

EVALUATION OF EURASIAN WATERMILFOIL BEDS IN CABINET GORGE AND NOXON RAPIDS RESERVOIRS, SANDERS COUNTY, MT - 2025

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 Aquatic Plants Task Force during September 2025.



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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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Introduction

The Sanders County Aquatic Plants Task Force has worked to manage the spread of Eurasian watermilfoil (*Myriophyllum spicatum*) in Noxon Rapids and Cabinet Gorge Reservoirs since 2008. As part of this effort, the Task Force initiated reservoir-wide surveys in many of the years following 2008 to track the occurrence, spread, and abundance 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 costs and allow Task Force funds to be redirected toward other management needs. The Task Force and FWP planned to conduct a reservoir-wide survey in 2024 and began work that year. However, time constraints prevented staff from completing the full point-intercept survey, and only EWM beds were mapped. As a result, FWP completed the full reservoir-wide survey in 2025.

Methods

The 2025 point-intercept survey used a 400-meter grid on Noxon Rapids Reservoir and a 200-meter grid on Cabinet Gorge Reservoir. Field sampling occurred September 8–12, 2025.

At each point, crews made at least two thatch-rake throws—one from each side of the boat. Plants were identified to species, when possible, without slowing sampling; otherwise, they were identified to genus (e.g., *Potamogeton*, *Elodea*). Technicians recorded presence only; no abundance data, such as density or rake fullness, were collected at each point. Points outside the littoral zone were not sampled because macrophytes are unlikely to occur at those depths.

Eurasian watermilfoil (EWM) bed boundaries were mapped, including updates to previously documented beds. Established boundaries were based on earlier surveys by GRI (2009, 2013), Hansen Environmental (2014, 2016), Water & Environmental Technologies (2017), and FWP (2018, 2021, 2024). Plot polygons created in 2017 and revised in 2021 and 2024 served as the foundation for 2025 mapping. Technicians also mapped newly observed beds encountered while traveling between known sites. New beds were assigned plot IDs beginning with Nox_25 or Cab_25 to denote that they were established in 2025.

Each bed received a visual percent-cover rating from 0 to 5 (0 = absent; 1 = 0–20%; 2 = 20–40%; 3 = 40–60%; 4 = 60–80%; 5 = 80–100%). Plots marked as NA or outlined in purple in map figures indicate areas not surveyed due to poor visibility from heavy wave action.

GIS software was used to generate bed shapes, size estimates, and percent-cover values. Comparisons across survey years (2017, 2021, 2024, 2025) are provided in Appendix 1. All four surveys used visual cover estimates to describe bed extent and density. While rake throws assisted with boundary confirmation, visual delineation during calm, clear conditions often provided the most accurate bed outlines. For this reason, comparisons with 2024 data remain reasonable at the plot scale, despite the lack of 2024 point-intercept data. However, because many areas were not systematically surveyed for new EWM beds in 2024 but were in 2025, lake-wide comparisons among years should focus on years other than 2021.

Results and Discussion

Noxon Rapids Reservoir: Eurasian Watermilfoil Bed Delineations

Crews surveyed all known EWM beds as well as any new beds encountered while traveling between established sites. The littoral zone of Noxon Rapids Reservoir covers 1,942 acres, of which 428 acres were mapped as EWM beds in 2025, with coverage ranging from sparse to nearly 100% (Table 1). Overall EWM levels appeared consistent with typical conditions and aligned with the June 2025 pretreatment survey. Figure 2 summarizes total EWM bed acreage for 2017, 2021, 2024, and 2025.

Table 2 provides details for each EWM bed surveyed across these years. In 2025, the Task Force treated 20.97 acres of EWM within plots Nox_79, Nox_73, Nox_03, Nox_04, and Nox_08. These treated areas showed clear reductions in EWM, with many sections reaching undetectable levels, and therefore are not included in the total mapped acreage. It is expected that EWM will reappear in these plots in future years.

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

Rank	Noxon Rapids Reservoir Eurasian Watermilfoil Density (Percent Cover)	Acres
Null	No survey (limited visibility)	81
0	No EWM	48
1	1%-20%	67
2	21%-40%	66
3	41%-60%	95
4	61%-80%	127
5	81%-100%	72
Total Eurasian watermilfoil bed acres (Ranks 1-5)		428

