increase from 0	-81
N03	0	0	0	0	0	0
N04	0	0	0	0	0	0
N05 ^c	No Survey	No Survey	0	0	0	N/A
N06 ^c	No Survey	No Survey	0	0.4	0.4 Increase from 0	N/A
N08	1.1	0	0	0	0	-100
N09 ^c	No Survey	No Survey	0	No Survey	N/A	N/A
N11	0	0	0	0	0	0
N31	0	0	0	0	0	0
N52	4.2	1.0	0.2	2.3	1050	-45
N61	0.0	No Survey	No Survey	No Survey	N/A	N/A
N73	0	0	0	0	0	0
N77	0	0	0	0	0	0
N78	1.8	0	0	No Survey	N/A	N/A
N79	0.6	0	0	No Survey	N/A	N/A

Table 14. <i>Potamogeton crispus</i> Curlyleaf pondweed						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
23.3	10.1	15.2	12.2		-20	-48
2.6	0.1	1.0	0		-100	-100
4.8	4.3	1.2	2.5		108	-48
3.5	9.7	11.2	0		-100	-100
0.0	0	0	0		0	0
0.6	0	0	0.1		0.1 Increase from 0	-83
No Survey	No Survey	0.7	0		-100	N/A
No Survey	No Survey	0	0		0	N/A
No Survey	No Survey	0	0		0	N/A
1.7	0	0.6	1.3		117	-24
1.1	0.1	1.5	0.4		-73	-64
7.9	1.5	3.8	2.6		-32	-67
6.3	4.8	5.5	5.7		4	-10
No Survey	No Survey	0	1.0		1.0 Increase from 0	N/A
No Survey	No Survey	0.9	10.1		1022	N/A
7.6	6.5	10.6	16.6		57	118
No Survey	No Survey	0	No Survey		N/A	N/A
6.1	0.8	8.7	18.7		115	207
0.6	28.2	20.9	27.3		31	4450
0	1.0	0.6	0.7		17	0.7 Increase from 0
0.0	No Survey	No Survey	No Survey		N/A	N/A
3.5	2.0	4.0	4.4		10	26
1.0	0	0.2	0		-100	-100
0	0	0	N/A		N/A	N/A
2.8	0.1	0.1	N/A		N/A	N/A

Table 15. <i>Ceratophyllum demersum</i> Coontail						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
C05	25.4	18.2	12.9	33.0	156	30
C06	28.9	14.5	13.8	19.2	39	-34
C12	18.9	17.3	11.8	28.9	145	53
C20	0	0.2	0	0	0	0
C29	0	0	0	0	0	0
C30	10.7	1.6	2.3	3.3	43	-69
C31 ^c	No Survey	No Survey	27.4	46.6	70	N/A
C32 ^c	No Survey	No Survey	9.1	43.6	379	N/A
C33 ^c	No Survey	No Survey	71.8	62.1	-14	N/A
N01	12.8	17.4	6.2	5.6	-10	-56
N02	15.4	27.0	13.3	24.5	84	59
N03	29.0	10.2	6.5	29.8	358	3
N04	15.8	22.7	7.7	9.7	26	-39
N05 ^c	No Survey	No Survey	14.5	26.3	81	N/A
N06 ^c	No Survey	No Survey	28.4	44.6	57	N/A
N08	24.6	18.3	9.5	14.9	57	-39
N09 ^c	No Survey	No Survey	11.3	No Survey	N/A	N/A
N11	18.8	53.1	4.1	9.7	137	-48
N31	32.1	12.4	12.4	4.4	-65	-86
N52	4.2	12.2	11.3	18.8	66	348
N61	0	No Survey	No Survey	No Survey	N/A	N/A
N73	18.8	26.7	11.6	25.3	118	35
N77	5.7	1.5	3.3	0	-100	-100
N78	0	0.3	0	No Survey	N/A	N/A
N79	20.2	20.9	12.1	No Survey	N/A	N/A

Table 16. <i>Chara</i> species Muskgrass species						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
	4.5	0.9	0.2	1.6	700	-64
	0	0	0	0	0	0
	1.4	0.1	0	0.1	0.1 increase from 0	-93
	0.0	0	0	0	0	0
	0	0	0	0.2	0.2 Increase from 0	0.2 Increase from 0
	3.3	0.2	0.4	0.8	100	-76
	No Survey	No Survey	0	0	0	N/A
	No Survey	No Survey	0	0	0	N/A
	No Survey	No Survey	0	0	0	N/A
	3.3	0.1	0.2	18.9	9350	473
	0.5	0.1	0.3	2.4	700	380
	0.5	0	0	5.1	5.1 Increase from 0	920
	8.2	0.1	0.2	6.1	2950	-26
	No Survey	No Survey	0	10.6	10.6 Increase from 0	N/A
	No Survey	No Survey	0	0	0	N/A
	8.6	0.2	0.1	6.6	6500	-23
	No Survey	No Survey	0.0	No Survey	N/A	N/A
	8.0	0.3	0	18.3	18.3 Increase from 0	129
	0	0	0.1	1.3	1200	0
	19.8	1.5	2.7	11.9	341	-40
	0.0	No Survey	No Survey	No Survey	N/A	N/A
	4.3	0	0	0.1	0.1 Increase from 0	-98
	2.9	0	0.1	5.3	5200	83
	0	0	0	No Survey	N/A	N/A
	0	0.5	0.6	No Survey	N/A	N/A

Table 17. <i>Elodea</i> species						
Waterweed species						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
C05	19.4	6.6	3.6	12.3	242	-37
C06	29.9	18.7	7.8	31.9	309	7
C12	11.1	24.3	18.1	19.9	10	79
C20	24.3	30.0	11.9	12.9	8	-47
C29	6.9	30.6	9.4	21.0	123	204
C30	6.6	5.3	23.8	13.0	-45	97
C31^c	No Survey	No Survey	4.7	26.4	462	N/A
C32^c	No Survey	No Survey	11.0	18.6	69	N/A
C33^c	No Survey	No Survey	7.6	12.9	70	N/A
N01	25.1	5.8	1.1	4.5	309	-82
N02	8.3	39.6	3.6	41.9	1064	405
N03	2.0	0.2	12.4	18.1	46	805
N04	10.8	18.5	5.8	23.0	297	113
N05^c	No Survey	No Survey	1.6	28.3	1669	N/A
N06^c	No Survey	No Survey	12.5	8.2	-34	N/A
N08	6.1	3.0	13.2	14.2	8	133
N09^c	No Survey	No Survey	0.5	No Survey	N/A	N/A
N11	11.9	9.4	0.5	19.3	3760	62
N31	14.5	11.6	13.3	30.4	129	110
N52	1.6	0.5	0	4.3	4.3 Increase from 0	169
N61	0.0	No Survey	No Survey	No Survey	N/A	N/A
N73	10.3	20.0	0.1	8.9	8800	-14
N77	1.9	1.7	0.6	2.8	367	47
N78	17.0	43.6	5.3	No Survey	N/A	N/A
N79	8.6	5.9	1.8	No Survey	N/A	N/A

