

EVALUATION OF EURASIAN WATERMILFOIL BEDS IN CABINET GORGE AND NOXON RAPIDS RESERVOIRS, SANDERS COUNTY, MT - 2024

Findings for Eurasian watermilfoil plot delineation surveys of Cabinet Gorge and Noxon Reservoirs. Montana Fish, Wildlife, & Parks staff conducted the surveys in partnership with the Sanders County Invasive Plant Task Force during September 2024.



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Sanders County, Montana

By: Craig McLane
MT Fish, Wildlife, & Parks
1420 E 6th Ave
Helena, MT 59601
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Map series of comparison of Eurasian watermilfoil bed surveys among 3 years (2017, 2021, & 2024) on Noxon Rapids and Cabinet Gorge Reservoirs Appendix 1 (Separate Document)

Introduction

The Sanders County Invasive Plant Task Force works to manage the spread of Eurasian watermilfoil (*Myriophyllum spicatum*) on Noxon Rapids and Cabinet Gorge Reservoirs since 2008. As part of this management, the Task Force performed reservoir-wide surveys in many of the years following 2008. These surveys track the spread and occurrence of Eurasian watermilfoil (EWM) over time. In 2018, Montana Fish, Wildlife, & Parks (FWP) agreed to assist the Task Force with sampling work in both reservoirs to reduce cost burdens on the Task Force. The Task Force could then utilize freed up funds for other management costs. The Task Force and FWP decided to perform this reservoir-wide survey again in 2024 and attempted to complete this in 2024. However, time constraints prevented staff from completing the whole reservoir-wide point intercept survey so Eurasian watermilfoil beds were mapped. Discussions in 2025 will determine if a complete reservoir-wide survey needs to be completed again in 2025 including the point intercept surveys or other sampling effort.

Methods

Pre-treatment survey data for potential plots performed in June 2024 were not included in this report but can be found in the Noxon Rapids Reservoir and Cabinet Gorge Reservoir Herbicide Pretreatment Survey Report – 2024.

Established EWM bed boundaries were delineated using previous survey efforts from surveys by GRI (2009, 2013), Hansen Environmental (2014,2016), Water & Environmental Technologies (WET) (2017), and FWP (2018, 2021). Plot polygons of established EWM created during the sampling in 2017 by WET and revised in 2021 were the basis of surveys in 2024. When technicians noticed new unmapped beds while moving between known beds, those new beds were mapped and assigned a new plot ID. Each bed was also given a visual percent cover (i.e. coverage) ranking of 0 to 5 (0: not present, 1: 0-20%, 2: 20-40%, 3: 40-60%, 4: 60-80%, 5: 80-100%). Points in deeper water outside the littoral zone were not sampled as it is unlikely to find macrophytes growing at that depth in these systems.

After sample collection, creation of bed shapes, sizes, and percent cover (coverage) were made using GIS software. Comparisons among years (2017, 2021, & 2024) are available in Appendix 1 of this report. All three of these years' surveys incorporated visual percent cover estimations to determine extent and coverage of EWM for each bed. During surveys in 2017 and 2021 utilization of rake throws from point-intercept surveys (more in 2017 than in 2021) helped delineate the beds and establish the coverage of EWM. However, actual bed boundaries were often made with visual observations during calm winds with ideal lighting allowing surveyors to see submerged growing EWM beds (often topping out or nearly so). As such, comparison with 2024 data seem feasible at the plot (bed) level. However, many areas within both reservoirs were not surveyed systematically in 2024 for new EWM beds, so caution should be used when drawing conclusions or extrapolating results among years at the lake level.

The lack of point intercept sampling prevents any quantitative analysis regarding species richness changes overtime. Additionally, no examination of EWM bed compositions with native species can be made with 2024 sampling data.

Results and Discussion

Noxon Rapids Reservoir

Crews sampled known existing beds and any unmapped beds discovered while traveling to established beds. The littoral zone of Noxon Rapids Reservoir encompasses 1,942 acres. Crews surveyed 614 acres or 32% of littoral zone of Noxon Rapids Reservoir, which is comparable to previous mapping efforts (Figure 1). They mapped 445.5 acres of EWM beds with EWM coverage varying from sparse to nearly 100% covered (Table 1). Overall, in 2024, EWM coverage seemed reduced compared to other years, which is consistent to pretreatment surveys performed June 2024. Figure 2 compiled results of all beds surveyed during each of the three reservoir surveys. The total number of EWM bed acres in 2024 is conservative due to annual herbicide applications that took place in August 2024. Table 2 provides details for each EWM bed surveyed in 2017, 2021, 2024. In 2024, the task force treated 11.4 acres of EWM beds in Noxon Rapids Reservoir within plots NOX_04, NOX_31, and NOX_52. Areas treated for EWM clearly show reductions of EWM in 2024 to undetectable levels within the bed and aren't included in the totals. It is likely these plots will have EWM presence in subsequent years.

Table 1. Number of acres within Noxon Rapids Reservoir broken down by EWM percent cover levels.

Rank	Noxon Rapids Reservoir Eurasian Watermilfoil Coverage	Acres
0	No EWM	170
1	1%-20%	78
2	21%-40%	38
3	41%-60%	156
4	61%-80%	89
5	81%-100%	84
Total acres of surveyed beds with Eurasian watermilfoil		445

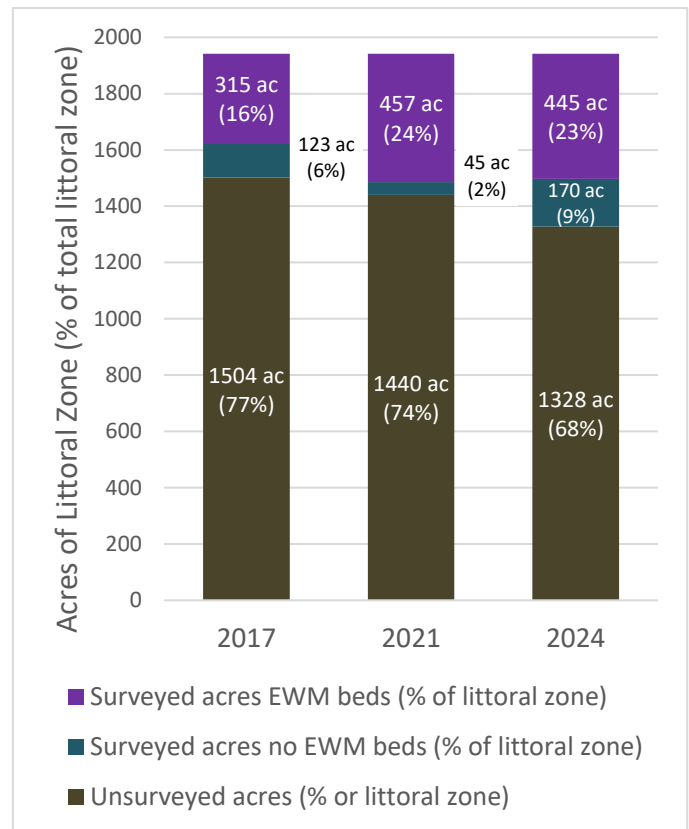


Figure 1. Breakdown of surveyed littoral zone by survey efforts for Eurasian watermilfoil (acres) on Noxon Rapids Reservoir (1,942 total acres within littoral zone).

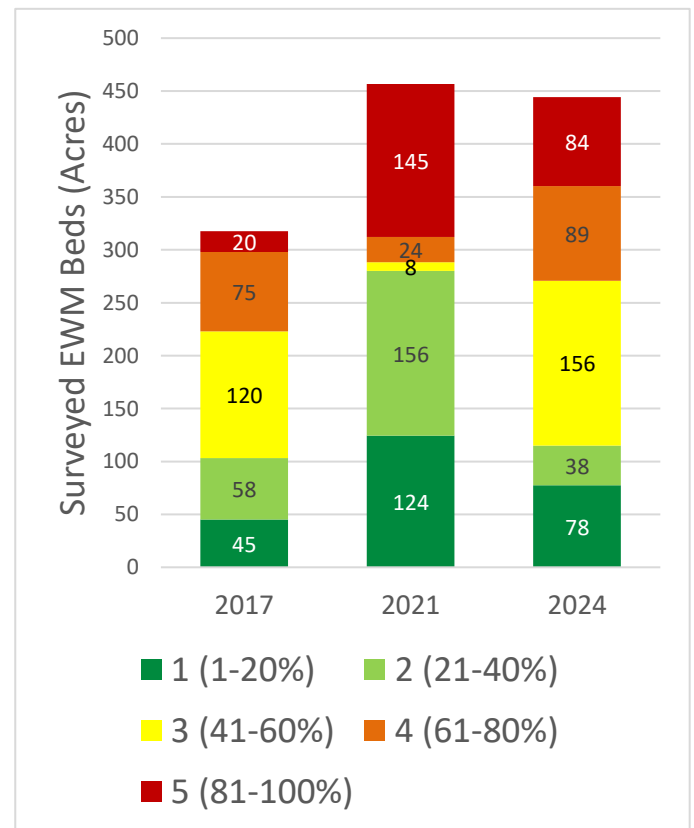


Figure 2. Breakdown by coverage ranking of surveyed Eurasian watermilfoil beds (acres) - Noxon Rapids Reservoir

Table 2. Details of EWM Bed details (percent cover and acreage, treatment years) for each plot within Noxon Rapids Reservoir.

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
					2017			2021			2024			
		2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
NOX_01/45	NOX_01/45.1	0	5	3	3.7	0	3.7	23.3	19.9	3.4	37.4	28.2	9.3	2009, 2013, 2016, 2019, 2021,2022, 2023
	NOX_01/45.2	0	2	0	11.0	0	11.0	11.0	11.0	0	11.0	0	11.0	2009, 2013, 2016, 2019, 2021,2022, 2023
	NOX_01/45.3			3						0	14.8	14.8	0	
	Plot Totals				14.6	0	14.6	34.2	30.9	3.4	63.2	43.0	20.2	
NOX_02	NOX_02.1	0	2	0	7.7	0	7.7	12.2	7.7	4.4	7.7	0	7.7	2012, 2016, 2019, 2021,2023
	NOX_02.2	1	2	0	6.3	6.3	0	11.3	6.3	5.1	6.3	0	6.3	2012, 2016, 2019, 2021,2023
	NOX_02.3			2						0	2.4	0.2	2.3	
	Plot Totals				14.0	6.3	7.7	23.5	14.0	9.5	16.4	0.2	16.2	
NOX_03/37/59	NOX_03/37/59.1	2	5	3	22.8	22.8	0	14.7	14.7	0	15.2	6.1	9.0	2009, 2013, 2015, 2018, 2019, 2020, 2021, 2022,2023
	NOX_03/37/59.2		2	4				3.1	3.1	0	3.1	3.0	0.1	2009, 2013, 2015, 2018, 2019, 2020, 2021, 2022,2023
	NOX_03/37/59.3		5	4				2.5	2.5	0	2.8	2.5	0.3	
	NOX_03/37/59.4	3		2	0.2	0.2				0	0.4	0.3	0.1	
	Plot Totals				23.0	23.0	0	20.3	20.3	0	21.5	12.0	9.5	
Nox_04	NOX_04.1	4	2	2	7.4	7.4	0	7.4	7.4	0	8.4	7.4	1.0	No Treatments
	NOX_04.2	3	2	1	13.6	13.6	0	13.6	13.6	0	16.8	3.0	13.8	2012, 2015, 2016, 2018, 2019, 2020, 2021, 2022,2023, 2024
	NOX_04.3			1						0	0.7	0.4	0.3	
	Plot Totals				21.0	21.0	0	21.0	21.0	0	25.9	10.8	15.1	
NOX_05	NOX_05.1a	4.0	5.0	5	22.0	22.0	0	22.0	22.0	0	20.2	18.9	1.3	2012, 2015, 2018, 2019
	NOX_05.1b			3						0	2.8	0.6	2.2	2012, 2015, 2018, 2019
	NOX_05.2	3.0	2.0	3	0	0	0	0.1	04	0	0.1	03	0.1	2012, 2015, 2018, 2019
	NOX_05.3	3.0	2.0	0	0	0	0	0.1	02	0.1	0.1	00	0.1	2012, 2015, 2018, 2019
	NOX_05.4	3.0	2.0	0	0.1	0.1	0	0.1	0.1	0	0.1	0	0.1	2012, 2015
	NOX_05.5	5.0	5.0	5	19.7	19.7	0	19.6	19.1	0.5	19.8	18.7	1.1	2012, 2015
	Plot Totals				41.8	41.8	0	41.8	41.2	0.6	43.1	38.3	4.9	