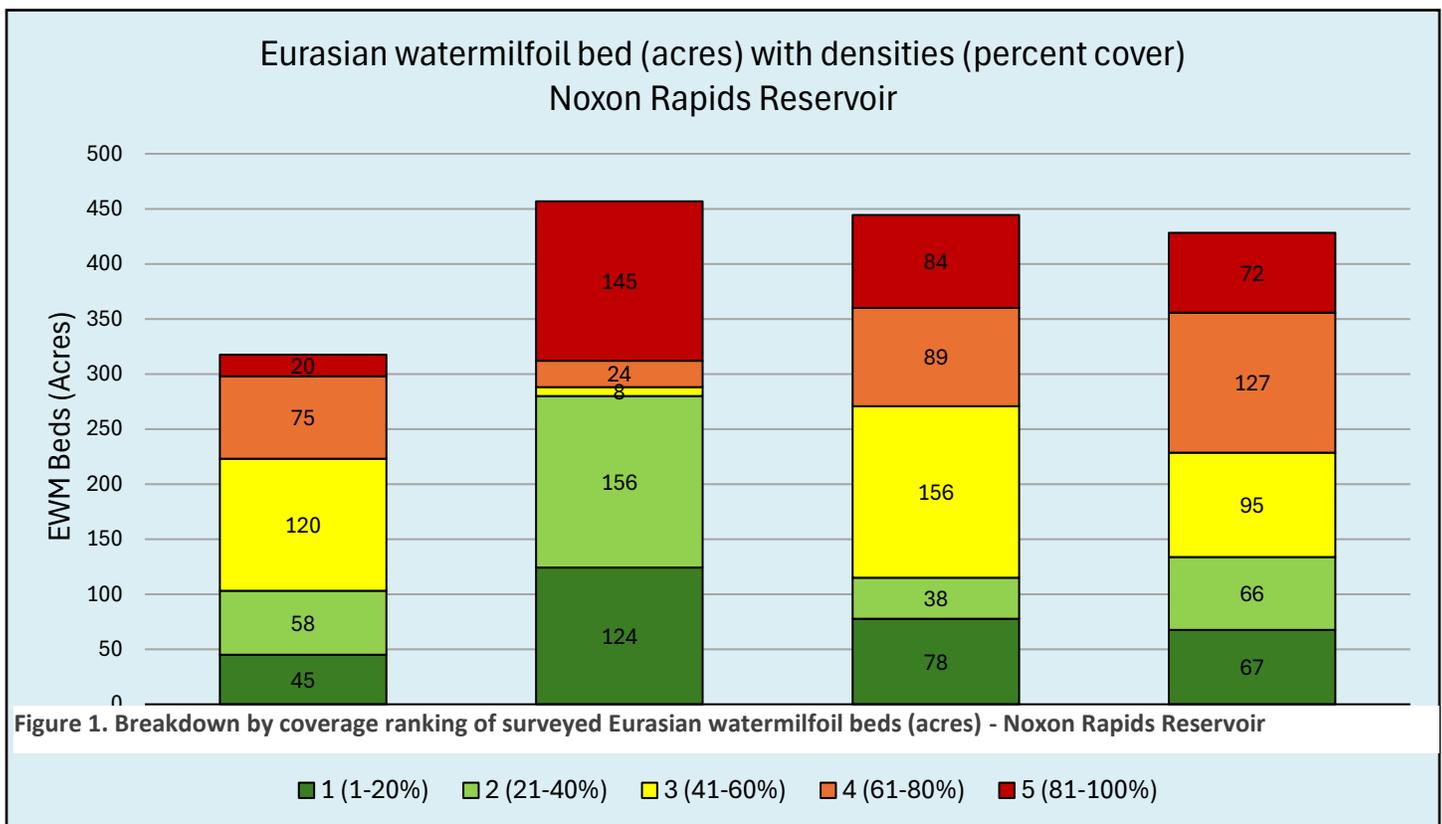


Figure 1. Breakdown by coverage ranking of surveyed Eurasian watermilfoil beds (acres) - Noxon Rapids Reservoir