Table 18. <i>Myriophyllum sibiricum</i>						
Northern watermilfoil						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
	1.6	0	0	0	0	-100
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
	No Survey	No Survey	0	0	0	N/A
	No Survey	No Survey	0	0	0	N/A
	No Survey	No Survey	0	0	0	N/A
	4.9	0	0.1	0.1	0	-98
	1.1	0	0	0.3	0.3 Increase from 0	-73
	0.5	0	0.1	0	-100	-100
	1.1	0	0	0	0	-100
	No Survey	No Survey	0.6	0	-100	N/A
	No Survey	No Survey	0	0	0	N/A
	0	0	0	0	0	0
	No Survey	No Survey	0	No Survey	N/A	N/A
	0.6	0.2	0	0	0	-100
	0	0	0	0	0	0
	1.6	0	0	0	0	-100
	0	No Survey	No Survey	No Survey	N/A	N/A
	0.9	0	0.1	0	-100	-100
	1.9	0	0	0	0	-100
	0	0	0	No Survey	N/A	N/A
	0.6	0	0	No Survey	N/A	N/A

Table 19. Narrow leaved <i>Potamogeton</i> species Pondweed species (sago, leafy, etc.)						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
C05	0.5	0.1	0	0	0	-100
C06	2.6	0.2	0	0	0	-100
C12	1.4	0	0	0	0	-100
C20	1.8	0	0	0	0	-100
C29	0	0	0	0	0	0
C30	7.0	2.7	1.7	4.4	159	-37
C31 ^c	No Survey	No Survey	0	0	0	N/A
C32 ^c	No Survey	No Survey	0	0	0	N/A
C33 ^c	No Survey	No Survey	0	0	0	N/A
N01	6.0	1.0	0.9	2.1	133	-65
N02	6.8	1.4	1.4	1.8	29	-74
N03	0.5	0.3	0.1	2.2	2100	340
N04	5.7	0.1	0	4.3	4.3 Increase from 0	-25
N05 ^c	No Survey	No Survey	1.7	0.4	-76	N/A
N06 ^c	No Survey	No Survey	1.2	3.4	183	N/A
N08	14.1	0.8	4.6	19.3	320	37
N09 ^c	No Survey	No Survey	1.6	N/A	N/A	N/A
N11	15.1	1.8	2.8	4.4	57	-71
N31	13.8	0.4	0.3	1.9	533	-86
N52	4.2	0.5	0.5	0.2	-60	-95
N61	0	No Survey	No Survey	No Survey	N/A	N/A
N73	0	0	0	1.4	1.4 Increase from 0	1.4 Increase from 0
N77	1.0	0	0.2	2.7	1250	170
N78	7.0	0.8	9.4	No Survey	N/A	N/A
N79	2.2	6.8	1.2	No Survey	N/A	N/A

Table 20. <i>Potamogeton praelongus</i> White-stemmed pondweed					
2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
No Survey	No Survey	0	0	0	N/A
No Survey	No Survey	0	0	0	N/A
No Survey	No Survey	0	0	0	N/A
0	0	0	0	0	0
0	0.1	0	0.8	0	0.8 Increase from 0
0	0	0	0	0	0
0	0	0.6	0	-100	0
No Survey	No Survey	0.2	0	-100	N/A
No Survey	No Survey	1.0	1.0	0	N/A
0.0	0.2	0.8	0.6	-25	0.6 Increase from
No Survey	No Survey	0	N/A	N/A	N/A
0	0	0	0	0	0
0	0	1.5	0	-100	0
0	0	0.2	8.0	3900	8.0 Increase from 0
0	No Survey	No Survey	No Survey	N/A	N/A
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	No Survey	N/A	N/A
0	0	0	No Survey	N/A	N/A

Table 21. <i>Potamogeton richardsonii</i> Richardson's pondweed						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
C05	0	0	0	0	0	0
C06	1.6	0	0	0	0	-100
C12	2.1	0	0	0	0	-100
C20	1.2	0.2	0	3.3	3.3 increase from 0	175
C29	0	0	0	0	0	0
C30	8.7	1.2	0.1	0	-100	-100
C31 ^c	No Survey	No Survey	0	0	0	N/A
C32 ^c	No Survey	No Survey	0	0	0	N/A
C33 ^c	No Survey	No Survey	0	0	0	N/A
N01	3.9	0	0.1	0	-100	-100
N02	6.7	0	0	0	0	-100
N03	1.5	0	0	1.7	1.7 increase from 0	13
N04	1.6	0	0	1.3	1.3 increase from 0	-19
N05 ^c	No Survey	No Survey	0	0	0	N/A
N06 ^c	No Survey	No Survey	0	0	0	N/A
N08	2.2	0.1	0.1	0	-100	-100
N09 ^c	No Survey	No Survey	0	N/A	N/A	N/A
N11	3.3	0.1	0	0	0	-100
N31	0.0	0.0	0	0.3	0.3 increase from 0	0.3 increase from 0
N52	4.7	1.0	0	0	0	-100
N61	0	No Survey	No Survey	No Survey	N/A	N/A
N73	0.9	0.0	0	2.2	2.2 increase from 0	144
N77	2.8	0.2	0	2.5	2.5 increase from 0	-11
N78	0	0	0	No Survey	N/A	N/A
N79	0.0	0.1	0.1	No Survey	N/A	N/A

Table 22. <i>Ranunculus aquatilis</i> White waterbuttercup						
	2018	2019	2020	2021	2020-2021 % Change	2018-2021 % Change
	7.3	5.9	10.1	20.8	106	185
	4.7	4.7	15.3	23.4	53	398
	2.0	0.1	0.7	0.4	-43	-80
	0.6	0	0	0.4	0.4 increase from 0	-33
	0	0	0	0	0	0
	0	0	0.3	0.4	33	0.4 increase from 0
	No Survey	No Survey	0	0	0	N/A
	No Survey	No Survey	9.9	25.5	158	N/A
	No Survey	No Survey	0	0.0	0	N/A
	3.9	0.9	4.3	11.6	170	197
	0	0.1	0	0.1	0	0.1 increase from 0
	0.1	0	2.0	0.5	-75	400
	0	0.4	1.8	16.1	794	16.1 increase from 0
	No Survey	No Survey	0	0.4	0.4 increase from 0	N/A
	No Survey	No Survey	0	0.2	0.2 increase from 0	N/A
	0.0	0.5	4.0	13.7	243	13.7 increase from 0
	No Survey	No Survey	0	No Survey	N/A	N/A
	2.2	0.6	0.1	2.6	2500	18
	0	0	0.8	0	-100	0
	0	0	0.0	0.2	0.2 increase from 0	0.2 increase from 0
	0	No Survey	No Survey	No Survey	N/A	N/A
	0.9	0.5	1.0	6.2	520	589
	0	1.2	0	0	0	0
	1.8	1.9	0	No Survey	N/A	N/A
	0	0.1	0.1	No Survey	N/A	N/A

Untreated Control Plot Maps –
Eurasian Watermilfoil (*Myriophyllum spicatum*)

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

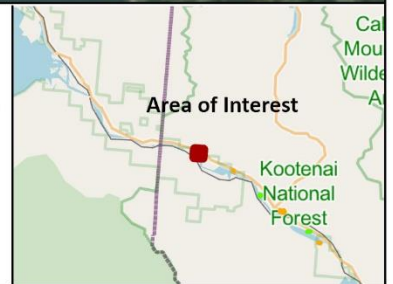
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