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
							Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
				2017	2021	2024										
NOX_06	NOX_06.1	3	4	5	13.6	13.6	0	13.6	13.6	0	15.4	13.6	1.8	2012, 2015		
	NOX_06.2	5			3				1.5	1.5	0	1.5	0.7	0.8	2012, 2015	
	Plot Totals				13.6	13.6	0	15.1	15.1	0	16.9	14.3	2.6			
NOX_07	NOX_07.1	3	5	4	2.8	2.8	0	3.4	3.4	0	6.6	6.0	0.6	2010, 2016		
	NOX_07.2	1	1	3	8.9	8.9	0	6.3	5.0	1.3	5.2	1.9	3.3	2010, 2016		
	NOX_07.3	5			3				0.2	0.2	0	0.8	0.8	0.1	2010, 2016	
	NOX_07.4	5			4				10	10	0	7.4	6.6	0.7	2010, 2016	
	Plot Totals				11.6	11.6	0	19.9	18.6	1.3	20.1	15.3	4.7			
NOX_08	NOX_08.1	2	2	1	11.3	11.3	0	11.3	11.3	0	11.8	1.2	10.6	2010, 2012, 2014, 2015, 2016, 2021, 2022,2023		
NOX_09	NOX_09.1	4	5	2	3.4	3.4	0	3.5	3.1	0.4	3.5	2.8	0.7	2012		
NOX_10	NOX_10.1	3	2	5	13.1	13.1	0	13.1	13.1	0	16.4	14.8	1.6	2012, 2015, 2016		
NOX_11	NOX_11.1	1	5	4	0.7	0.7	0	2.1	2.1	0	2.8	1.4	1.4	2012, 2019,2022		
	NOX_11.2	5			4				2.5	2.5	0	2.6	2.5	0.1	2012, 2019,2022	
	NOX_11.3	4			5				2.1	2.1	0	2.5	2.0	0.5	2012, 2019,2022	
	NOX_11.4	4	2	4	0.4	0.4	0	13.2	13.2	0	8.0	4.6	3.5	2012, 2019,2022		
	NOX_11.5	3	Split from 11-4	5	10.3	10.3	0	0			7.5	6.6	1.0	2012, 2019		
	Plot Totals				11.4	11.4	0	19.9	19.9	0	23.5	17.1	6.4			
NOX_12	NOX_12.1	3	0	1	16.8	16.8	0	16.8	0	16.8	18.1	16.2	1.9	2012		
NOX_14/26	NOX_14/26	2			2.0	2.0	0									
NOX_24	NOX_24.1	3	1	1	3.8	3.8	0	3.8	3.8	0	3.9	1.2	2.8	2012		
NOX_30	NOX_30.1	3	5	4	3.6	3.6	0	4.6	4.6	0	11.2	5.9	5.4	2013, 2016		

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
NOX_31	NOX_31.1	2	1	0	0.6	0.6	0	0.9	0.9	0	0.9	0	0.9	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024		
	NOX_31.2	4	3	0	0.1	0.1	0	0.1	0.1	0	0.1	0	0.1	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024		
	NOX_31.3	3	2	0	0.1	0.1	0	0.1	0.1	0	0.1	0	0.1	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024		
	NOX_31.4	1	2	1	0.7	0.7	0	0.7	0.7	0	1.3	0.3	1.0	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024		
	NOX_31.5	4	3	1	0.1	0.1	0	0.2	0.1	0.1	0.2	0.1	0.1	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024		
	Plot Totals				1.6	1.6	0.0	1.9	1.9	0.1	2.6	0.4	2.2			
NOX_42	NOX_42.1	2	5	1	4.2	4.2	0	0.7	0.7	0	3.5	3.3	0.2	2013		
NOX_43/44	NOX_43/44.1	4	2	4	31.7	31.7	0	31.9	31.9	0	37.3	30.8	6.6	2013		
	NOX_43/44.2		5	3				1.4	1.4	0	2.5	1.8	0.6	2013		
	Plot Totals				35.9	35.9	0.0	34.0	34.0	0	43.3	35.9	7.4			
NOX_46	NOX_46.1	0	5	3	0.1	0.0	0.1	2.7	2.7	0	5.7	5.0	0.8			
NOX_48	NOX_48.1	4	0	3	0.4	0.4	0	0.4	0.0	0.4	0.4	0.4	0	2018, 2019		
	NOX_48.2	2	1	3	2.0	2.0	0	2.0	2.0	0	2.1	2.1	0.1	2018, 2019		
	NOX_48.3	1	1	3	1.6	1.6	0	1.6	1.6	0	7.4	7.4	0	No treatments		
	NOX_48.4	0	1	3	84.7	0.0	84.7	81.7	81.7	0	47.1	37.5	9.7	2018, 2019		
	NOX_48.5	1	1	3	26.5	26.5	0	21.3	21.3	0	25.3	16.9	8.4	No treatments		
	NOX_48.6	0	1	1	5.3	0.0	5.3	5.3	5.3	0	3.7	1.1	2.6	No treatments		
	NOX_48.7		4	3				5.6	5.6	0	5.7	8.8	-3.1	No treatments		
	NOX_48.8		5	0				2.6	2.6	0	2.6	0	2.6	No treatments		
	NOX_48.9			2						0	23.3	20.8	2.4			
	NOX_48.10			1						0	11.9	5.2	6.7			
	Plot Totals				120.5	30.5	90.0	120.6	120.2	0.4	129.5	100.1	29.4			

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
							Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Years Treated			
NOX_50	NOX_50.1	3	2	1	22.5	22.5	0	18.6	18.6	0	8.3	6.6	1.8	No treatments		
	NOX_50.2		5	1				0.2	0.2	0	0.4	0.3	0.1	No treatments		
	NOX_50.3		5	1				3.9	3.9	0	7.3	7.0	0.3	No treatments		
	NOX_50.4			1							5.6	2.4	3.2			
	Plot Totals				22.5	22.5	0	22.7	22.7	0	19.3	16.3	5.4			
NOX_52	NOX_52.1	3	2	0	0.7	0.7	0	0.7	0.7	0	0.7	0	0.7	No treatments		
	NOX_52.2	2	1	0	0.4	0.4	0	0.4	0.4	0	0.4	0	0.4	2018, 2019,2022, 2024		
	NOX_52.3	2	1	0	1.4	1.4	0	1.4	1.4	0	1.4	0	1.4	2018, 2019,2022, 2024		
	NOX_52.4	1	2	0	0.6	0.6	0	0.6	0.6	0	0.6	0	0.6	2018, 2019,2022, 2024		
	Plot Totals				3.0	3.0	0	3.0	3.0	0	3.1	0	3.1			
NOX_54	NOX_54.1	4	2	1	2.5	2.5		2.5	2.5	0	2.5	1.6	1.0	2014		
NOX_56	NOX_56.1	4	5	5	2.3	2.3		3.3	1.6	1.6	8.5	6.2	2.3	2015		
NOX_57	NOX_57.1	3	5	4	6.8	6.8		8.4	7.4	1.0	11.0	9.3	1.7	2015		
NOX_60	NOX_60.1a	2	5	5	0.3	0.3	0	3.3	3.3	0	2.1	1.8	0.3			
	NOX_60.1b			4						0	2.6	1.6	1.0			
	NOX_60.2			5						0	0.4	0.4	0			
	Plot Totals				0.3	0.3	0	3.3	3.3	0	5.1	3.8	1.4			
NOX_61	NOX_61.1	0	0		0.2	0	0.2	0.2	0	0.2						
NOX_62	NOX_62.1	0			0.3	0	0.3									
NOX_63	NOX_63.1	2	2	2	0.8	0.8	0	0.8	0.8	0	3.5	3.5	0			
	NOX_63.2		5	0				0.1	0.1	0	0.5	0	0.5			
	Plot Totals				0.8	0.8	0	0.9	0.9	0	4.0	3.5	0.5			
NOX_64	NOX_64.1	3			0	0										
NOX_65	NOX_65.1	3			0	0										

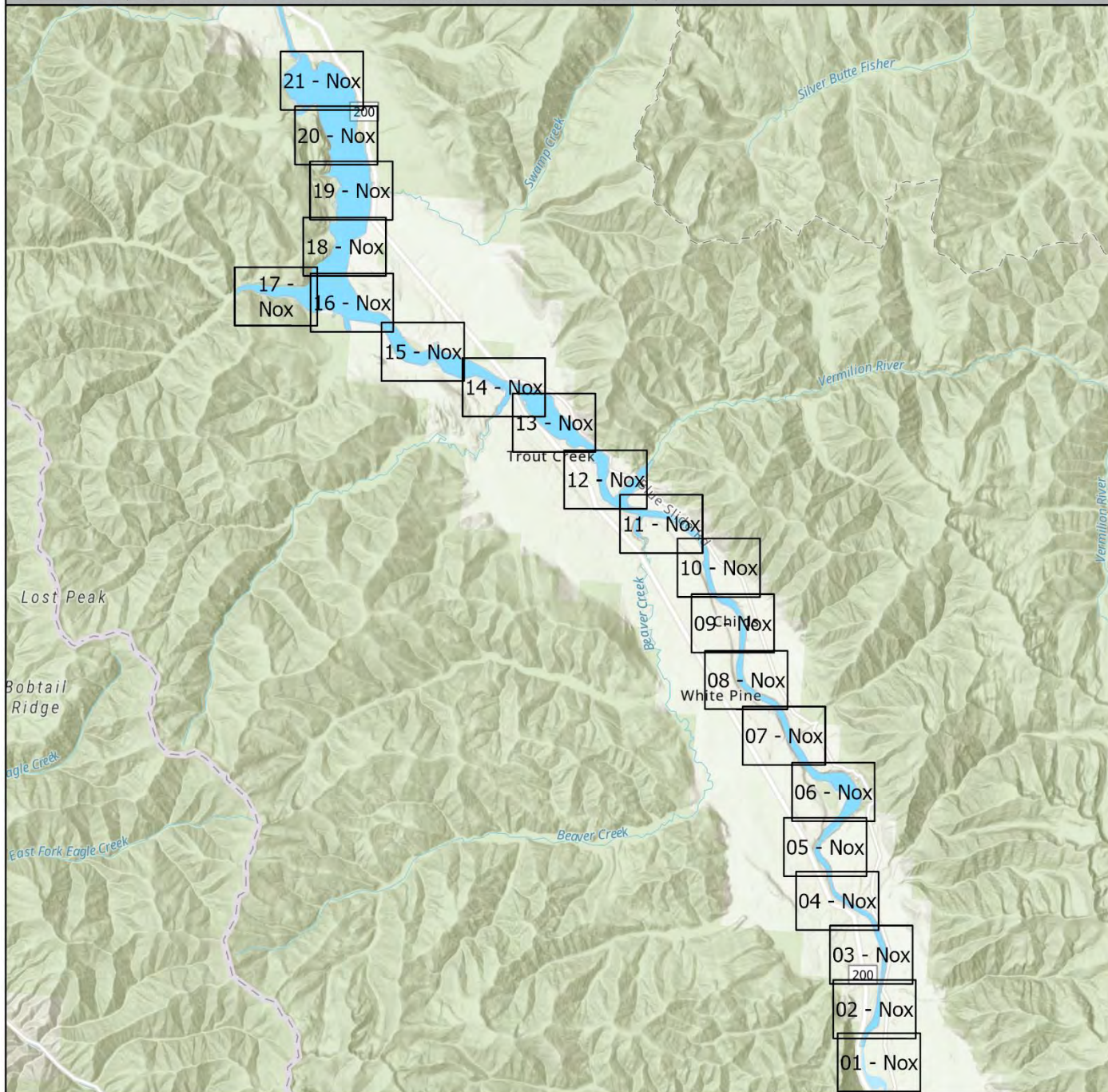
Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
NOX_66	NOX_66.1	3	2	1	2.5	2.5	0	2.5	2.5	0	2.7	1.4	1.3	2018, 2019		
NOX_67	NOX_67.1	4	1	1	0.6	0.6	0	0.6	0.6	0	0.9	0.8	0.1			
NOX_68	NOX_68.1	3	2	1	0.6	0.6	0	0.6	0.6	0	0.9	0.7	0.2			
NOX_69	NOX_69.1	0	0	1	6.4	0	6.4	6.4	0	6.4	5.1	5.1	0			
NOX_70	NOX_70.1	2	2	1	2.6	2.6		2.6	2.6	0	2.7	2.6	0			
NOX_71	NOX_71.1	2	2	1	6.5	6.5	0	5.0	5.0	0	2.3	2.3	0			
	NOX_71.2		5	1				1.1	1.1	0	2.1	2.1	0			
	NOX_71.3		5	1				0.6	0.6	0	0.5	0.5	0			
	Plot Totals				6.5	6.5	0	6.7	6.7	0	4.8	4.8	0			
NOX_72	NOX_72.1	0	4	3	4.0	0	4.0	4.6	2.6	1.9	3.1	3.1	0			
NOX_73	NOX_73.1	3	1	4	0.4	0.4	0	0.4	0.4	0	0.1	0	0.1	2019, 2021,2023		
	NOX_73.2			4						0	0.4	0.1	0.3			
	NOX_73.3			2						0	0.1	0.1	0			
	Plot Totals				0.4	0.4	0	0.4	0.4	0	0.6	0.3	0.3			
NOX_74	NOX_74.1	3	2	4	1.2	1.2		1.2	1.2	0	1.2	1.1	0.1			
NOX_75	NOX_75.1	2	2	4	2.3	2.3	0	1.4	1.4	0	0.7	0.6	0			
	NOX_75.2		5	4				1.1	1.1	0	4.5	2.9	1.7			
	NOX_75.3			5						0	1.4	1.3	0.2			
	Plot Totals				2.3	2.3	0	2.5	2.5	0	6.7	4.8	1.9			
NOX_76	NOX_76.1	2	3	1	0.3	0.3		0.3	0.3	0	0.5	0.5	0			
NOX_77	NOX_77.1	4	5	3	3.9	3.9		4.0	2.8	1.2	4.3	3.6	0.7	2018, 2019,2022		
NOX_80	NOX_80.1		5	0				0.6	0.6	0	2.8	0	2.8			
NOX_81	NOX_81.1		5	1				0.1	0.1	0	0.5	0.5	0			
NOX_82	NOX_82.1		5	2				0.9	0.9	0	1.8	1.8	0			