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)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_01/45	Nox_01/45.1	0	5	3	NA	0.0	19.9	28.2	NA	2009, 2013, 2016, 2019, 2021,2022, 2023
	Nox_01/45.2	0	2	0	NA	0.0	11.0	0.0	NA	2009, 2013, 2016, 2019, 2021,2022, 2023
	Nox_01/45.3			3	NA			14.8	NA	
	Plot Totals					0.0	30.9	43.0	NA	
Nox_02	Nox_02.1	0	2	0	3	0.0	7.7	0.0	12.6	2012, 2016, 2019, 2021,2023
	Nox_02.2	1	2	0	3	6.3	6.3	0.0	10.9	2012, 2016, 2019, 2021,2023
	Nox_02.3			2	3			0.2	8.8	
	Plot Totals					6.3	14.0	0.2	32.3	
Nox_03/37/59	Nox_03/37/59.1	2	5	3	4	22.8	14.7	6.1	8.5	
	Nox_03/37/59.2		2	4	4		3.1	3.0	1.7	
	Nox_03/37/59.3		5	4	4		2.5	2.5	2.4	
	Nox_03/37/59.4	3		2	0	0.2		0.3	0.0	2009, 2013, 2015, 2018, 2019, 2020, 2021, 2022,2023, 2025
	Plot Totals					23.0	20.3	12.0	12.6	
Nox_04	Nox_04.1	4	2	2	5	7.4	7.4	7.4	6.5	No Treatments
	Nox_04.2a	3	2	1	0	13.6	13.6	3.0	0.0	2012, 2015, 2016, 2018, 2019, 2020, 2021, 2022,2023, 2024, 2025
	Nox_04.2b				2				4.2	2012, 2015, 2016, 2018, 2019, 2020, 2021, 2022,2023, 2024, 2025
	Nox_04.3			1	3			0.4	0.4	
	Nox_04.4				3				1.0	2012, 2015, 2016, 2018, 2019, 2020, 2021, 2022,2023, 2024, 2025
	Plot Totals					21.0	21.0	10.8	12.1	
Nox_05	Nox_05.1a	4.0	5.0	5	4	22.0	22.0	18.9	18.8	2012, 2015, 2018, 2019
	Nox_05.1b			3	3			0.6	0.3	2012, 2015, 2018, 2019
	Nox_05.1c				3				0.7	
	Nox_05.2	3.0	2.0	3	3	0.0	0.0	0.0	0.0	2012, 2015, 2018, 2019
	Nox_05.3	3.0	2.0	0	0	0.0	0.0	0.0	0.0	2012, 2015, 2018, 2019
	Nox_05.4	3.0	2.0	0	1	0.1	0.1	0.0	0.2	2012, 2015
	Nox_05.5	5.0	5.0		NA	19.7	19.1	18.7	NA	2012, 2015
	Nox_05.6				3				0.5	
	Plot Totals					41.8	41.2	38.3	20.6	
Nox_06	Nox_06.1	3	4	5	4	13.6	13.6	13.6	11.6	2012, 2015
	Nox_06.2		5	3	4		1.5	0.7	1.3	2012, 2015
	Plot Totals					13.6	15.1	14.3	12.9	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_07	Nox_07.1a	3	5	4	4	2.8	3.4	6.0	4.3	2010, 2016
	Nox_07.1b				3				1.1	
	Nox_07.2a	1	1	3	1	8.9	5.0	1.9	0.2	2010, 2016
	Nox_07.2b				2				0.5	
	Nox_07.3		5	3	2		0.2	0.8	0.7	2010, 2016
	Nox_07.4a		5	4	4		10.0	6.6	1.0	2010, 2016
	Nox_07.4b				2				0.6	
	Nox_07.4c				5				7.3	
	Plot Totals					11.6	18.6	15.3	15.6	
Nox_08	Nox_08.1a	2	2	1	3	11.3	11.3	0.1	2.2	2010, 2012, 2014, 2015, 2016, 2021, 2022,2023, 2025
	Nox_08.1b			1	1			0.2	0.1	2010, 2012, 2014, 2015, 2016, 2021, 2022,2023, 2025
	Nox_08.1c			1	1			0.9	0.3	2010, 2012, 2014, 2015, 2016, 2021, 2022,2023, 2025
	Nox_08.1d			0	0			0.0	0.0	2010, 2012, 2014, 2015, 2016, 2021, 2022,2023, 2025
	Plot Totals					11.3	11.3	1.2	2.6	
Nox_09	Nox_09.1	4	5	2	4	3.4	3.1	2.8	2.4	2012
	Nox_09.2				2				0.1	
	Nox_09.3				1				0.4	
	Plot Totals					3.4	3.1	2.8	2.9	
Nox_10	Nox_10.1	3	2	5	4	13.1	13.1	14.8	15.2	2012, 2015, 2016
Nox_11	Nox_11.1	1	5	4	4	0.7	2.1	1.4	1.2	2012, 2019,2022
	Nox_11.2		5	4	4		2.5	2.5	4.0	2012, 2019,2022
	Nox_11.3		4	5	5		2.1	2.0	2.0	2012, 2019,2022
	Nox_11.4	4	2	4	4	0.4	13.2	4.6	4.7	2012, 2019,2022