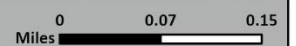
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-
-

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-05

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



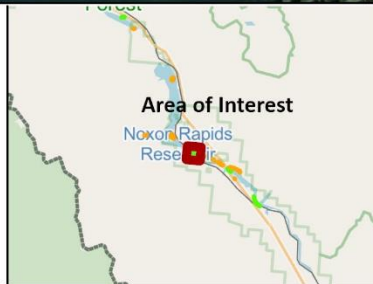
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



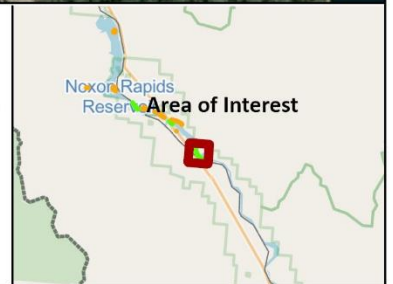
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Untreated Control Plot Maps –
Curlyleaf Pondweed (*Potamogeton crispus*)

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-

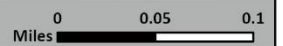
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

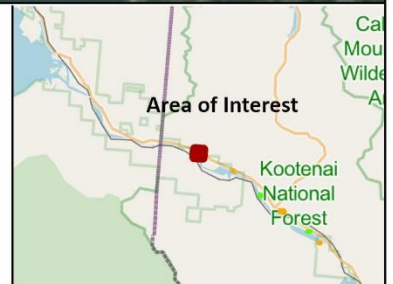
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

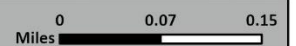
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

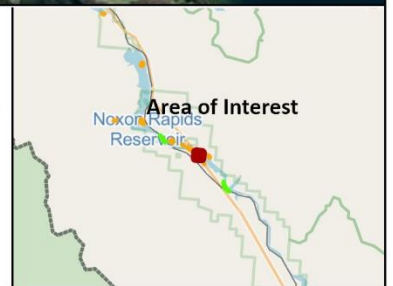
- +
-
-
-
-
-
-

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-05

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

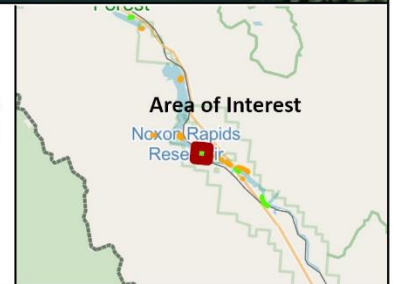
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

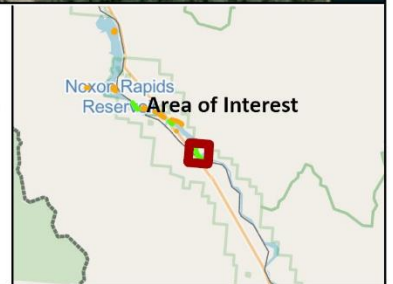
- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Treatment Plot Maps –
Eurasian Watermilfoil (*Myriophyllum spicatum*)

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



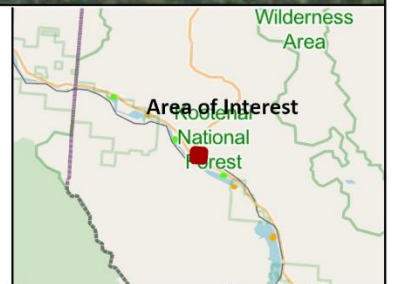
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-05

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

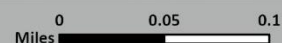
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-06

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



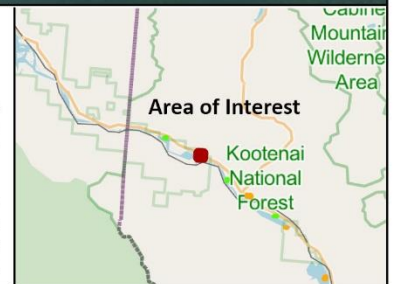
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-12

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-20

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

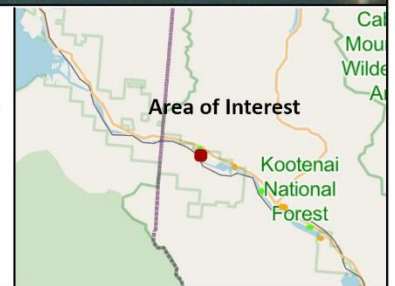
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-29

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



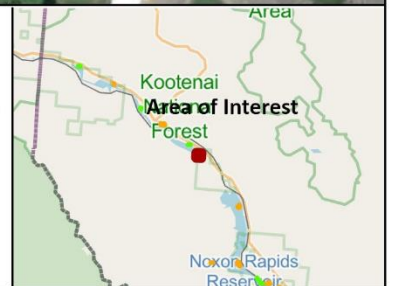
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



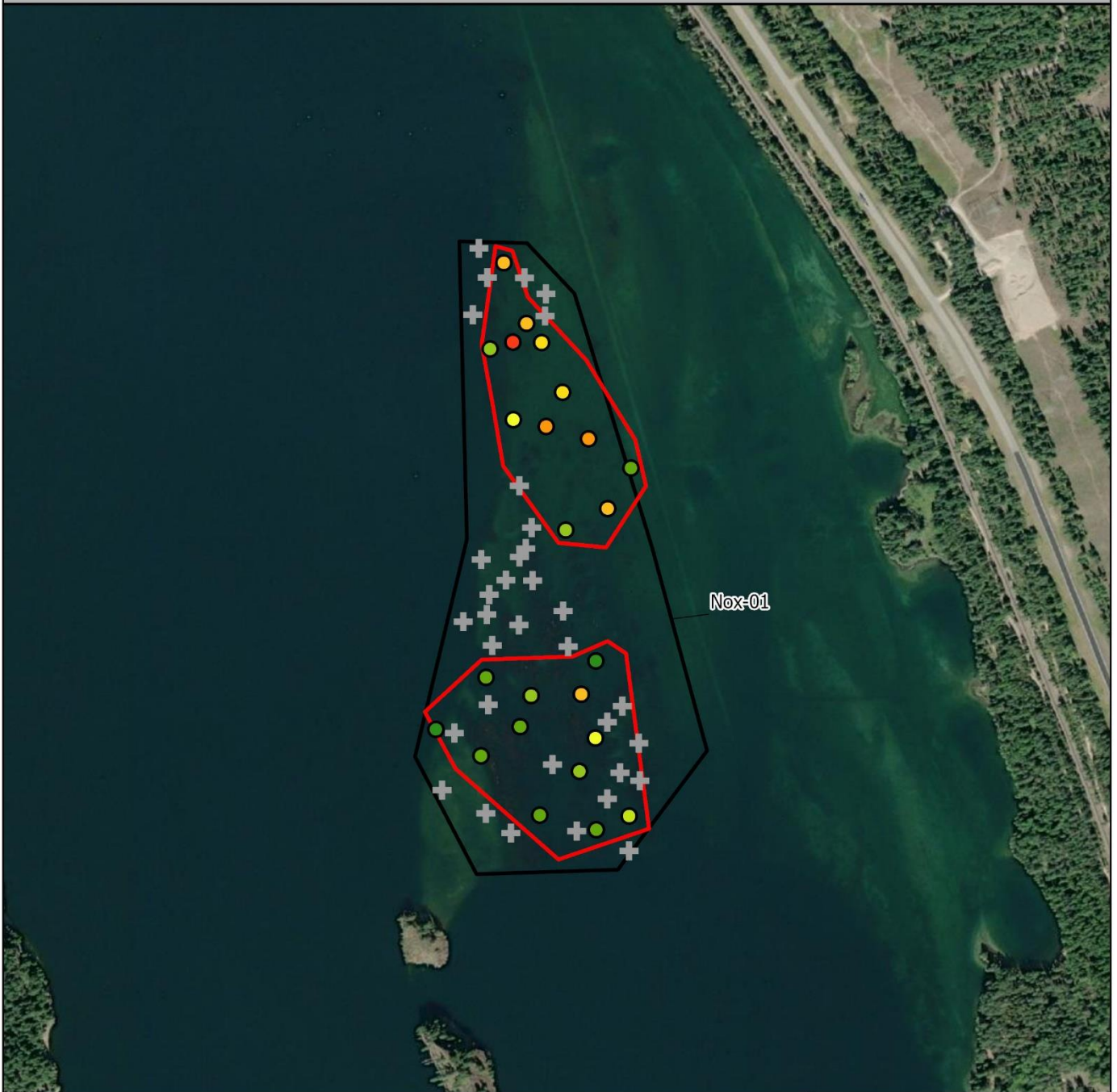
Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-30