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres				
				2017	2021	2024										
NOX_83	NOX_83.1	5		4				0.5	0.5	0	0.7	0.5	0.2			
	NOX_83.2			2				0			0.7	0.6	0.1			
	NOX_83.3			1				0			2.5	2.5	0			
	Plot Totals							0.5	0.5	0	3.8	3.6	0.2			
NOX_84	NOX_84.1	5		3				2.6	2.6	0	3.8	2.6	1.3			
NOX_85	NOX_85.1	5		4				1.3	1.3	0	3.0	2.3	0.6			
NOX_86	NOX_86.1	5		1				0.5	0.5	0	0.6	0.2	0.4			
NOX_87	NOX_87.1	5		1				2.9	2.9	0	9.5	6.5	3.0			
	NOX_87.2			3				0			1.1	1.1	0			
	Plot Totals							2.9	2.9	0	10.6	7.6	3.0			
NOX_88	NOX_88.1	3	3	4	7.5	7.5		7.5	7.5	0	9.2	7.5	1.7			
NOX_89	NOX_89.1	3						0			3.6	3.6	0			
NOX_90	NOX_90.1	1						0			0.8	0.8	0			
NOX_91	NOX_91.1	1						0			0.2	0.2	0			
NOX_92	NOX_92.1	3						0			8.7	8.8	0			
NOX_93	NOX_93.1	1						0			1.2	1.2	0			

Eurasian Watermilfoil Bed Index Map

MONTANA FWP

Index of map numbers for Eurasian watermilfoil beds on Noxon Rapids Reservoir



 Detailed Map & Number

Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

0 1.25 2.5
Miles

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



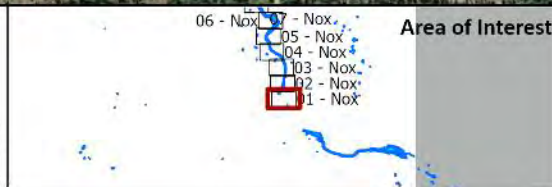
Eurasian Watermilfoil Density

0 - 0% - No EWM	3 - 41-60%
1 - 1%-20%	4 - 61-80%
2 - 21-40%	5 - 81-100%



Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

0 0.13 0.25
Miles

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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MONTANA FWP

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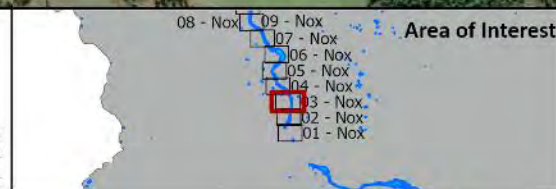


Eurasian Watermilfoil Density



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Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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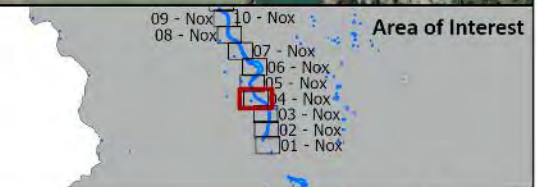


Eurasian Watermilfoil Density



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CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



0 0.13 0.25
Miles

Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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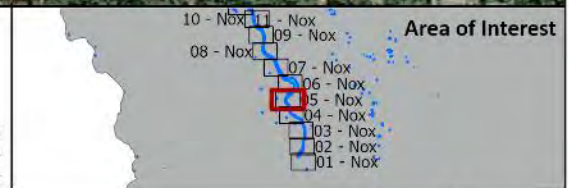


Eurasian Watermilfoil Density



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CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



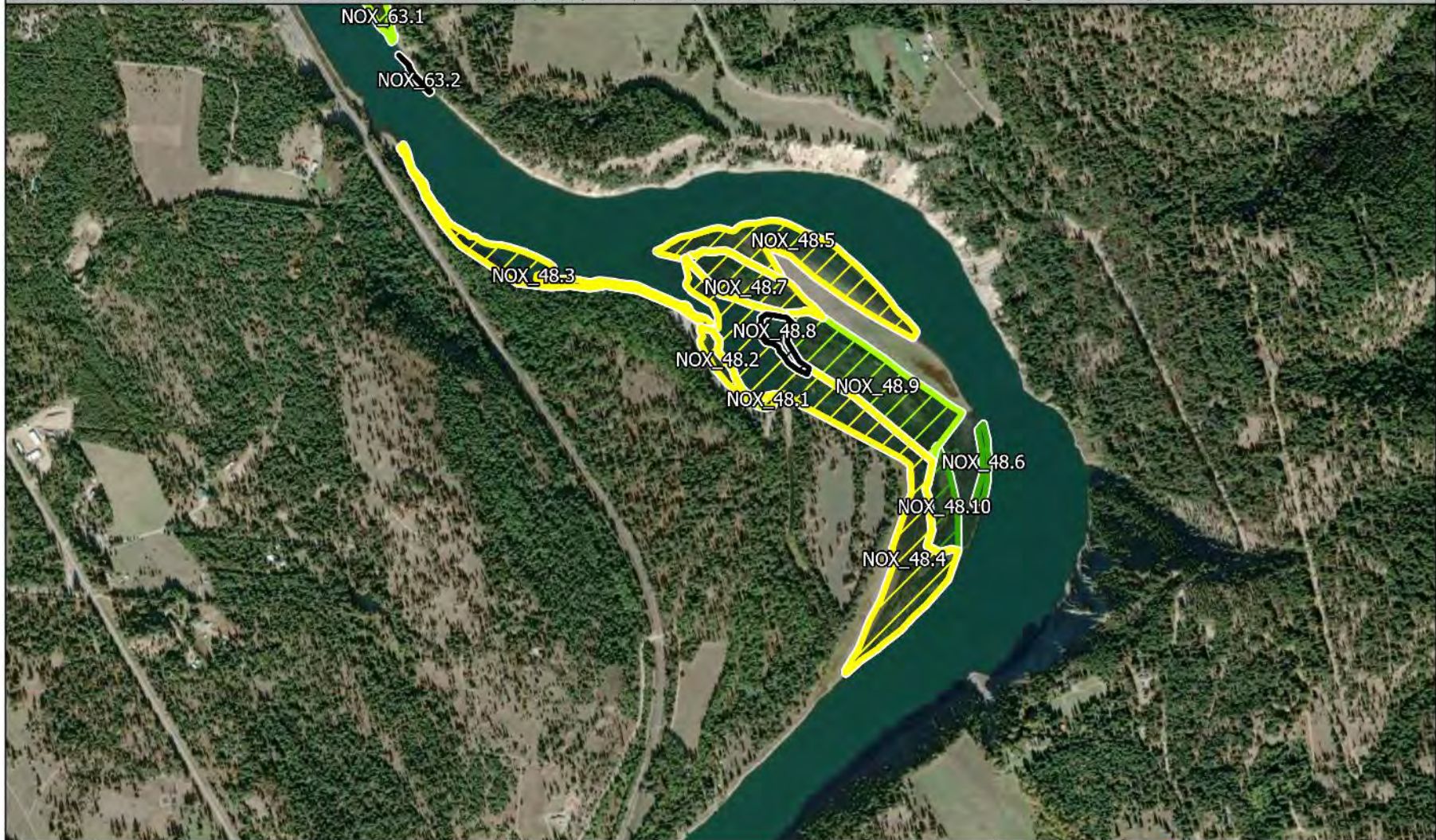
Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

0 0.13 0.25
Miles

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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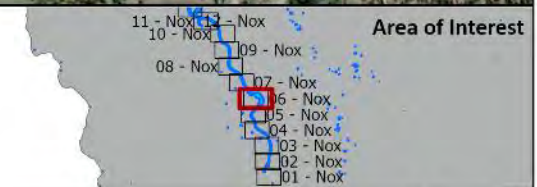


Eurasian Watermilfoil Density



Map Produced by: AIS Bureau
CRM - 12-17-2024

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Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

0 0.13 0.25
Miles

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



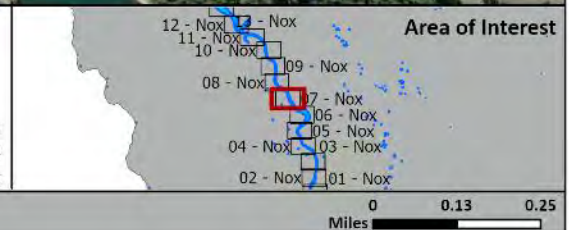
Eurasian Watermilfoil Density



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Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI



Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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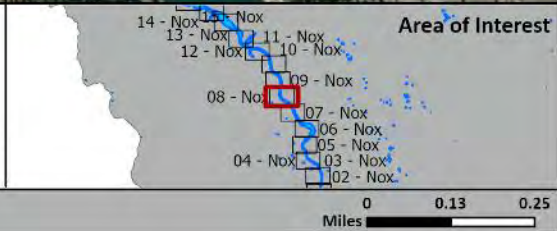
Eurasian Watermilfoil Density

- | | |
|---|---|
|  0 - 0% - No EWM |  3 - 41-60% |
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Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx

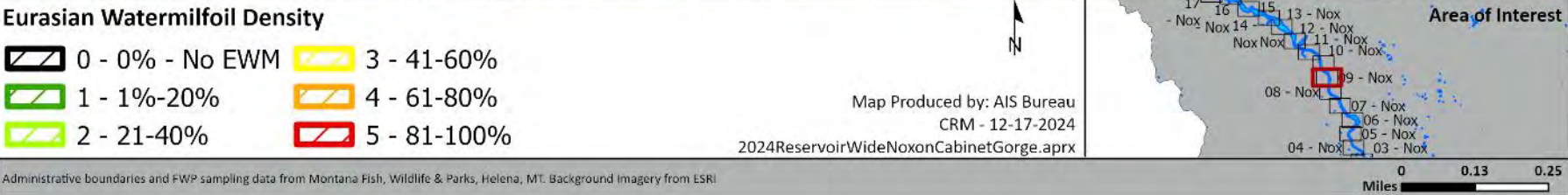


Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

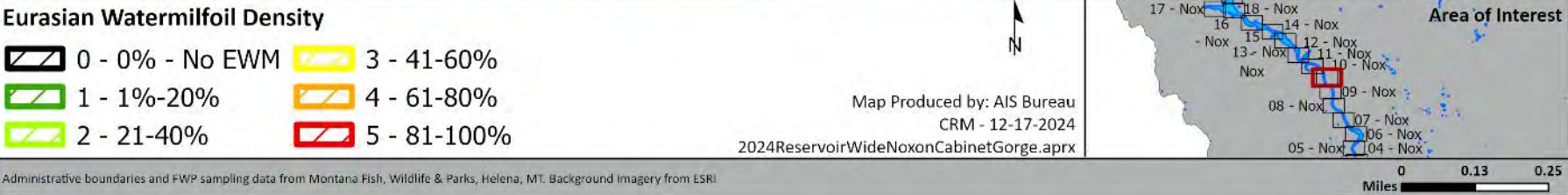
Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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Eurasian watermilfoil bed surveys - 2024

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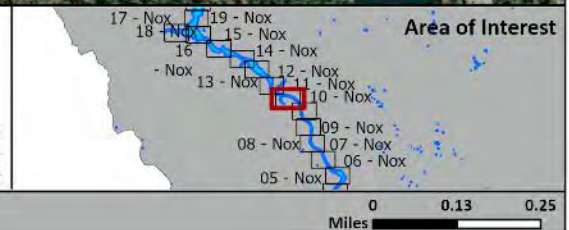
Eurasian Watermilfoil Density