	Nox_11.5	3		5	5	10.3		6.6	4.9	2012, 2019
	Plot Totals					11.4	19.9	17.1	16.8	
Nox_12	Nox_12.1a	3	0	1	2	16.8	0.0	16.2	7.9	2012
	Nox_12.1b				5				2.8	
	Nox_12.1c				4				6.1	
	Plot Totals					16.8	0.0	16.2	16.8	
Nox_14/26	Nox_14/26.1	2			2	2.0			0.4	
	Nox_14/26.2				2				0.0	
	Nox_14/26.3				2				0.0	
	Nox_14/26.4				1				0.0	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_14/26 Cont.	Nox_14/26.5				3				0.1	
	Nox_14/26.6				4				0.1	
	Plot Totals					2.0	0.0	0.0	0.7	
Nox_24	Nox_24.1	3	1	1	3	3.8	3.8	1.2	1.8	2012
Nox_2502	Nox_2502.1				1	0.0	0.0	0.0	0.1	
Nox_2503	Nox_2503.1				2				0.1	
	Nox_2503.2				2				0.1	
	Plot Totals					0.0	0.0	0.0	0.2	
Nox_2504	Nox_2504.1				2				0.1	
	Nox_2504.2				1				0.0	
	Nox_2504.3				2				0.2	
	Plot Totals					0.0	0.0	0.0	0.4	
Nox_2505	Nox_2505.1				2				2.4	
	Nox_2505.2				2				0.1	
	Nox_2505.3				1				1.9	
	Nox_2505.4				2				0.2	
	Nox_2505.5				2				0.5	
	Nox_2505.6				1				0.3	
	Plot Totals					0.0	0.0	0.0	5.3	
Nox_2506	Nox_2506.1				1				1.1	
	Nox_2506.2				1				3.7	
	Plot Totals					0.0	0.0	0.0	4.8	
Nox_2507	Nox_2507.1				1				1.7	
	Nox_2507.2				1				0.2	
	Nox_2507.3				1				0.2	
	Nox_2507.4				1				0.2	
	Plot Totals					0.0	0.0	0.0	2.3	
Nox_2508	Nox_2508.1				1				0.0	
	Nox_2508.2				3				0.1	
	Nox_2508.3				1				0.1	
	Nox_2508.4				1				0.2	
	Plot Totals					0.0	0.0	0.0	0.5	
Nox_2509	Nox_2509.1				5				1.7	
	Nox_2509.2				2				0.4	
	Nox_2509.3				1				1.4	
	Plot Totals					0.0	0.0	0.0	3.4	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_2510	Nox_2510.1				1				0.1	
	Nox_2510.2				1				0.1	
	Nox_2510.3				3				0.0	
	Nox_2510.4				3				0.2	
	Nox_2510.5				3				0.3	
	Plot Totals					0.0	0.0	0.0	0.8	
Nox_2511	Nox_2511.1				2				0.2	
	Nox_2511.2				4				1.7	
	Nox_2511.3				2				0.3	
	Nox_2511.4				2				0.3	
	Nox_2511.5				3				0.1	
	Nox_2511.6				1				0.2	
	Nox_2511.7				4				1.1	
	Nox_2511.8				3				0.2	
	Nox_2511.9				1				0.2	
	Plot Totals					0.0	0.0	0.0	4.3	
Nox_2512	Nox_2512.1				1				0.0	
	Nox_2512.2				1				0.6	
	Nox_2512.3				1				0.2	
	Nox_2512.4				4				0.9	
	Nox_2512.5				2				1.4	
	Nox_2512.6				4				1.8	
	Plot Totals					0.0	0.0	0.0	5.0	
Nox_2513	Nox_2513.1				1				0.0	
	Nox_2513.2				1				0.0	
	Nox_2513.3				1				0.1	
	Nox_2513.4				1				0.1	
	Nox_2513.5				3				0.2	
	Nox_2513.6				1				0.0	
	Nox_2513.7				3				0.4	
	Nox_2513.8				1				0.0	
	Plot Totals					0.0	0.0	0.0	0.8	
Nox_2514	Nox_2514.1				1				0.3	
	Nox_2514.2				4				0.6	
	Nox_2514.3				1				0.4	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_2514 Cont.	Nox_2514.4				1				0.1	
	Nox_2514.5				1				0.2	
	Nox_2514.6				1				0.1	
	Nox_2514.7				1				0.1	
	Nox_2514.8				1				0.1	
	Plot Totals					0.0	0.0	0.0	1.7	
Nox_2515	Nox_2515.1				1				0.1	
	Nox_2515.2				1				0.2	
	Nox_2515.3				2				1.7	
	Plot Totals					0.0	0.0	0.0	1.9	
Nox_2516	Nox_2516.1				1	0.0	0.0	0.0	3.3	
Nox_2518	Nox_2518.1				4	0.0	0.0	0.0	0.0	