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-01

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



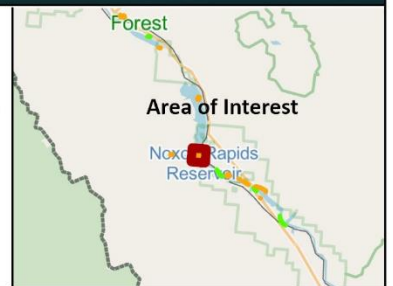
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

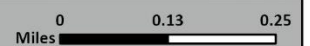
- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-02

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-03

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

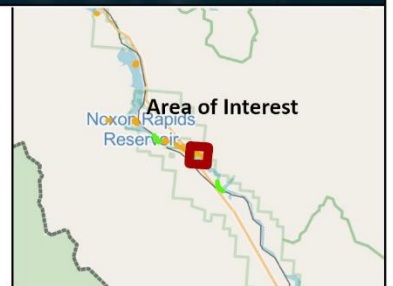
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-
-

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



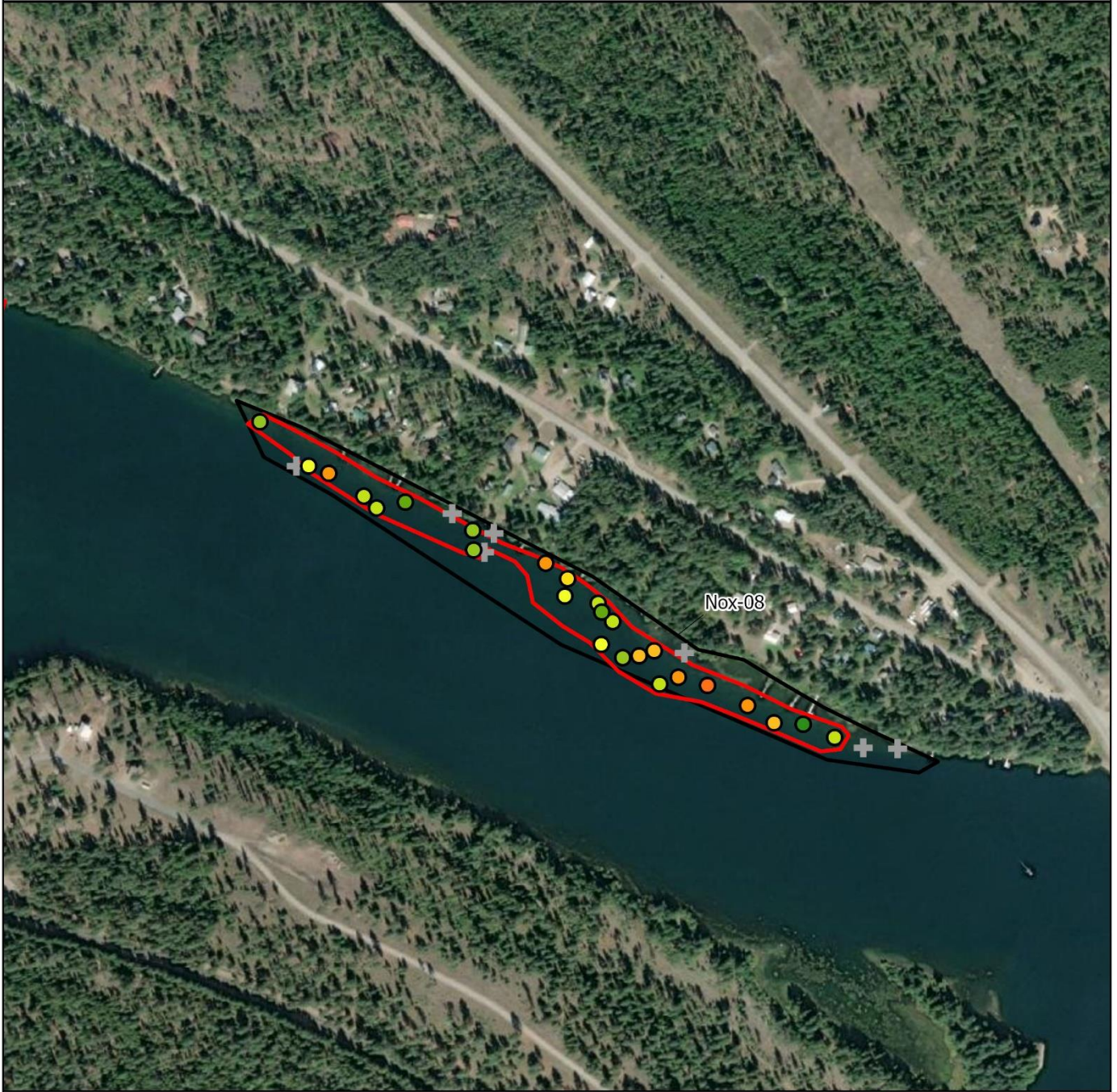
Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-04

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-
-

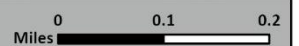
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