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CRM - 12-17-2024

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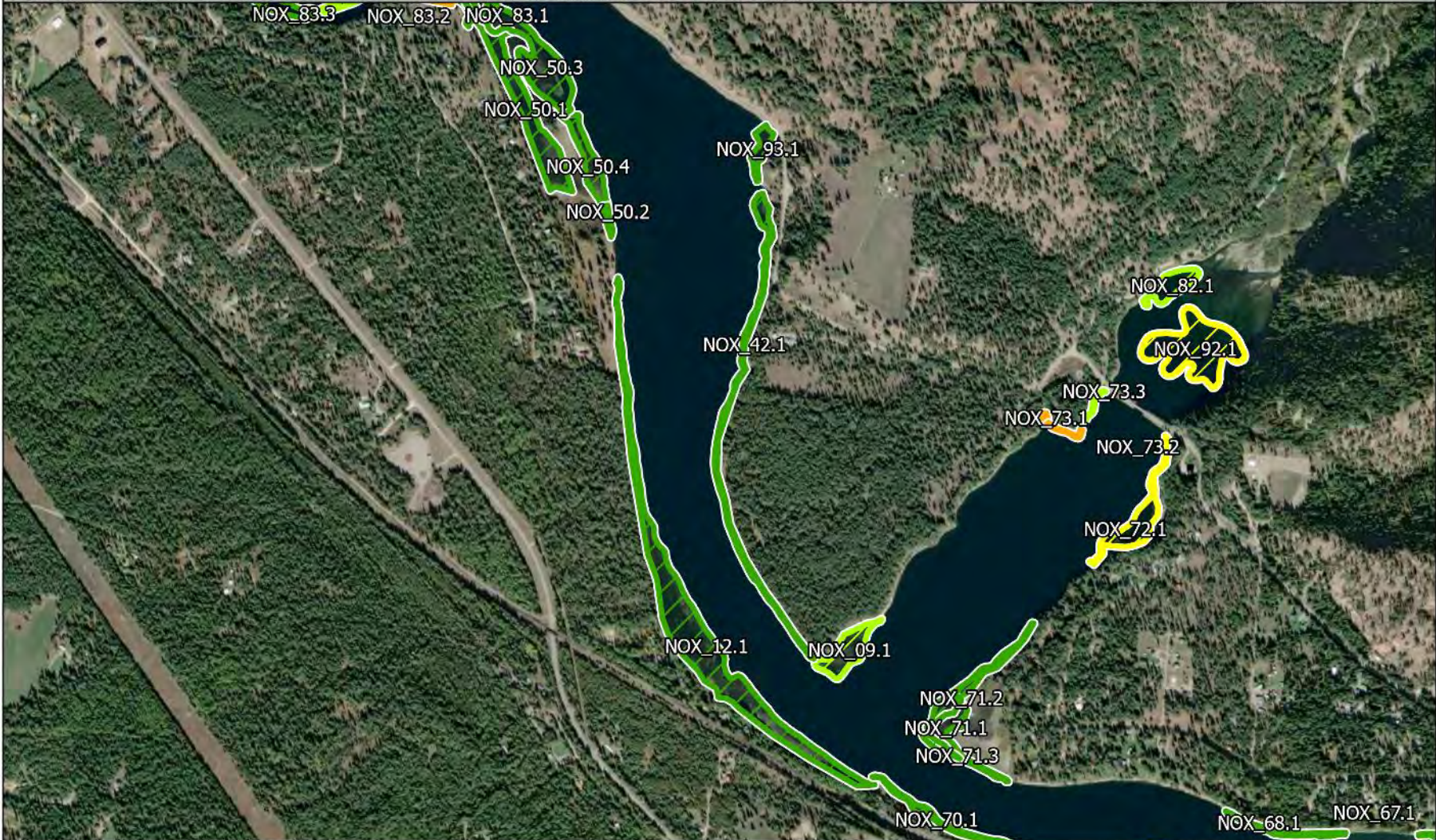
Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI



Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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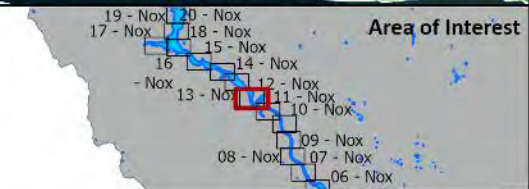


Eurasian Watermilfoil Density



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CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Miles 0 0.13 0.25

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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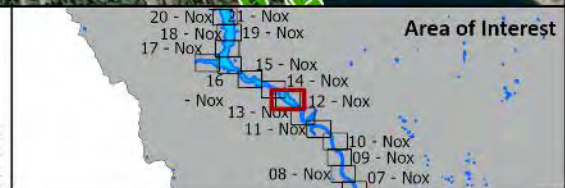


Eurasian Watermilfoil Density



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Eurasian watermilfoil bed surveys - 2024

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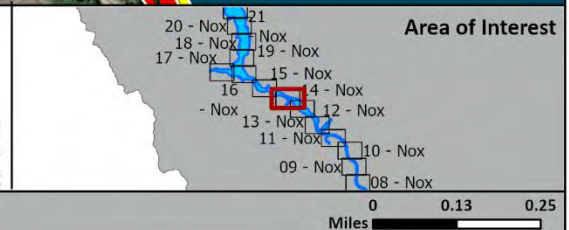
Eurasian Watermilfoil Density

- | | |
|-----------------|----------------------|
| 0 - 0% - No EWM | 4 - 61-80% |
| 1 - 1%-20% | 5 - 81-100% |
| 2 - 21-40% | Treated Plot in 2024 |
| 3 - 41-60% | |



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CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



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Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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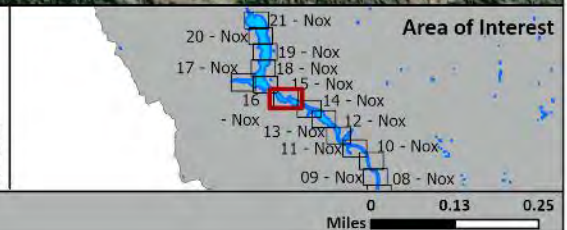


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0 0.13 0.25
Miles

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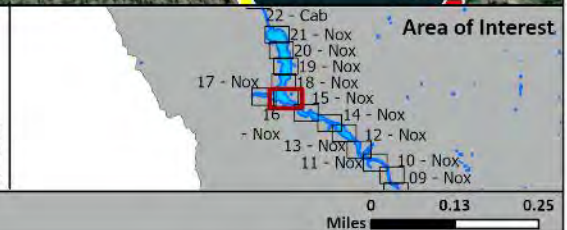
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Eurasian watermilfoil bed surveys - 2024

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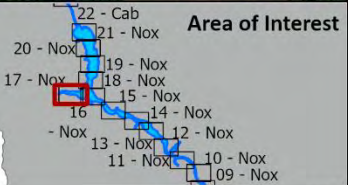
- | | |
|-----------------|----------------------|
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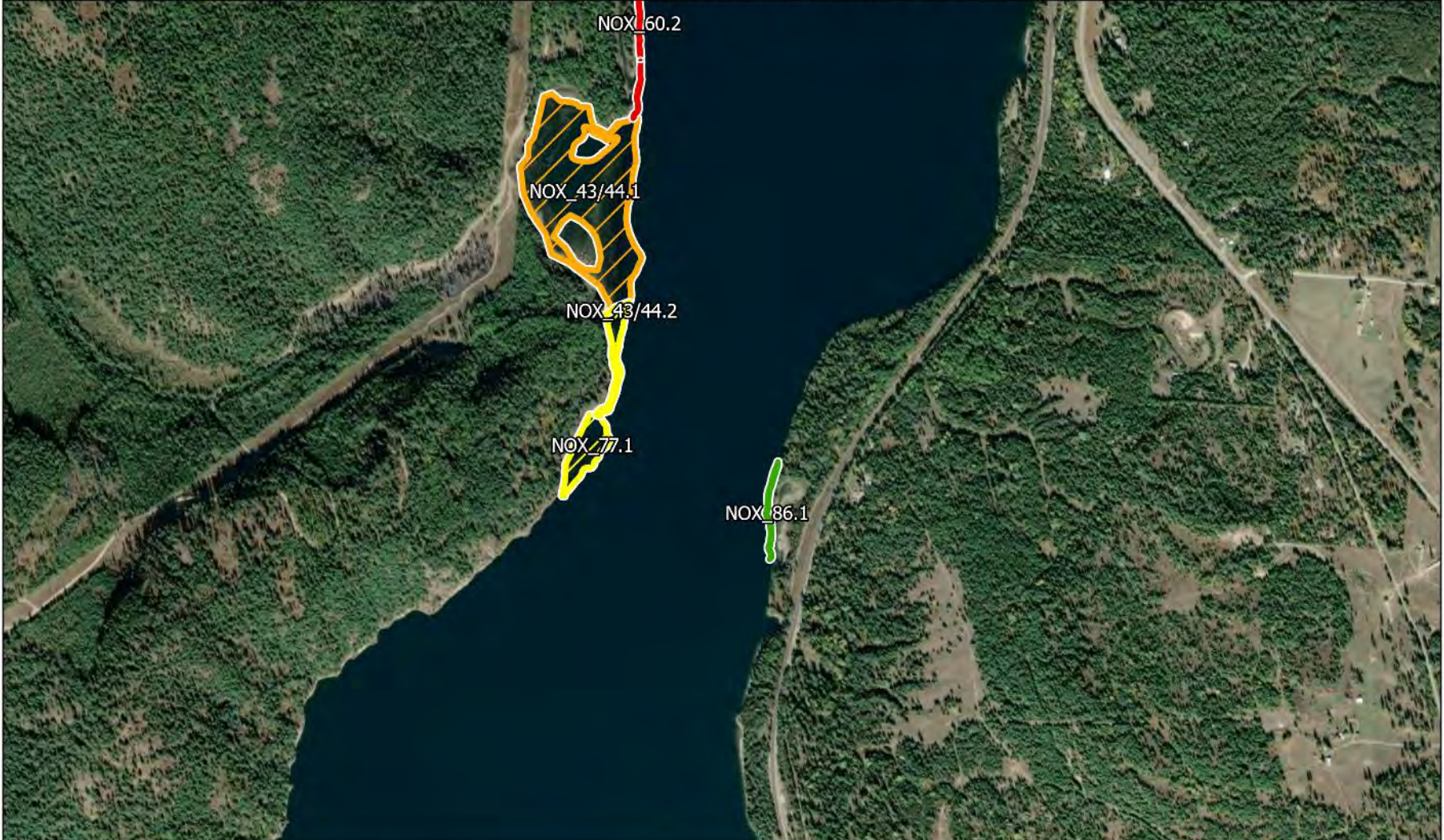