Nox_2519	Nox_2519.1				3	0.0	0.0	0.0	2.2	
Nox_2520	Nox_2520.1				1				0.9	
	Nox_2520.2				3				1.0	
	Plot Totals					0.0	0.0	0.0	2.0	
Nox_2521	Nox_2521.1				3	0.0	0.0	0.0	0.6	
Nox_2522	Nox_2522.1				2				0.7	
	Nox_2522.2				3				0.2	
	Plot Totals					0.0	0.0	0.0	0.9	
Nox_2523	Nox_2523.1				2	0.0	0.0	0.0	1.8	
Nox_30	Nox_30.1a	3	5	4	3	3.6	4.6	5.9	3.9	2013, 2016
	Nox_30.1b				5				1.0	
	Nox_30.1c				4				1.6	
	Plot Totals					3.6	4.6	5.9	6.5	
Nox_31	Nox_31.1	2	1	0	0	0.6	0.9	0.0	0.0	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024
	Nox_31.2	4	3	0	0	0.1	0.1	0.0	0.0	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024
	Nox_31.3	3	2	0	0	0.1	0.1	0.0	0.0	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024
	Nox_31.4	1	2	1	3	0.7	0.7	0.3	0.1	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024
	Nox_31.5	4	3	1	3	0.1	0.1	0.1	0.1	2010, 2013, 2014, 2016, 2018, 2019, 2020, 2022, 2023, 2024
	Plot Totals					1.6	1.9	0.4	0.2	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_42	Nox_42.1	2	5	1	2	4.2	0.7	3.3	4.0	2013
	Nox_42.2			1	3			1.2	0.9	
	Plot Totals					4.2	0.7	4.5	4.9	
Nox_43/44	Nox_43/44.1	4	2	4	4	31.7	31.9	30.8	18.8	2013
	Nox_43/44.2		5	3	3		1.4	1.8	1.9	2013
	Plot Totals					31.7	33.3	32.6	20.7	
Nox_46	Nox_46.1	0	5	3	NA	0.0	2.7	5.0	NA	
Nox_48 (Nox_79 is the treatment plot in pretreatment reports and is nested within portions of Nox_48 subplots)	Nox_48.1	4	0	3	0	0.4	0.0	0.4	0.0	2018, 2019, 2025
	Nox_48.2	2	1	3	0	2.0	2.0	2.1	0.0	2018, 2019, 2025
	Nox_48.3	1	1	3	1	1.6	1.6	7.4	4.7	No treatments
	Nox_48.4	0	1	3	0	0.0	81.7	37.5	0.0	2018, 2019, 2025
	Nox_48.5	1	1	3	2	26.5	21.3	16.9	6.1	No treatments
	Nox_48.6	0	1	1	5	0.0	5.3	1.1	19.5	No treatments
	Nox_48.7		4	3	1		5.6	8.8	8.8	No treatments
	Nox_48.8		5	0	1		2.6	0.0	3.0	2025
	Nox_48.9			2	1				20.8	21.0
	Nox_48.10			1	5				5.2	5.2
	Nox_48.11				1					0.0
	Plot Totals						30.5	120.2	100.1	68.2
Nox_50	Nox_50.1	3	2	1	5	22.5	18.6	6.6	6.9	No treatments
	Nox_50.2		5	1	3		0.2	0.3	0.2	No treatments
	Nox_50.3		5	1	5		3.9	7.0	4.6	No treatments
	Nox_50.4			1	3			2.4	1.8	
	Plot Totals					22.5	22.7	16.3	13.5	
Nox_52	Nox_52.1	3	2	0	0	0.7	0.7	0.0	0.0	No treatments
	Nox_52.2	2	1	0	1	0.4	0.4	0.0	0.7	2018, 2019, 2022, 2024
	Nox_52.3	2	1	0	1	1.4	1.4	0.0	0.9	2018, 2019, 2022, 2024
	Nox_52.4	1	2	0	1	0.6	0.6	0.0	0.9	2018, 2019, 2022, 2024
	Plot Totals					3.0	3.0	0.0	2.5	
Nox_54	Nox_54.1	4	2	1	4	2.5	2.5	1.6	1.7	2014
Nox_56	Nox_56.1a	4	5	5	3	2.3	1.6	6.2	5.8	2015
	Nox_56.1b				2				0.7	
	Plot Totals					4.8	4.1	7.7	8.2	
Nox_57	Nox_57.1	3	5	4	2	6.8	7.4	9.3	5.8	2015
Nox_60	Nox_60.1a	2	5	5	5	0.3	3.3	1.8	1.8	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_60 Cont.	Nox_60.1b			4	4			1.6	1.6	
	Nox_60.2			5	3			0.4	0.4	
	Plot Totals					0.3	3.3	3.8	3.8	
Nox_61	Nox_61	0	0	0	0	0.0	0.0		0.0	
Nox_62	Nox_62	0	0	0	0	0.0	0.0	0.0	0.0	
Nox_63	Nox_63.1	2	2	2	2	0.8	0.8	3.5	3.5	
	Nox_63.2		5	0	3		0.1	0.0	0.5	