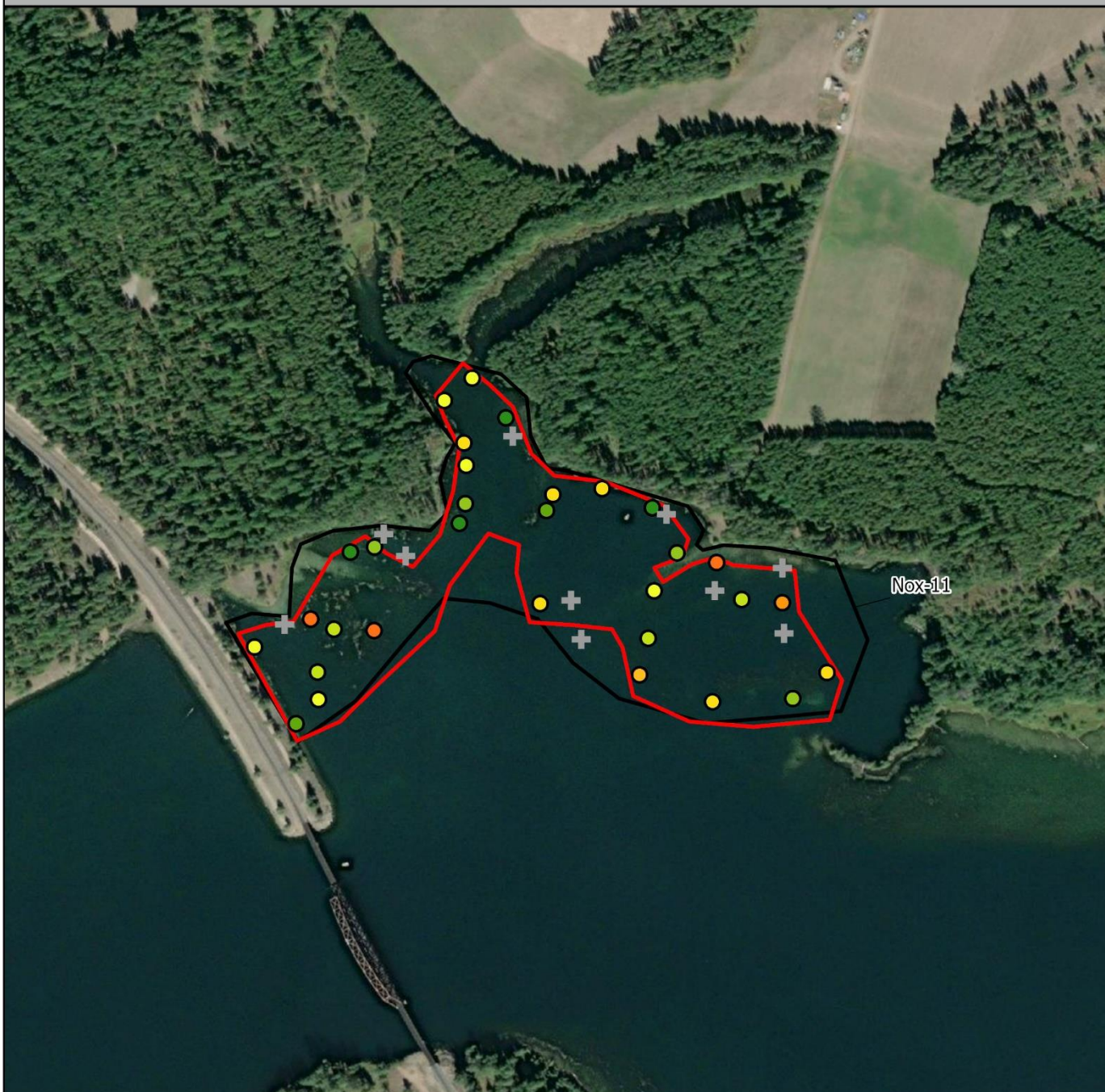
Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-08

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



Nox-11

PreTreat2021Results

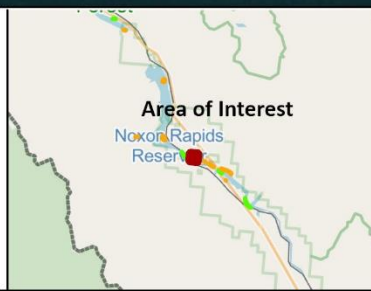
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

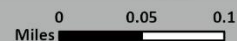
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-11

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



Nox-31

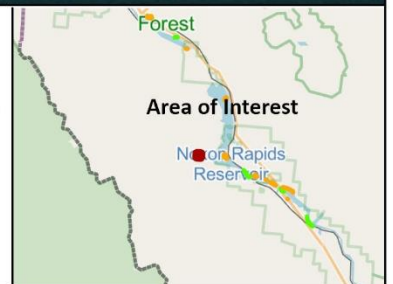
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-31

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-52

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



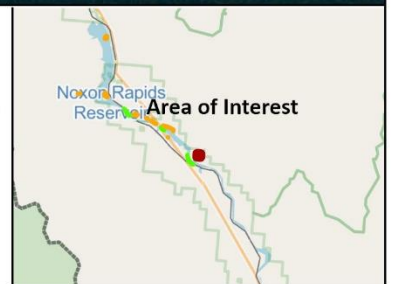
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

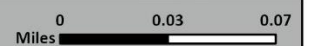
- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-73

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

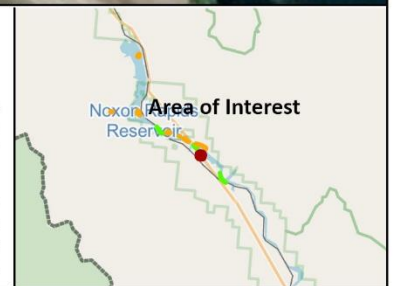
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-77

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

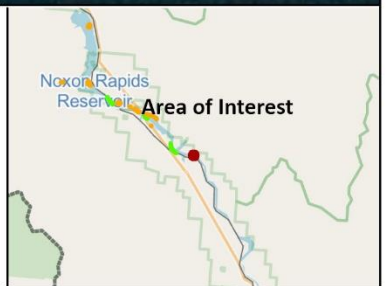
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PreTreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-78

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Eurasian Watermilfoil Results



PreTreat2021Results

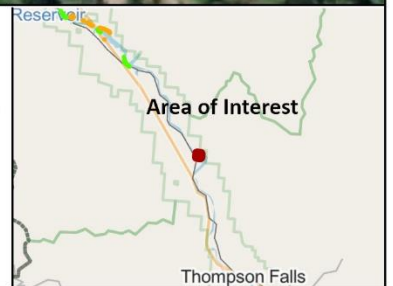
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx - 7/20/21



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-79

Treatment Plot Maps –
Curlyleaf Pondweed (*Potamogeton crispus*)

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-05

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

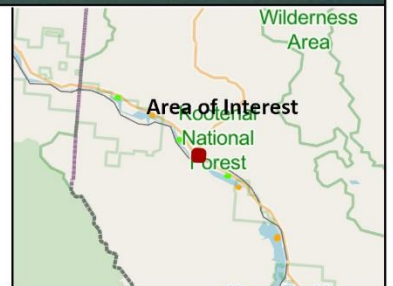
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-

- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-06

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

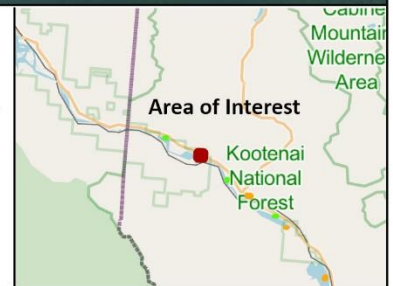
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-12

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-

- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-20

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results

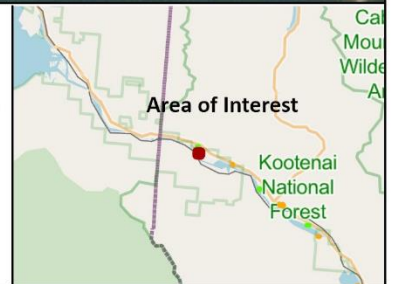


PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx

Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-29

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

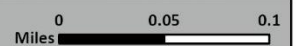
- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