0 0.13 0.25
Miles

Eurasian watermilfoil bed surveys - 2024

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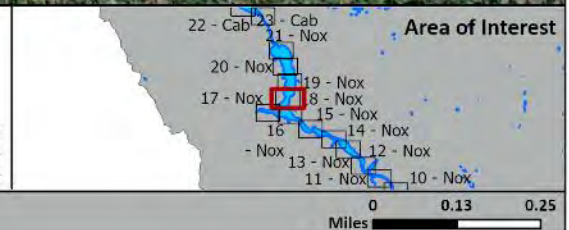
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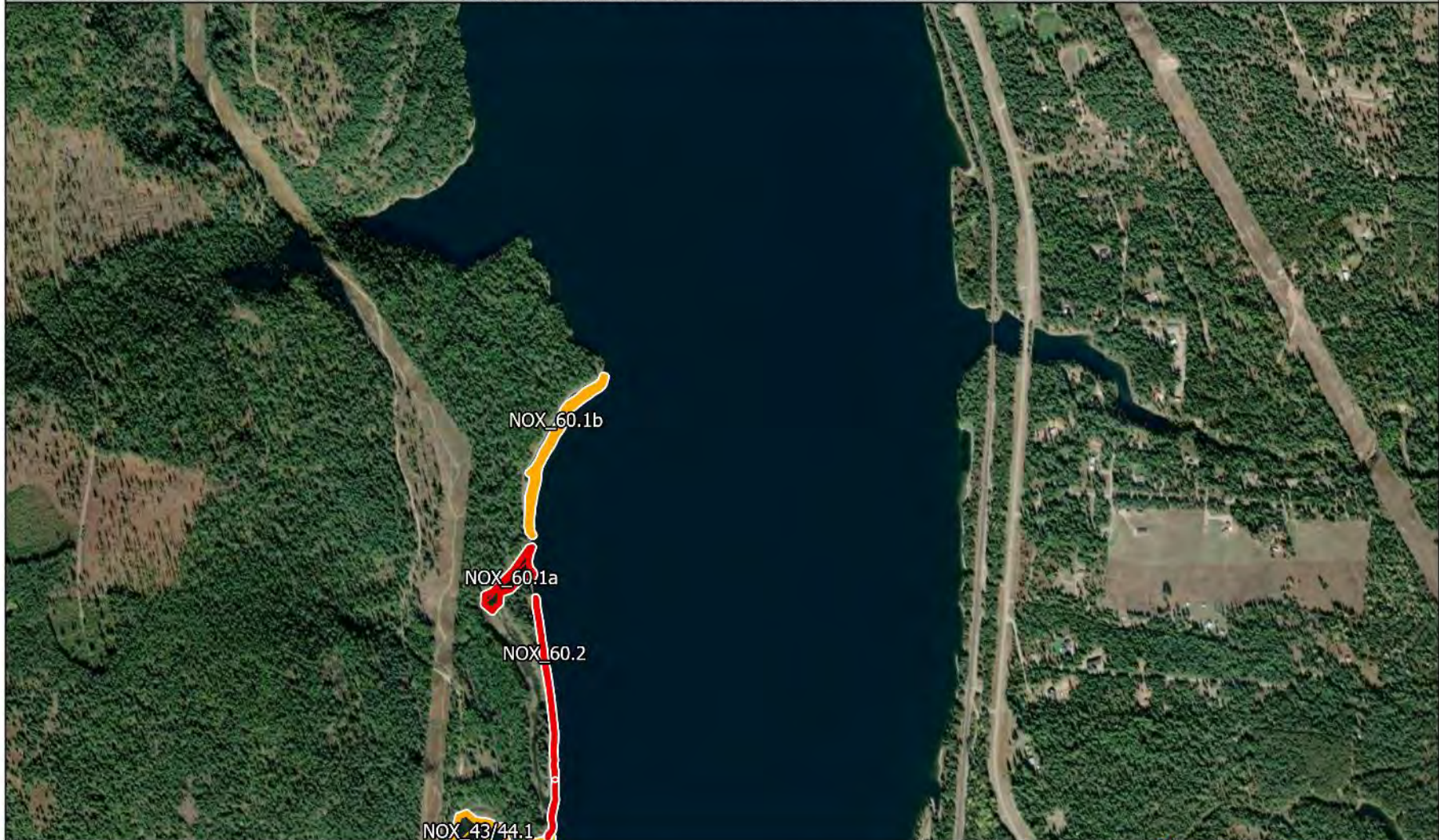
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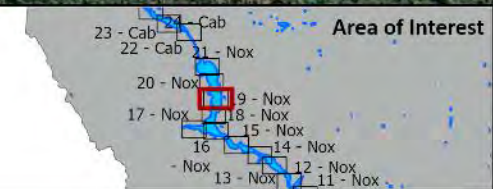


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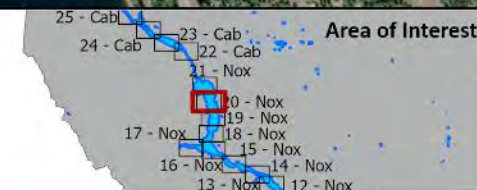


Eurasian Watermilfoil Density



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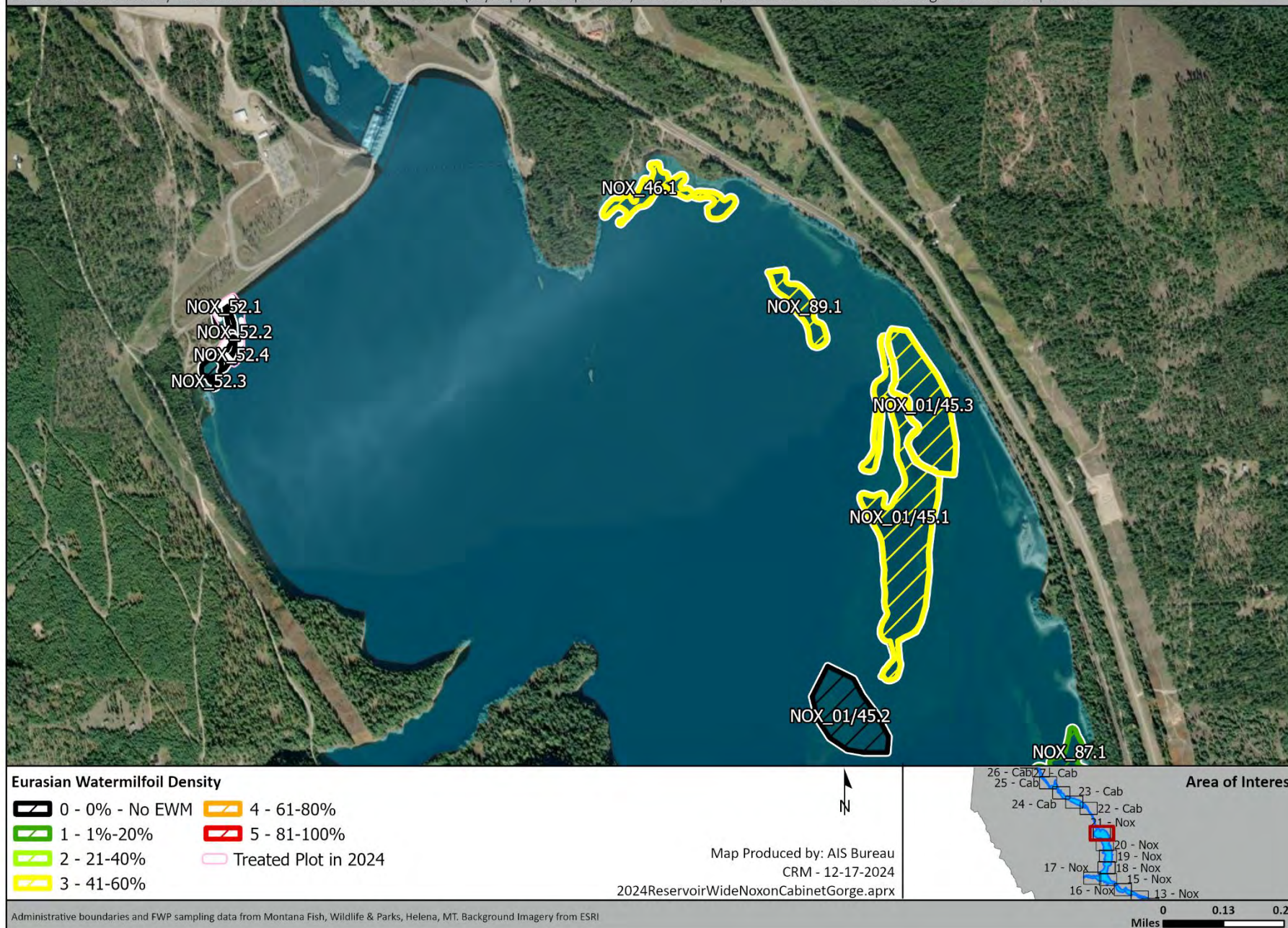
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0 0.13 0.25
Miles

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



Cabinet Gorge Reservoir

Crews sampled known existing beds and any unmapped beds discovered while traveling to established beds. The littoral zone of Cabinet Gorge Reservoir encompasses 1,121 acres. Crews surveyed 311 acres or 27% of littoral zone of Cabinet Gorge Reservoir, which is comparable to previous mapping efforts (Figure 3). They mapped 131 acres of EWM beds with EWM coverage varying from sparse to nearly 100% covered (Table 3). Overall, in 2024, EWM coverage seemed highly reduced like Noxon Rapids Reservoir compared to other years, which is consistent to pretreatment surveys performed June 2024. Figure 4 compiled results of all beds surveyed during each of the three reservoir surveys in 2017, 2021, and 2024. The total number of EWM bed acres in 2024 is conservative due to annual herbicide applications that took place in August 2024. Table 4 provides details for each EWM bed surveyed in 2017, 2021, 2024. In 2024, the task force treated 2.3 acres of EWM beds in Cabinet Gorge Reservoir within plots CAB_01 (CAB_30 is the nested treatment plot), CAB_05, and CAB_06. Areas treated for EWM clearly show reductions of EWM in 2024 to undetectable levels within the bed and aren't included in the totals. It is likely these plots will have EWM presence in subsequent years.

Table 3. Number of acres within Cabinet Gorge Reservoir broken down by EWM percent cover levels.

Rank	Cabinet Gorge Reservoir Eurasian Watermilfoil Coverage	Acres
0	No EWM	180
1	1%-20%	18
2	21%-40%	9
3	41%-60%	42
4	61%-80%	24
5	81%-100%	38
Total acres for beds with Eurasian watermilfoil		131

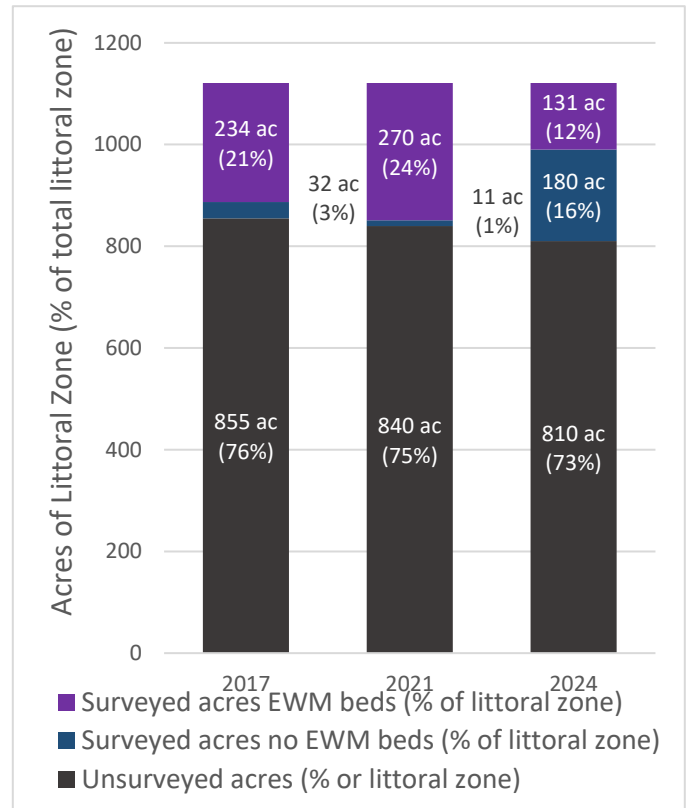


Figure 3. Breakdown of littoral zone of survey efforts for Eurasian watermilfoil (acres) in Cabinet Gorge Reservoir (1,121 total acres of littoral zone)

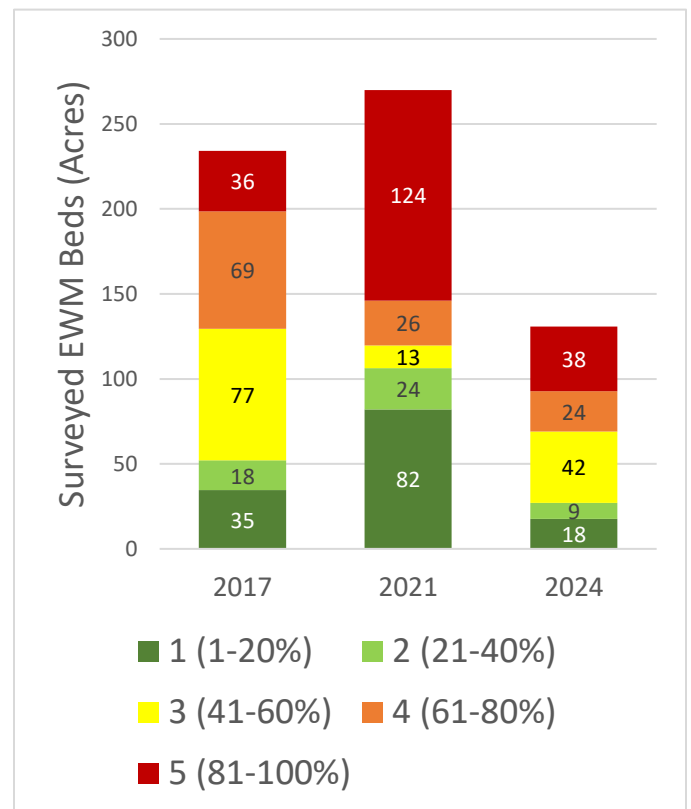


Figure 4. Breakdown by coverage ranking of surveyed Eurasian watermilfoil beds (acres) - Cabinet Gorge Reservoir in 2017, 2021, and 2024.

Table 4. Details of EWM Bed details (percent cover and acreage, treatment years) for each plot within Cabinet Gorge Reservoir.