	Nox_63.3				3				0.6	
	Nox_63.4				2				0.4	
	Nox_63.5				1				0.2	
	Nox_63.6				2				0.0	
	Nox_63.7				2				0.1	
	Plot Totals					0.8	0.9	3.5	5.4	
Nox_64	Nox_64	3	0	0	0	0.0	0.0	0.0	0.0	
Nox_65	Nox_65	3			1	0.0	0.0	0.0	0.1	
Nox_66	Nox_66.1	3	2	1	4	2.5	2.5	1.4	4.1	2018, 2019
Nox_67	Nox_67.1	4	1	1	2	0.6	0.6	0.8	0.7	
	Nox_67.2				1				0.0	
	Plot Totals					0.6	0.6	0.8	0.7	
Nox_68	Nox_68.1	3	2	1	4	0.6	0.6	0.7	0.5	
	Nox_68.2				3				0.4	
	Plot Totals					0.6	0.6	0.7	0.9	
Nox_69	Nox_69.1a	0	0	1	4	0.0	0.0	5.1	1.3	
	Nox_69.1b				3				3.0	
	Nox_69.1c				4				0.1	
	Nox_69.1d				3				0.2	
	Nox_69.1e				2				0.5	
	Plot Totals					0.0	0.0	5.1	5.2	
Nox_70	Nox_70.1a	2	2	1	2	2.6	2.6	2.6	1.9	
	Nox_70.1b				2				0.4	
	Nox_70.1c				3				0.6	
	Nox_70.1d				2				1.8	
	Plot Totals					2.6	2.6	2.6	4.6	
Nox_71	Nox_71.1	2	2	1	2	6.5	5.0	2.3	2.8	
	Nox_71.2		5	1	2		1.1	2.1	1.4	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_71 Cont.	Nox_71.3		5	1	5		0.6	0.5	1.0	
	Plot Totals					6.5	6.7	4.8	5.2	
Nox_72	Nox_72.1a	0	4	3	4	0.0	2.6	3.1	0.3	
	Nox_72.1b				2				0.1	
	Nox_72.1c				5				3.9	
	Nox_72.1d				2				0.0	
	Plot Totals					0.0	2.6	3.1	4.2	
Nox_73	Nox_73.1a	3	1	4	0	0.4	0.4	0.0	0.0	2019, 2021,2023,2025
	Nox_73.1b			4	0			0.1	0.0	2019, 2021,2023,2025
	Nox_73.1c			2	0			0.1	0.0	2019, 2021,2023,2025
	Nox_73.2				2				0.1	
	Plot Totals					0.4	0.4	0.3	0.1	
Nox_74	Nox_74.1	3	2	4	4	1.2	1.2	1.1	1.7	
	Nox_74.2				3				1.9	
	Plot Totals					1.2	1.2	1.1	3.5	
Nox_75	Nox_75.1	2	2	4	5	2.3	1.4	0.6	0.5	
	Nox_75.2a		5	4	5		1.1	2.9	2.9	
	Nox_75.2b				2				0.3	
	Nox_75.3			5	4			1.3	1.2	
	Nox_75.4				3				0.1	
	Nox_75.5				1				0.5	
	Nox_75.6				1				0.6	
	Plot Totals					2.3	2.5	4.8	6.2	
Nox_76	Nox_76.1	2	3	1	3	0.3	0.3	0.5	0.9	
Nox_77	Nox_77.1	4	5	3	3	3.9	2.8	3.6	1.9	2018, 2019,2022
Nox_80	Nox_80.1		5	0	3		0.6	0.0	2.3	
Nox_81	Nox_81.1		5	1	1		0.1	0.5	0.9	
	Nox_81.2				1				0.1	
	Nox_81.3				2				0.2	
	Plot Totals					0.0	0.1	0.5	1.2	
Nox_82	Nox_82.1		5	2	2		0.9	1.8	1.8	
Nox_83	Nox_83.1		5	4	1		0.5	0.5	0.6	
	Nox_83.2			2	3			0.6	0.3	
	Nox_83.3			1	2			2.5	2.1	
	Nox_83.4				2				0.7	
	Plot Totals					0.0	0.5	3.6	3.7	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Nox_84	Nox_84.1a		5	3	1		2.6	2.6	0.6	
	Nox_84.1b				4				2.0	
	Plot Totals					0.0	2.6	2.6	2.6	
Nox_85	Nox_85.1		5	4	3		1.3	2.3	2.7	
Nox_86	Nox_86.1		5	1	3		0.5	0.2	0.6	
	Nox_86.2				4				2.8	
	Nox_86.3				3				2.5	
	Nox_86.4				2				0.2	
	Plot Totals					0.0	0.5	0.2	6.1	
Nox_87	Nox_87.1		5	1	2		2.9	6.5	8.4	
	Nox_87.2			3	2			1.1	0.4	
	Plot Totals					0.0	2.9	7.6	8.8	
Nox_88	Nox_88.1a	3	3	4	1	7.5	7.5	7.5	3.8	
	Nox_88.1b				3				2.6	
	Plot Totals					7.5	7.5	7.5	6.5	
Nox_89	Nox_89.1			3	NA			3.6	NA	
Nox_90	Nox_90.1			1	3			0.8	0.8	
Nox_91	Nox_91.1			1	3			0.2	0.5	
	Nox_91.2				2				0.2	
	Nox_91.3				2				0.3	
	Nox_91.4				1				0.5	
	Plot Totals					0.0	0.0	0.2	1.5	
Nox_92	Nox_92.1			3	3			8.8	11.5	