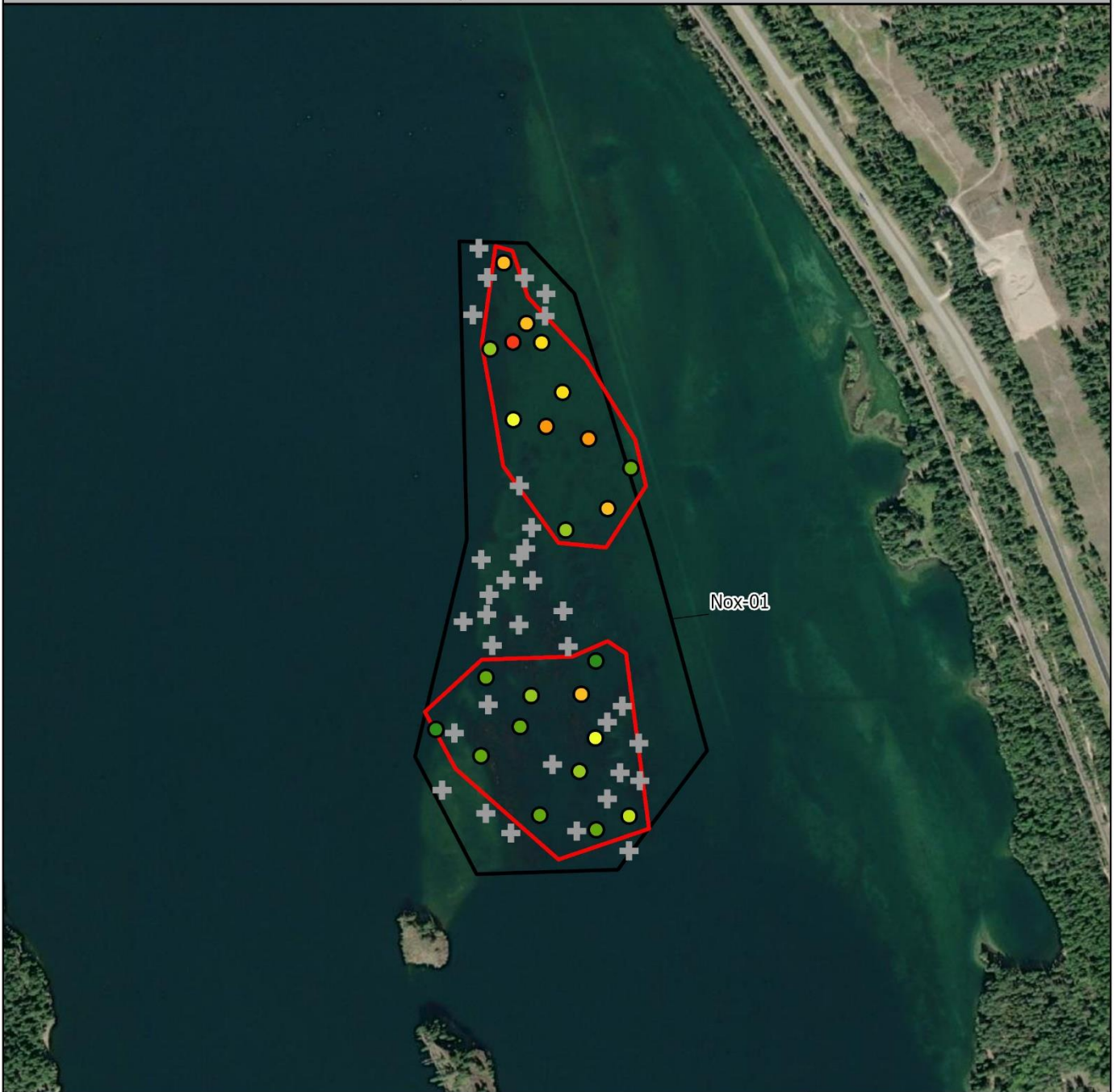
Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Cab-30

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-01

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

⊕ 0 - 2

● 3 - 6

● 7 - 12

● 13 - 18

● 19 - 25

● 26 - 32

● 33 - 42

● 43 - 55

● 56 - 72

● 73 - 90

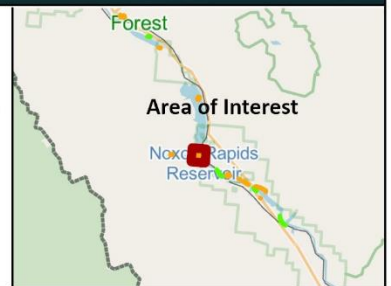
● 91 - 100

▭ Potential Eurasian Watermilfoil Treatment Area 2021

▭ Control Plots (Established 2020)

▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-02

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

+

0 - 2

●

3 - 6

●

7 - 12

●

13 - 18

●

19 - 25

●

26 - 32

●

33 - 42

● 43 - 55

● 56 - 72

● 73 - 90

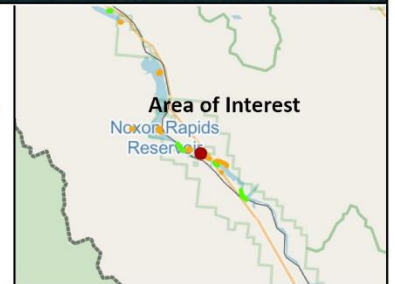
● 91 - 100

▭ Potential Eurasian Watermilfoil Treatment Area 2021

▭ Control Plots (Established 2020)

▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-03

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

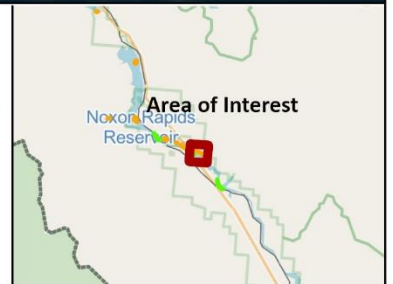
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
-
-
-
-
-
-