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
CAB_01		CAB_01.1	3	5	4	16.3	16.3		16.3	16.3	0	18.3	9.9	8.3	2014	
		CAB_01.2	0	1	0	5.7	0	5.7	5.6	5.6	0	5.4	0	5.4	2014, 2023	
		CAB_01.3	5	5	3	35.7	35.7		35.7	35.7	0	36.2	8.6	27.6	2014, 2023	
		CAB_01.4	1	1	0	15.3	15.3		15.3	15.3	0	15.3	0	15.3	2014	
		CAB_01.5	2	2	0	0.8	0.8		0.8	0.8	0	0.8	0	0.8	2014	
		CAB_01.6	3	5	1	6.8	6.8		6.8	6.8	0	6.8	0.8	5.9	2014	
		CAB_01.7	1	2	0	2.3	2.3		2.3	2.3	0	2.0	0	2.0	2014	
		Plot Totals				82.7	77.1	5.7	82.7	82.7	0	84.7	19.3	65.4		
CAB_02		CAB_02.1a	4	5	4	65.1	65.1		65.1	65.1	0	12.2	12.2	0.1	2014, 2015	
		CAB_02.1b			5						0	46.3	38.0	8.3	2014, 2015	
		CAB_02.1c			1						0	3.2	1.4	1.7	2014, 2015	
		CAB_02.1d			3						0	9.4	4.1	5.4	2014, 2015	
		Plot Totals				65.1	65.1	0	65.1	65.1	0	71.2	55.6	15.6		
CAB_03	CAB_03.1	3	4	3	11.2	11.2		17.0	14.2	2.8	18.7	17.4	1.3	2014, 2015		
CAB_04		CAB_04.1	3	4	3	10.8	10.8		5.0	5.0	0	7.4	4.7	2.7	2014	
		CAB_04.2			1						0	0.7	0.7	0		
		Plot Totals				10.8	10.8	0	5.0	5.0	0	8.0	5.4	2.7		
CAB_05		CAB_05.1	4	3	0	0.3	0.3		0.3	0.3	0	0.4	0	0.4	2014, 2019	
		CAB_05.2	3	1	0	9.1	9.1		8.2	8.2	0	7.0	0	7.0	2014, 2019,2023	
		CAB_05.3	0	1	0	9.0	0	9.0	9.0	9.0	0	9.4	0	9.4	2014, 2019,2023	
		CAB_05.4		3	0				1.0	1.0	0	1.0	0	1.0	2014, 2019	
		Plot Totals				18.4	9.4	9.0	18.4	18.4	0	17.8	0	17.8		

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
CAB_06	CAB_06.1	3	1	0	5.4	5.4		5.1	5.1	0	5.1	0	5.1	2019, 2020,2023		
	CAB_06.2	2	3	0	1.5	1.5		1.5	1.5	0	1.8	0	1.8	2019, 2020		
	CAB_06.3	0	3	2	3.6	0	3.6	3.6	3.6	0	3.3	0.2	3.1	2019, 2020		
	CAB_06.4		4	2				0.3	0.3	0	0.3	0.3	0	2019, 2020		
	Plot Totals				10.4	6.9	3.6	10.4	10.4	0	10.4	0.5	10			
CAB_08	CAB_08.1	3	1	1	3.4	3.4		3.4	3.4	0	3.6	2.5	1.0			
	CAB_08.2			1						0	0.4	0.4	0			
	Plot Totals				3.4	3.4	0	3.4	3.4	0	3.9	2.9	1.0			
CAB_09	CAB_09.1	3	2	1	6.7	6.7		6.7	6.7	0	6.8	2.1	4.8			
	CAB_09.2	0	3	2	0.6	0.6	0.6	0.6	0.6	0	0.9	0.9	0			
	CAB_09.3	2	1	2	4.8	4.8		5.0	5.0	0	5.5	4.1	1.4			
	CAB_09.4		3	2				2.0	2.0	0	2.6	2.5	0.1			
	Plot Totals				12.1	12.1	0.6	14.4	14.4	0	15.9	9.6	6.3			
CAB_10	CAB_10.1	1	3	1	0.9	0.9		0.9	0.9	0	1.6	1.1	0.5			
	CAB_10.2	2	1	1	4.4	4.4		4.4	4.4	0	4.9	0.6	4.3			
	CAB_10.3	1	1	1	7.4	7.4		7.4	7.4	0	11.1	1.7	9.4			
	Plot Totals				12.7	12.7	0	12.7	12.7	0	17.7	3.4	14.3			
CAB_11	CAB_11.1	2	1	1	2.2	2.2		2.2	2.2	0	2.2	0.8	1.5			
	CAB_11.2			1						0	0.3	0.3	0			
	Plot Totals				2.2	2.2	0	2.2	2.2	0	2.5	1.1	1.5			
CAB_12	CAB_12.1	2	2	1	1.9	1.9		1.9	1.9	0	0.4	0.4	0	2018, 2019, 2020, 2024		
	CAB_12.2			0						0	3.0	0	3.0			
	Plot Totals				1.9	1.9	0	1.9	1.9	0	3.4	0.4	3.0			
CAB_13	CAB_13.1	3	3	3	0.6	0.6		0.8	0.8	0	1.1	0.7	0.5			

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
Years Treated																
CAB_14	CAB_14.1	3	1	1	1.9	1.9		1.9	1.9	0	2.0	1.4	0.6			
	CAB_14.2		3	1				0.1	0.1	0	0.5	0.4	0.1			
	Plot Totals				1.9	1.9	0	2.0	2.0	0	2.5	1.9	0.6			
CAB_15/33	CAB_15/33.1	0	1	0	2.4	0	2.4	8.0	8.0	0	8.1	0	8.1			
CAB_16	CAB_16.1a	4	4	3	3.7	3.7		4.3	1.6	2.8	4.3	1.0	3.3			
	CAB_16.1b			2					0		0.8	0.6	0.2			
	Plot Totals				3.7	3.7	0	4.3	1.6	2.8	5.1	1.5	3.6			
CAB_17	CAB_17.1	1	2	0	5.7	5.7		5.7	5.7	0	5.7	0	5.7			
CAB_18	CAB_18.1	1	3	0	2.1	2.1		2.1	2.1	0	2.1	0	2.1			
CAB_19	CAB_19.1	1	0	0	0.6	0.6		0.6	0	0.6	0.6	0	0.6			
CAB_20	CAB_20.1	0	2	1	2.5	0	2.5	2.9	2.9	0	3.1	0.4	3.1	2018		
CAB_21	CAB_21.1	3	0	1	2.2	2.2		2.2	0	2.2	2.3	1.3	1.0			
CAB_22	CAB_22.1	3	2	0	0.1	0.1		0.1	0.1	0	0.2	0	0.2			
CAB_23	CAB_23.1	2			0.1	0.1										
CAB_24	CAB_24.1	3	2	1	1.9	1.9		1.9	1.9	0	2.2	0.3	1.9			
CAB_25	CAB_25.1	2	2	1	1.9	1.9		1.9	1.9	0	2.6	1.0	1.5			
CAB_26	CAB_26.1	0	1	3	6.2	0	6.2	6.2	6.2	0	8.3	5.3	3.0			
CAB_27	CAB_27.1	0	0	0	1.9	0	1.9	1.9	0	1.9	1.9	0	1.9			
CAB_28	CAB_28.1	3	3	4	0.3	0.3		0.2	0.2	0	1.0	0.8	0.1			
	CAB_28.2		4	4				0.2	0.2	0	1.0	1.0	0			
	Plot Totals				0.3	0.3	0	0.4	0.4	0	1.9	1.8	0.2			
CAB_29	CAB_29.1	3	1	0	0.4	0.4		0.4	0.4	0	0.4	0	0.4	2018, 2019, 2024		
	CAB_29.2	1	3	3	0.2	0.2		0.5	0.2	0.4	2.0	0.2	1.8	2018, 2019, 2024		
	Plot Totals				0.6	0.6	0	0.9	0.5	0.4	2.5	0.2	2.3			

Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				2017	2021	2024	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	
CAB_34	CAB_34.1	4	1				0	05	0	0.1	02	0				
CAB_35	CAB_35.1	5	1				0.1	0.1	0	0.1	0.1	0				
CAB_36	CAB_36.1	4	0				0.1	0.1	0	0.1	0	0.1				
CAB_37	CAB_37.1	4	0				4.4	4.4	0	4.4	0	4.4				
CAB_38	CAB_38.1	3	1				0.2	0.2	0	0.6	0.4	0.2				
CAB_39	CAB_39.1	4	0				0.5	0.5	0	0.5	0	0.5				
CAB_40	CAB_40.1	4	4				0	02	0	0	03	0				
CAB_41	CAB_41.1	4	3				0	02	0	0	03	0				
CAB_30/42	CAB_42.1	3	2	2	0.3	0.3	0.4	04	0.3	0.4	0.4	0				
	CAB_42.2			2					0	0.4	0.4	0				
	Plot Totals				0.3	0.3	0	0.4	0	0.3	0.9	0.8	0			

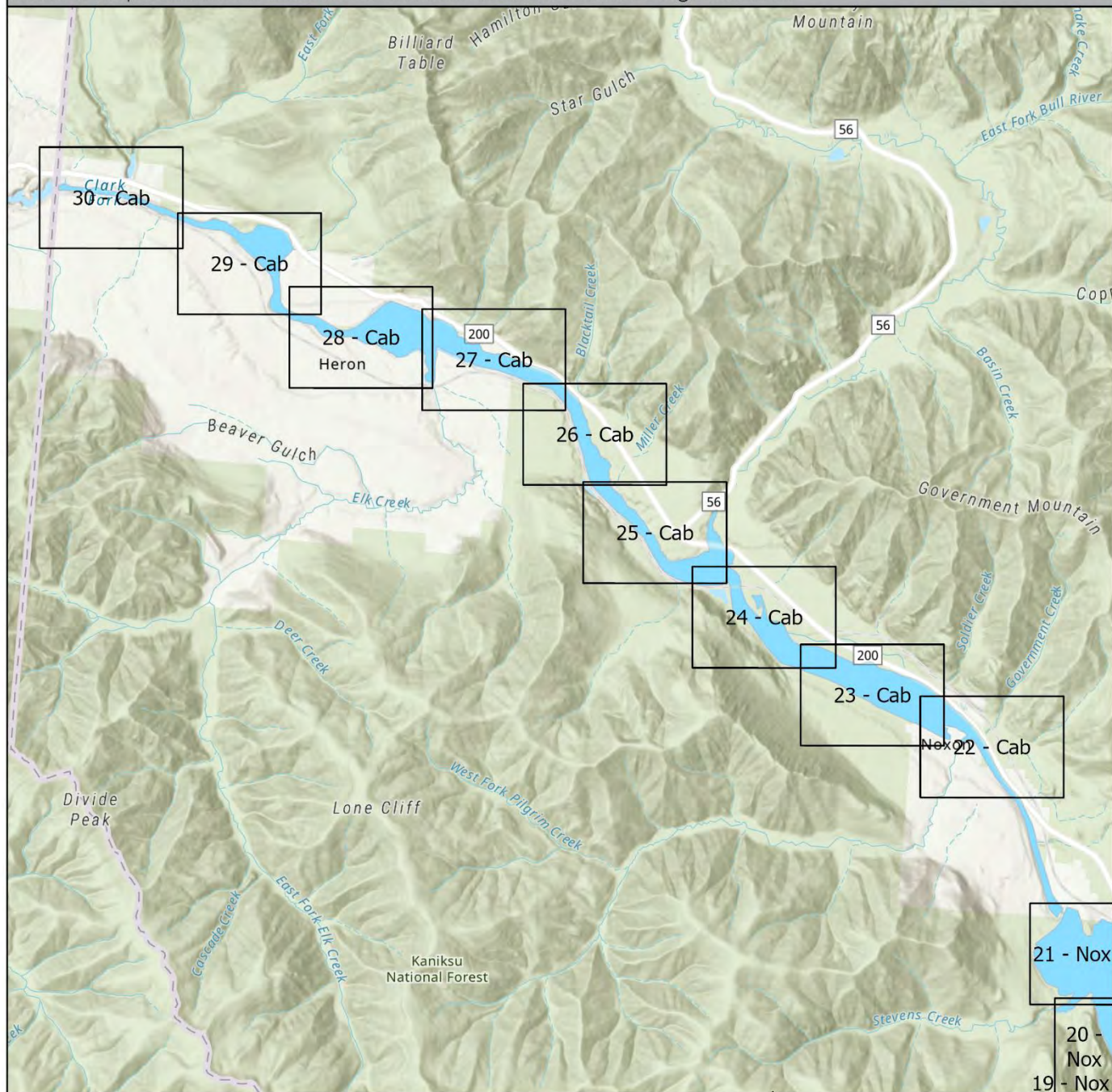
Plot		Plot_ID		Percent Cover (Coverage) Rank (1-5)			Total Surveyed Area Acres/ EWM Bed Acres/ Acres No EWM									Years Treated
							2017			2021			2024			
				Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres	Total Acres	EWM Acres	No EWM Acres				
2017	2021	2024														
CAB_01	CAB_01.1	3	5	4	16.3	16.3		16.3	16.3	0.0	18.3	9.9	8.3	2014		
	CAB_01.2	0	1	0	5.7	0.0	5.7	5.6	5.6	0.0	5.4	0.0	5.4	2014, 2023		
	CAB_01.3	5	5	3	35.7	35.7		35.7	35.7	0.0	36.2	8.6	27.6	2014, 2023		
	CAB_01.4	1	1	0	15.3	15.3		15.3	15.3	0.0	15.3	0.0	15.3	2014		
	CAB_01.5	2	2	0	0.8	0.8		0.8	0.8	0.0	0.8	0.0	0.8	2014		
	CAB_01.6	3	5	1	6.8	6.8		6.8	6.8	0.0	6.8	0.8	5.9	2014		
	CAB_01.7	1	2	0	2.3	2.3		2.3	2.3	0.0	2.0	0.0	2.0	2014		
					82.7	77.1	5.7	82.7	82.7	0.0	84.7	19.3	65.4			
CAB_02	CAB_02.1a	4	5	4	65.1	65.1		65.1	65.1	0.0	12.2	12.2	0.1	2014, 2015		