Noxon Rapids Reservoir: Reservoir-wide Point Intercept Survey

Sampling crews collected 272 sample points on Noxon Rapids Reservoir. A total of 20 plant species were identified, including 17 native and 3 invasive species. Species-specific frequency of occurrence is presented in Table 3. The invasive Eurasian watermilfoil (*Myriophyllum spicatum*) was the most prevalent species, occurring in 69% of sample points, followed by the native species coontail (*Ceratophyllum demersum*) at 58% and elodea (*Elodea canadensis*) at 51%. Curlyleaf pondweed typically senesces and drops out of the plant community by late summer, so its true occurrence is likely higher than what was documented during this survey. A spring survey would probably detect a greater presence of this species. Table 4 compares species-specific frequencies across the 2014, 2016, 2017, 2021, and 2025 surveys.

Table 3. Frequency table for plant species found in Noxon Rapids Reservoir during the 272 point-intercept surveys.

Scientific Name	Common Name	# Points with Species	Percent Occurrence
No Species	no species found at point	33	12%
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	188	69%
<i>Ceratophyllum demersum</i>	coontail	154	57%
<i>Elodea spp.</i>	unspecified elodea (waterweed)	139	51%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	41	15%
<i>Potamogeton spp.</i>	unspecified pondweed	32	12%
<i>Butomus umbellatus</i>	flowering rush	25	9%
<i>Heteranthera dubia</i>	water stargrass	18	7%
<i>Ranunculus aquatilis</i>	white water buttercup	17	6%
<i>Chara spp.</i>	muskgrass	11	4%
<i>Myriophyllum sibiricum</i>	northern watermilfoil	9	3%
<i>Potamogeton crispus</i>	curlyleaf pondweed	9	3%
<i>Potamogeton praelongus</i>	white-stemmed pondweed	9	3%
<i>Vallisneria americana</i>	American eelgrass	6	2%
<i>Potamogeton illinoensis</i>	Illinois pondweed	5	2%
<i>Stuckenia pectinata</i>	sago pondweed	4	1%
<i>Isoetes spp.</i>	quillwort	2	1%
<i>Callitriche spp.</i>	unspecified water-starwort	1	0%
<i>Potamogeton gramineus</i>	grassy pondweed	1	0%
<i>Potamogeton zosteriformis</i>	flatstem pondweed	1	0%
<i>Sagittaria spp.</i>	unspecified arrowhead	1	0%
<i>Elodea bifoliata</i>	Long-sheath waterweed	0	0%
<i>Equisetum spp.</i>	unspecified horsetail	0	0%
<i>Najas guadalupensis</i>	common water nymph	0	0%
<i>Nitella spp.</i>	stonewort	0	0%
<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0%
<i>Potamogeton epihydrus</i>	Nuttall's pondweed	0	0%
<i>Potamogeton foliosus</i>	leafy pondweed	0	0%
<i>Potamogeton vaginatus</i>	sheathed pondweed	0	0%
Unidentified species	unidentified species	0	0%
<i>Zannichellia palustris</i>	horned pondweed	0	0%

Table 4. Species-specific frequency comparisons for 5 different years (2014, 2017, 2018, 2021, & 2025) for Noxon Rapids Reservoir.