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



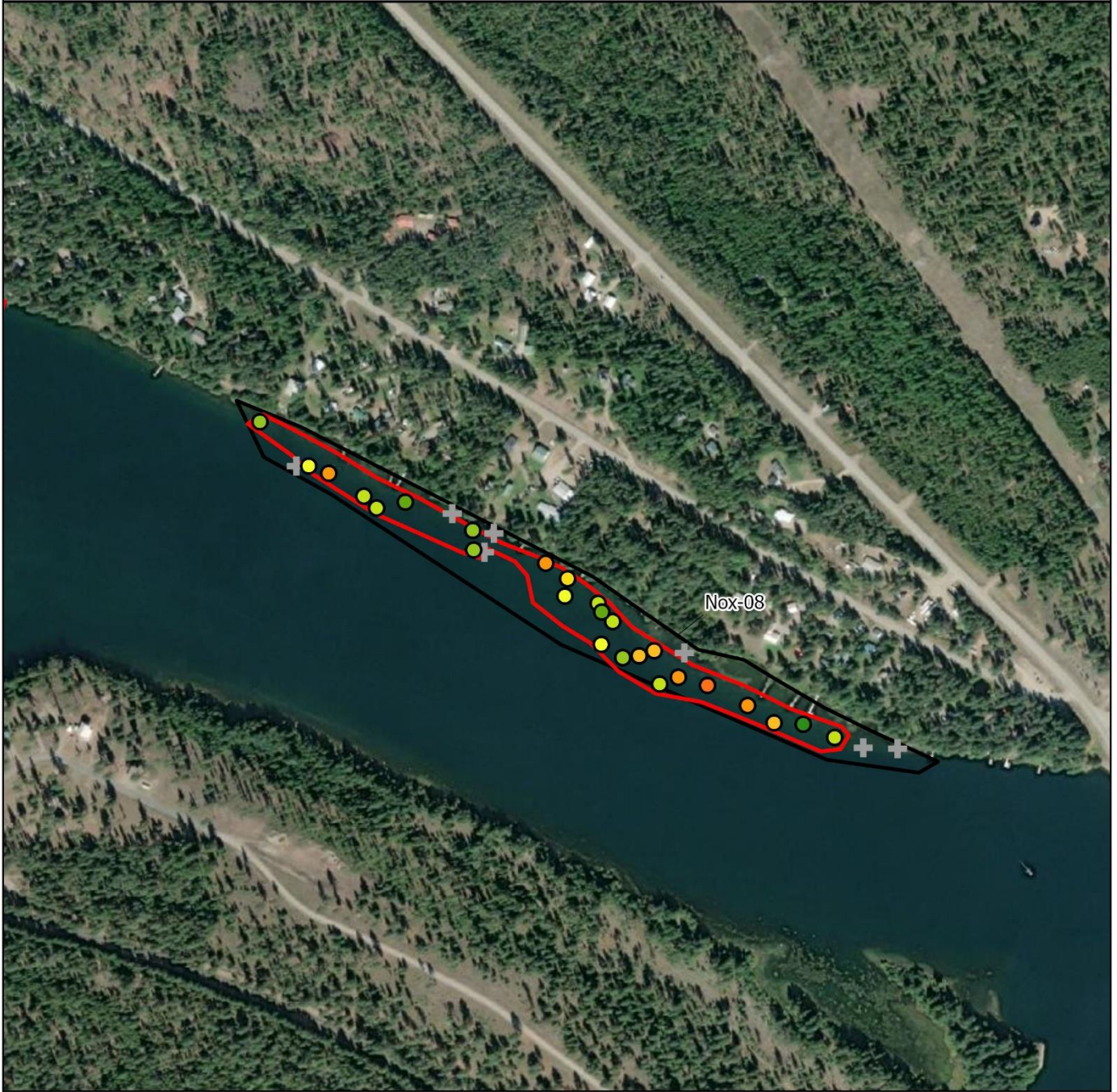
Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-77

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx

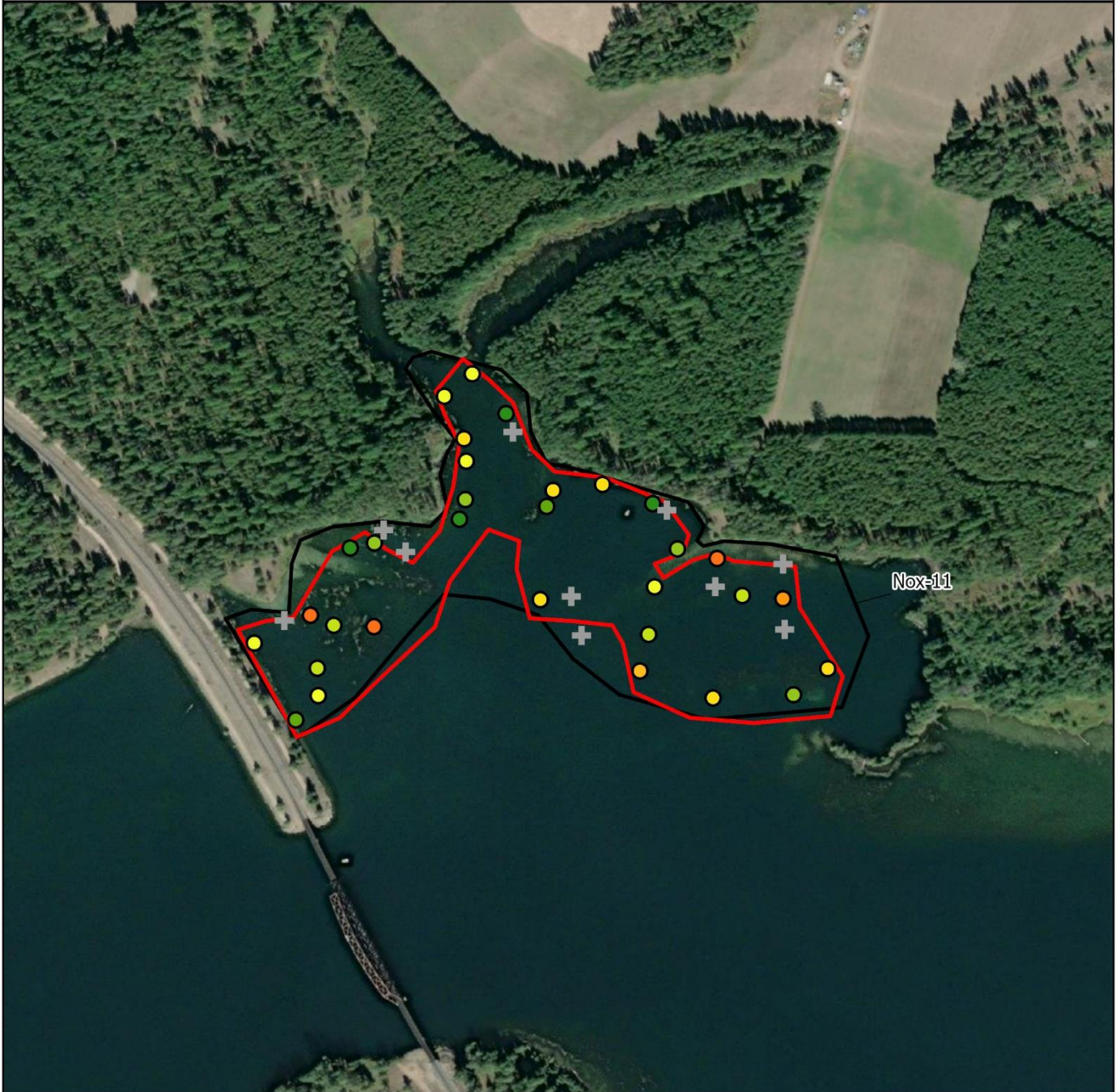


Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

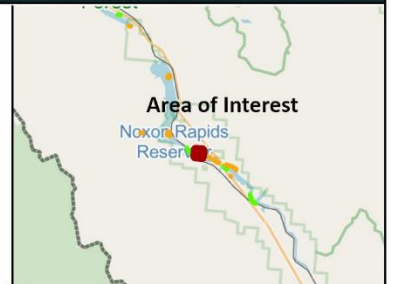
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-11