	CAB_02.1b	5						0.0			46.3	38.0	8.3	2014, 2015
	CAB_02.1c	1						0.0			3.2	1.4	1.7	2014, 2015
	CAB_02.1d	3						0.0			9.4	4.1	5.4	2014, 2015
					65.1	65.1	0.0	65.1	65.1	0.0	71.2	55.6	15.6	
CAB_03	CAB_03.1	3	4	3	11.2	11.2		17.0	14.2	2.8	18.7	17.4	1.3	2014, 2015
CAB_04	CAB_04.1	3	4	3	10.8	10.8		5.0	5.0	0.0	7.4	4.7	2.7	2014
	CAB_04.2	1						0.0			0.7	0.7	0.0	
					10.8	10.8	0.0	5.0	5.0	0.0	8.0	5.4	2.7	
CAB_05	CAB_05.1	4	3	0	0.3	0.3		0.3	0.3	0.0	0.4	0.0	0.4	2014, 2019
	CAB_05.2	3	1	0	9.1	9.1		8.2	8.2	0.0	7.0	0.0	7.0	2014, 2019,2023
	CAB_05.3	0	1	0	9.0	0.0	9.0	9.0	9.0	0.0	9.4	0.0	9.4	2014, 2019,2023
	CAB_05.4	3			0			1.0	1.0	0.0	1.0	0.0	1.0	2014, 2019
					18.4	9.4	9.0	18.4	18.4	0.0	17.8	0.0	17.8	

Eurasian Watermilfoil Bed Index Map

MONTANA FWP

Index of map numbers for Eurasian watermilfoil beds on Cabinet Gorge Reservoir



 Detailed Map & Number

Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

0 0.5 1
Miles

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September

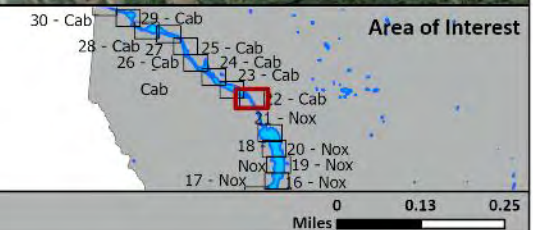


Eurasian Watermilfoil Density



Map Produced by: AIS Bureau
CRM - 12-17-2024

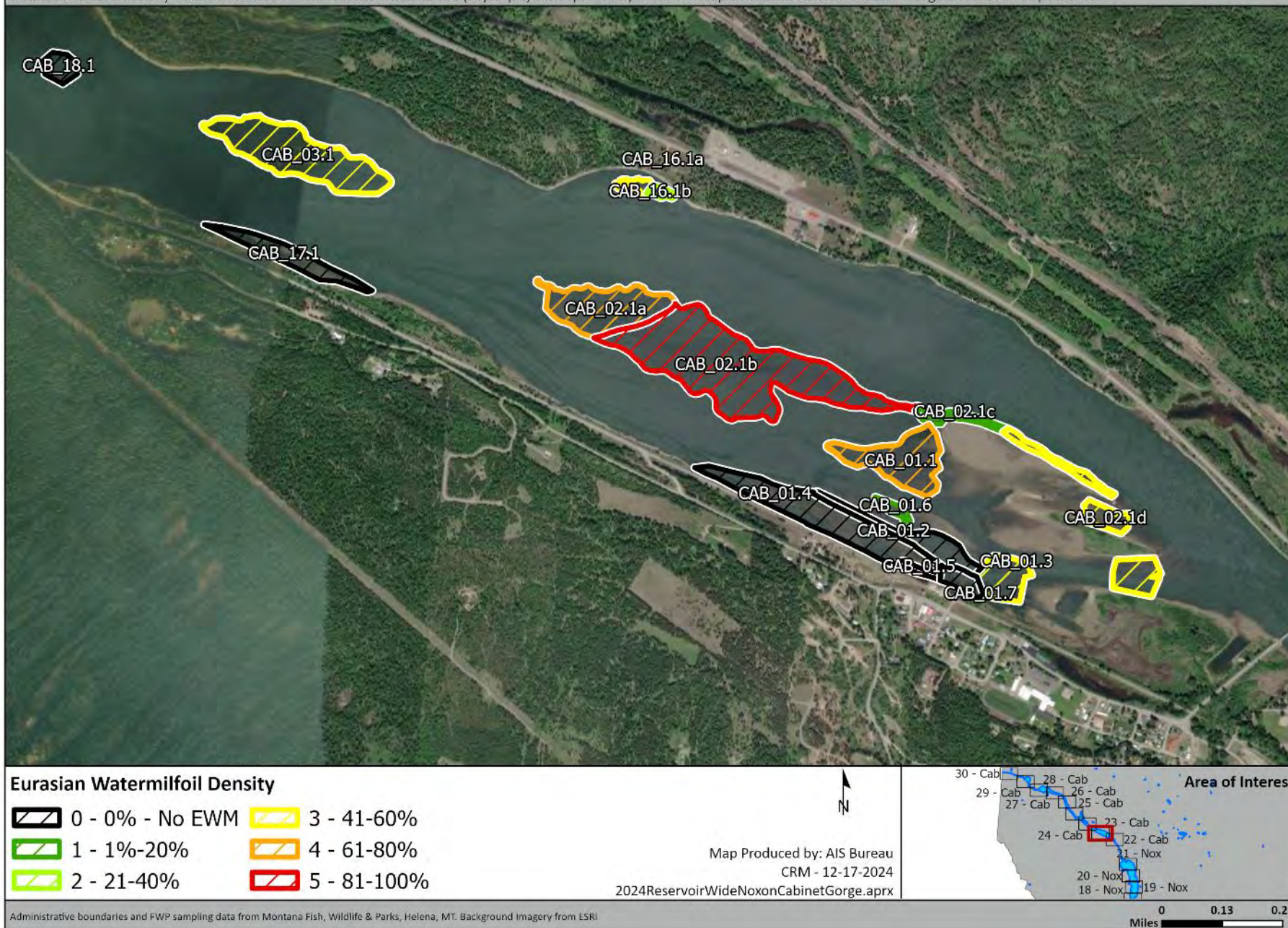
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Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

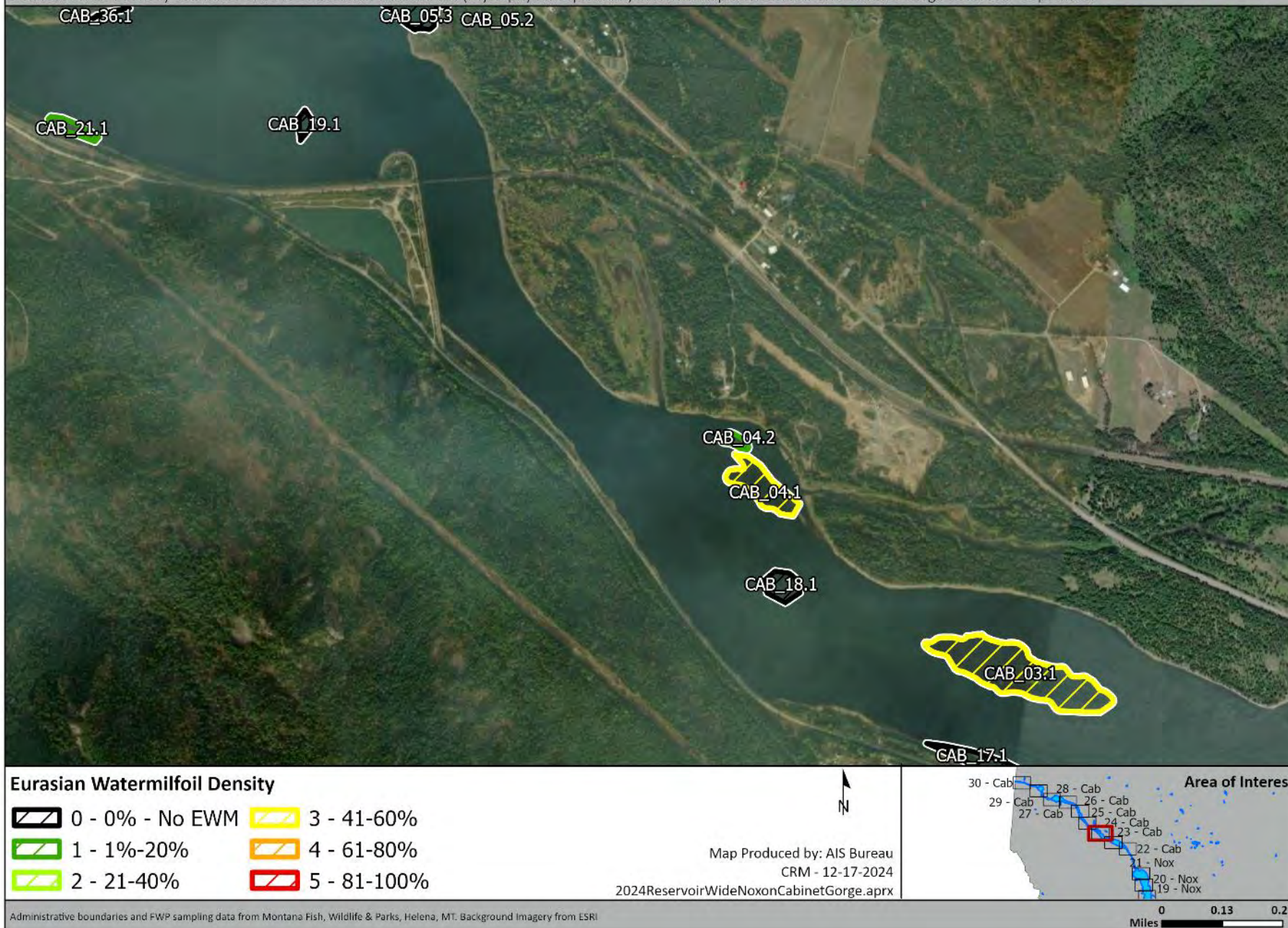
Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September

Eurasian watermilfoil bed surveys - 2024

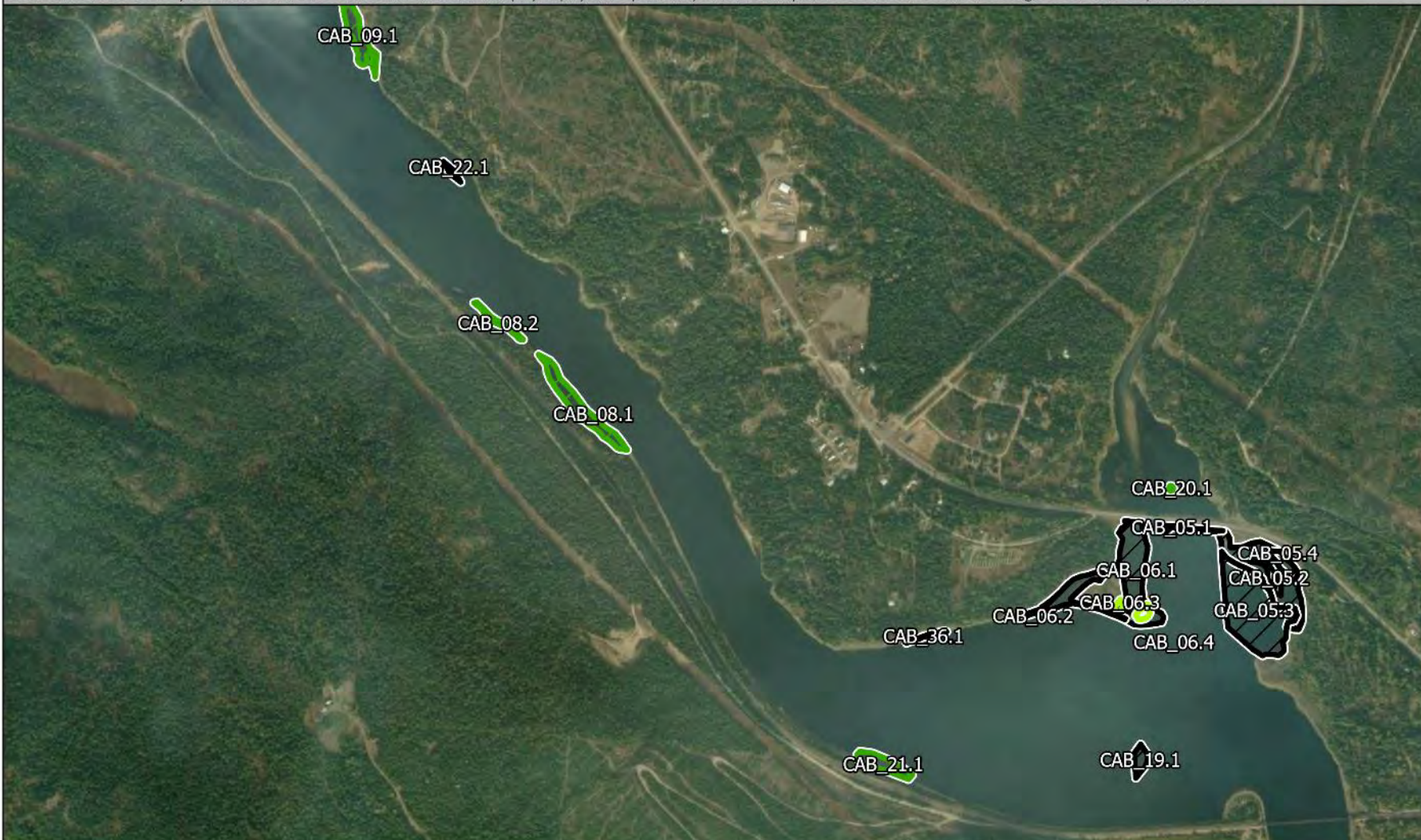
MONTANA FWP

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Eurasian watermilfoil bed surveys - 2024