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



Nox-31

PreTreat2021Results

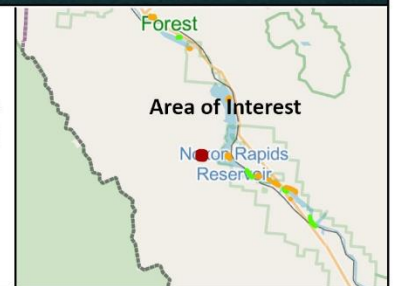
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



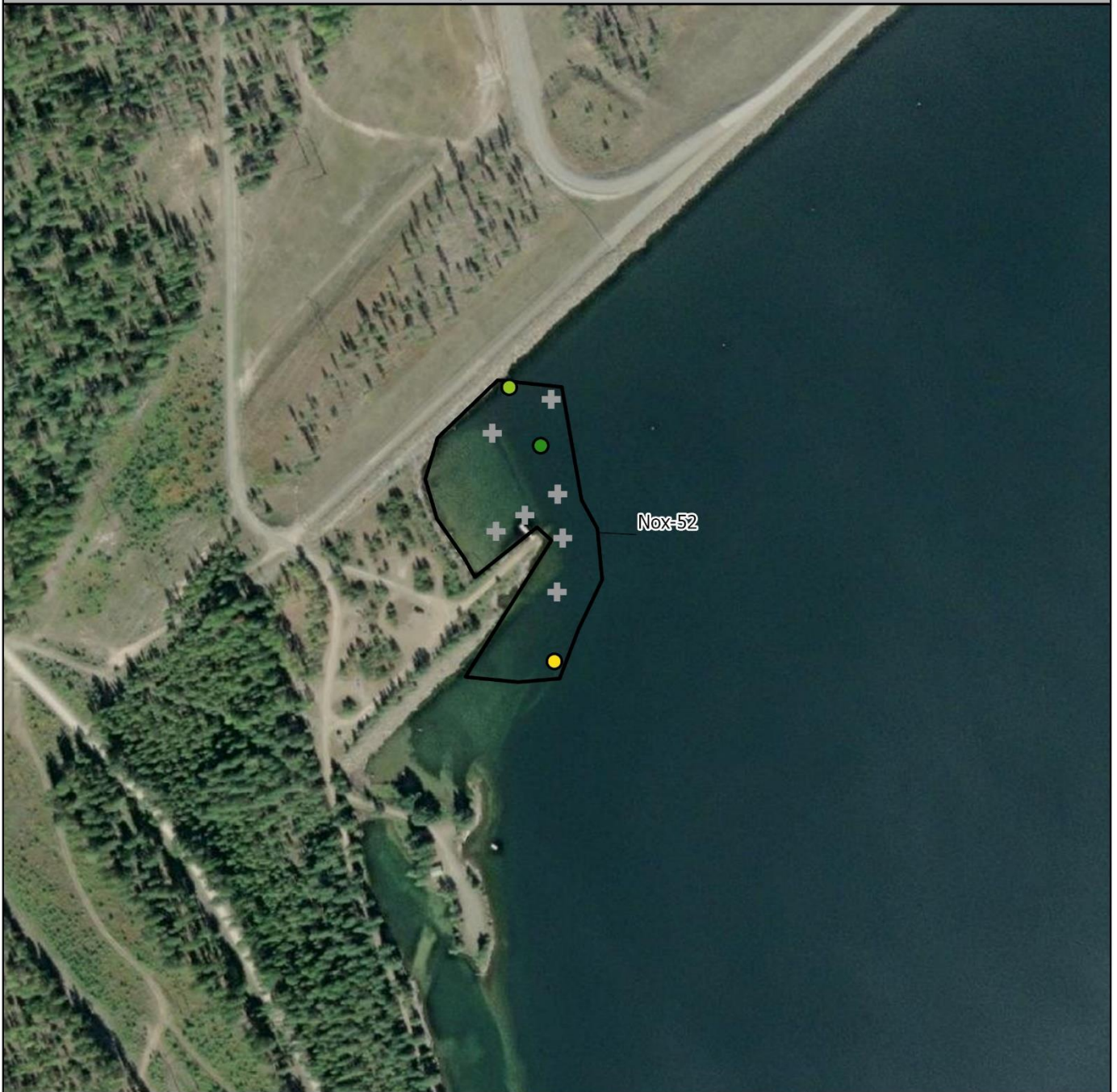
Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-31

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



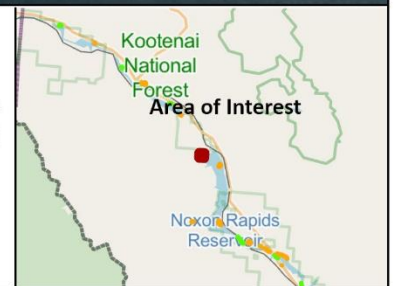
PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-52

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

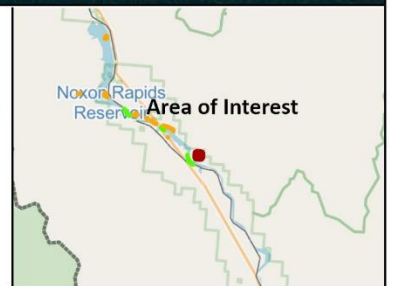
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- ⊕ 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- ▭ Potential Eurasian Watermilfoil Treatment Area 2021
- ▭ Control Plots (Established 2020)
- ▭ Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-73

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

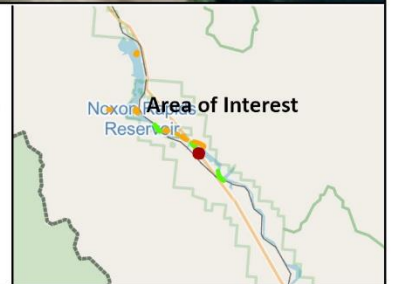
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- +
- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-77

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results

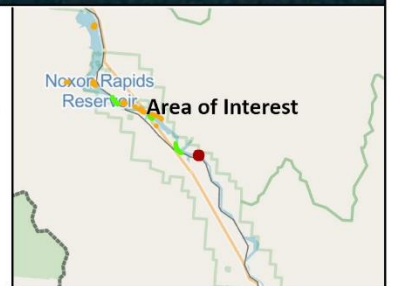


PreTreat2021Results

Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100
- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area



Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx

Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-78

Sampling Results and Potential Treatment Plots for 2021 MONTANA FWP

Curlyleaf Pondweed Results



PreTreat2021Results

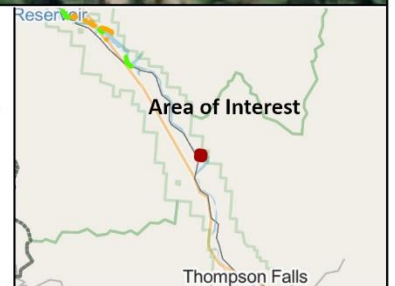
Eurasian Watermilfoil Coverage Rank (% Rake Fullness)

- 0 - 2
- 3 - 6
- 7 - 12
- 13 - 18
- 19 - 25
- 26 - 32
- 33 - 42

- 43 - 55
- 56 - 72
- 73 - 90
- 91 - 100

- Potential Eurasian Watermilfoil Treatment Area 2021
- Control Plots (Established 2020)
- Plot Survey Area

Map valid for: 2021 season
 Map Produced by: AIS Bureau
 Author: Craig McLane
 2021PretreatResults.aprx



Credits:
 Sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI.



Nox-79