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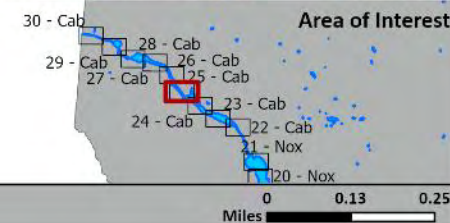


Eurasian Watermilfoil Density



Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



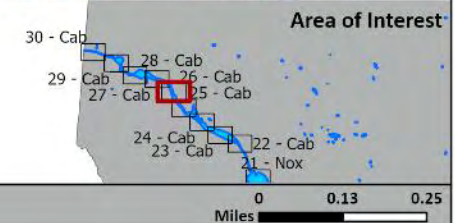
Eurasian Watermilfoil Density

0 - 0% - No EWM	3 - 41-60%
1 - 1%-20%	4 - 61-80%
2 - 21-40%	5 - 81-100%



Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx



Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



Eurasian Watermilfoil Density

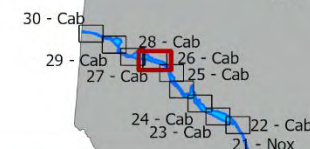
- | | |
|-----------------|----------------------|
| 0 - 0% - No EWM | 4 - 61-80% |
| 1 - 1%-20% | 5 - 81-100% |
| 2 - 21-40% | Treated Plot in 2024 |
| 3 - 41-60% | |



Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx

Area of Interest



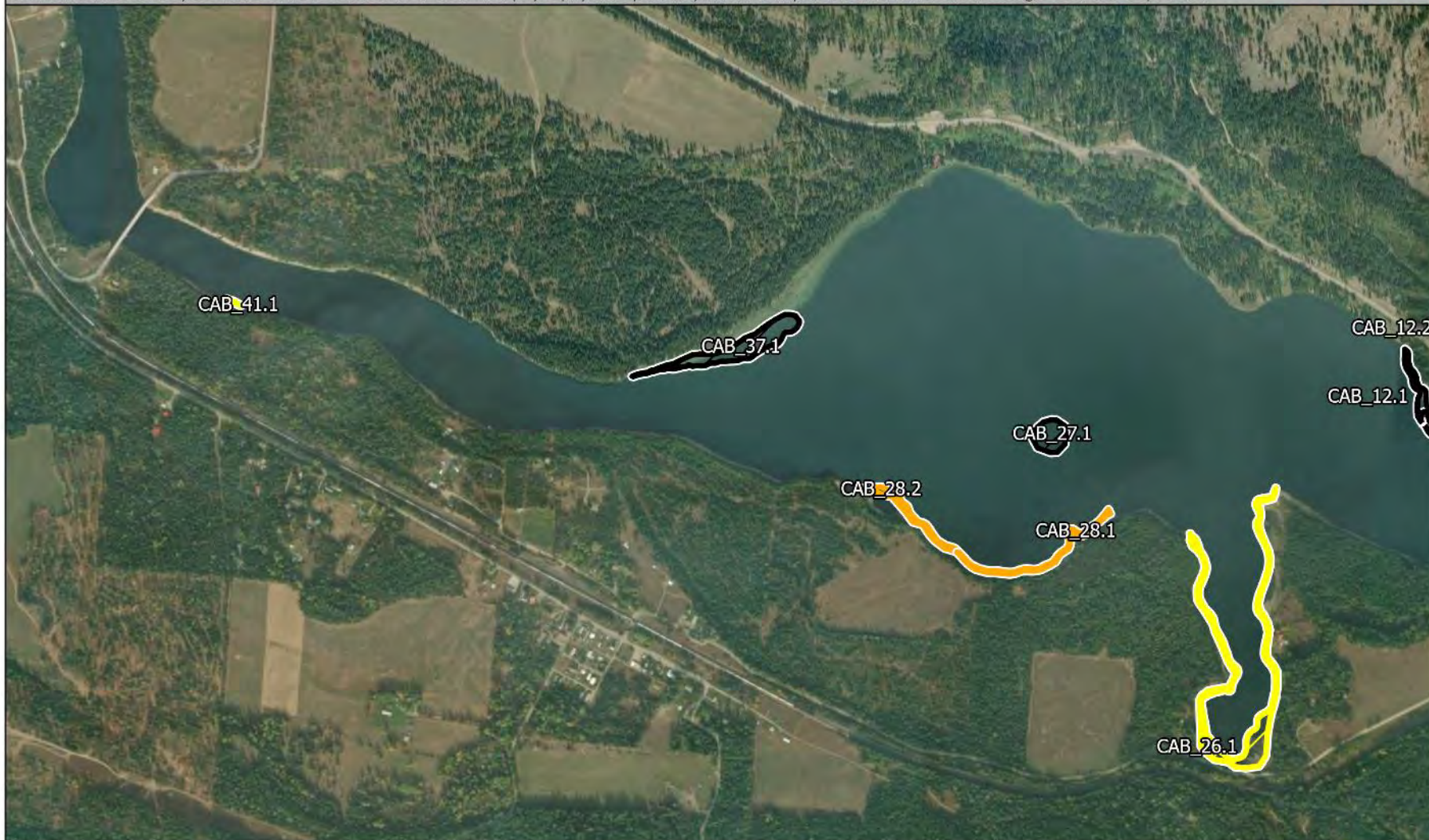
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Miles

Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



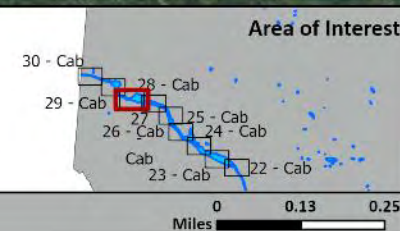
Eurasian Watermilfoil Density

0 - 0% - No EWM	3 - 41-60%
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Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx

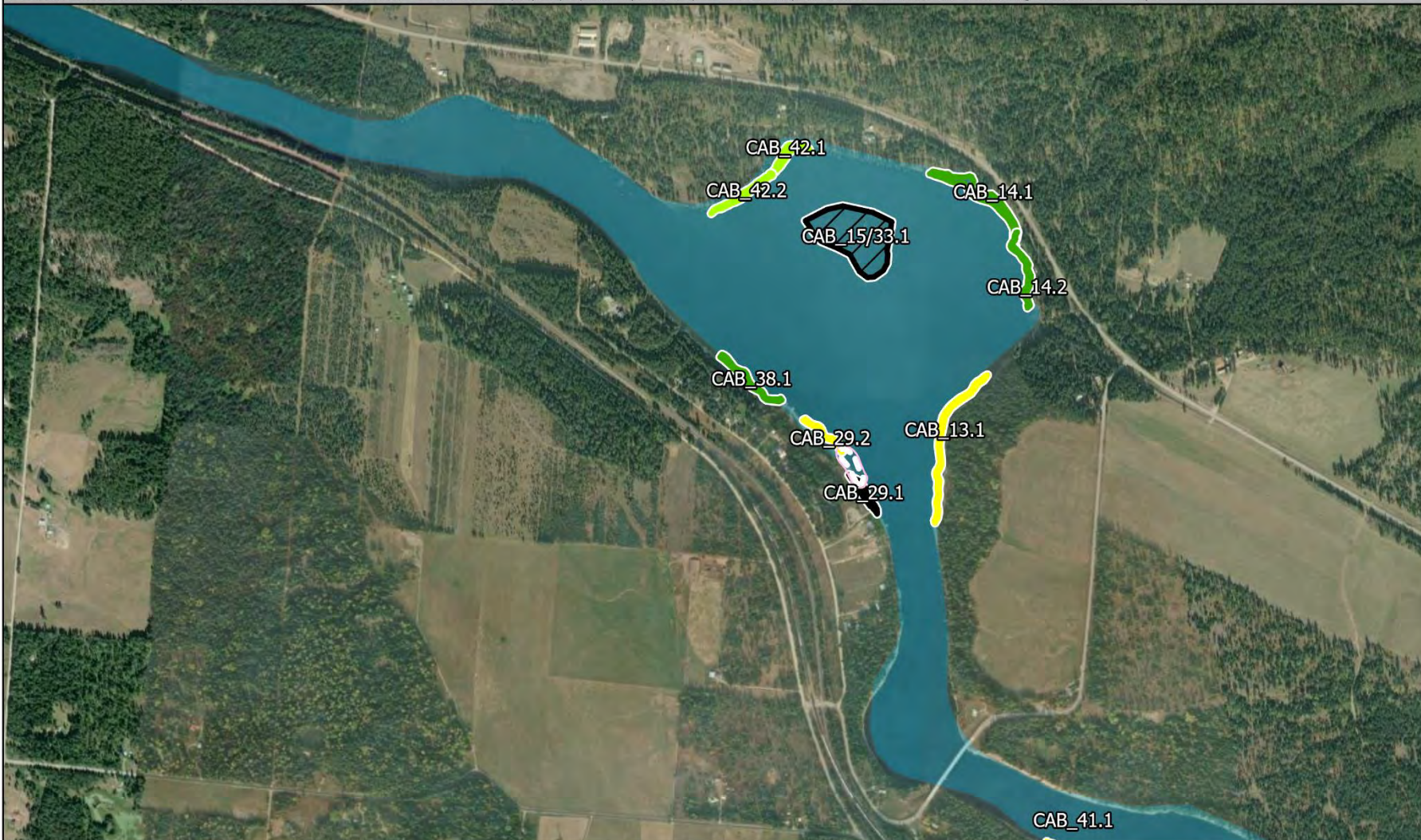
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Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

Delineation and density estimates of beds of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids Reservoir and Cabinet Gorge Reservoir- September



Eurasian Watermilfoil Density

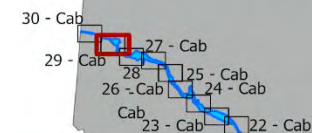
- | | |
|-----------------|----------------------|
| 0 - 0% - No EWM | 4 - 61-80% |
| 1 - 1%-20% | 5 - 81-100% |
| 2 - 21-40% | Treated Plot in 2024 |
| 3 - 41-60% | |



Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx

Area of Interest



0 0.13 0.25
Miles

Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Eurasian watermilfoil bed surveys - 2024

MONTANA FWP

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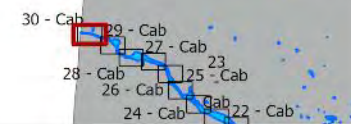
Eurasian Watermilfoil Density



Map Produced by: AIS Bureau
CRM - 12-17-2024

2024ReservoirWideNoxonCabinetGorge.aprx

Area of Interest



0 0.13 0.25
Miles

Administrative boundaries and FWP sampling data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

Conclusion

Unfortunately, the lack of any point-intercept data in 2025 makes it impossible to quantitatively analyze changes in EWM coverage within these reservoirs and also explore species richness (i.e. the distribution of plants and diversity) changing over time. It is recommended that a subsequent survey is completed in 2025 that includes point-intercept sampling. Additionally, a complete littoral survey to identify any established EWM that may fall outside of the point-intercept efforts would provide a more accurate portrait of total EWM acres within each reservoir. Continue bed delineation in conjunction with rake tosses and visual estimation will allow comparisons at the plot level and point intercept surveys will allow quantitative analysis at the reservoir level.