Noxon Rapids Reservoir		Year	<u>2014</u>	<u>2017</u>	<u>2018</u>	<u>2021</u>	<u>2025</u>
# Sampling points			228	235	299	292	272
Scientific Name	Common Name	Sampling locations - (& % of total) w/ species detected					
No Species detected	No species detected	0 - (0%)	101 - (43%)	42 - (14%)	23 - (8%)	33 - (12%)	
<i>Butomus umbellatus</i>	flowering rush	57 - (25%)	16 - (7%)	52 - (17%)	45 - (15%)	25 - (9%)	
<i>Callitriche spp.</i>	unspecified water-starwort	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	1 - (0%)	
<i>Ceratophyllum demersum</i>	coontail	81 - (36%)	114 - (49%)	195 - (65%)	170 - (58%)	154 - (57%)	
<i>Chara spp.</i>	muskgrass	37 - (16%)	19 - (8%)	47 - (16%)	26 - (9%)	11 - (4%)	
<i>Elodea bifoliata</i>	long-sheath waterweed	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Elodea spp.</i>	unspecified elodea	87 - (38%)	68 - (29%)	183 - (61%)	177 - (61%)	139 - (51%)	
<i>Equisetum spp.</i>	unspecified horsetail	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Heteranthera dubia</i>	water stargrass	26 - (11%)	10 - (4%)	1 - (0%)	0 - (0%)	18 - (7%)	
<i>Isoetes spp.</i>	quillwort	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	2 - (1%)	
<i>Myriophyllum sibiricum</i>	northern watermilfoil	87 - (38%)	26 - (11%)	64 - (21%)	5 - (2%)	9 - (3%)	
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	65 - (29%)	89 - (38%)	201 - (67%)	201 - (69%)	188 - (69%)	
<i>Najas spp.</i>	waternymph species	0 - (0%)	2 - (1%)	2 - (1%)	7 - (2%)	0 - (0%)	
<i>Nitella spp.</i>	stonewort	0 - (0%)	0 - (0%)	0 - (0%)	4 - (1%)	0 - (0%)	
<i>Potamogeton amplifolius</i>	largeleaf pondweed	0 - (0%)	0 - (0%)	1 - (0%)	0 - (0%)	0 - (0%)	
<i>Potamogeton crispus</i>	curlyleaf pondweed	48 - (21%)	42 - (18%)	85 - (28%)	20 - (7%)	9 - (3%)	
<i>Potamogeton epihydrus</i>	ribbon-leaved pondweed	0 - (0%)	0 - (0%)	5 - (2%)	0 - (0%)	0 - (0%)	
<i>Potamogeton foliosus</i>	leafy pondweed	30 - (13%)	30 - (13%)	72 - (24%)	20 - (7%)	0 - (0%)	
<i>Potamogeton gramineus</i>	variableleaf pondweed	0 - (0%)	0 - (0%)	2 - (1%)	1 - (0%)	1 - (0%)	
<i>Potamogeton illinoensis</i>	Illinois pondweed	8 - (4%)	7 - (3%)	0 - (0%)	0 - (0%)	5 - (2%)	
<i>Potamogeton praelongus</i>	whitestem pondweed	2 - (1%)	4 - (2%)	14 - (5%)	10 - (3%)	9 - (3%)	
<i>Potamogeton richardsonii</i>	Richardson's pondweed	34 - (15%)	24 - (10%)	60 - (20%)	57 - (20%)	41 - (15%)	
<i>Potamogeton spp.</i>	unspecified pondweed	0 - (0%)	0 - (0%)	40 - (13%)	55 - (19%)	32 - (12%)	
<i>Potamogeton vaginatus</i>	sheathed pondweed	0 - (0%)	0 - (0%)	2 - (1%)	1 - (0%)	0 - (0%)	
<i>Potamogeton zosteriformis</i>	flatstem pondweed	6 - (3%)	4 - (2%)	0 - (0%)	10 - (3%)	1 - (0%)	
<i>Ranunculus aquatilis</i>	white water buttercup	39 - (17%)	12 - (5%)	21 - (7%)	50 - (17%)	17 - (6%)	
<i>Sagittaria spp.</i>	unspecified arrowhead	0 - (0%)	1 - (0%)	2 - (1%)	1 - (0%)	1 - (0%)	
<i>Stuckenia pectinata</i>	sago pondweed	45 - (20%)	26 - (11%)	28 - (9%)	26 - (9%)	4 - (1%)	
<i>Vallisneria americana</i>	American eelgrass	1 - (0%)	1 - (0%)	0 - (0%)	5 - (2%)	6 - (2%)	
<i>Zannichellia palustris</i>	horned pondweed	0 - (0%)	0 - (0%)	1 - (0%)	0 - (0%)	0 - (0%)	

Cabinet Gorge Reservoir: Eurasian Watermilfoil Bed Delineations

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. They mapped 203 acres of EWM beds with EWM coverage varying from sparse to nearly 100% covered (Table 5).

Overall, in 2025, EWM coverage seemed like other years, which is consistent to pretreatment surveys performed June 2025. Figure 4 graphs the compiled results of all beds surveyed during each of the four reservoir surveys in 2017, 2021, 2024, and 2025. Table 6 provides details for each EWM bed surveyed in 2017, 2021, 2024. In 2025, the task force treated 8.2 acres of EWM beds in Cabinet Gorge Reservoir within plots Cab_01 (CAB_30 is the treatment plot nested within portions of several Cab_01 subplots) and Cab_06. Areas treated for EWM clearly show reductions of EWM in 2025 to undetectable levels within portions of the beds and aren't included in the totals. It is likely these plots will have EWM presence in subsequent years.

Table 5. Number of acres within Cabinet Gorge Reservoir broken down by EWM percent cover levels.

Rank	Cabinet Gorge Reservoir Eurasian Watermilfoil Density (Percent Cover)	Acres
0	No EWM	30
1	1%-20%	62
2	21%-40%	10
3	41%-60%	31
4	61%-80%	34
5	81%-100%	66
Total Eurasian watermilfoil bed acres (Ranks 1-5)		203

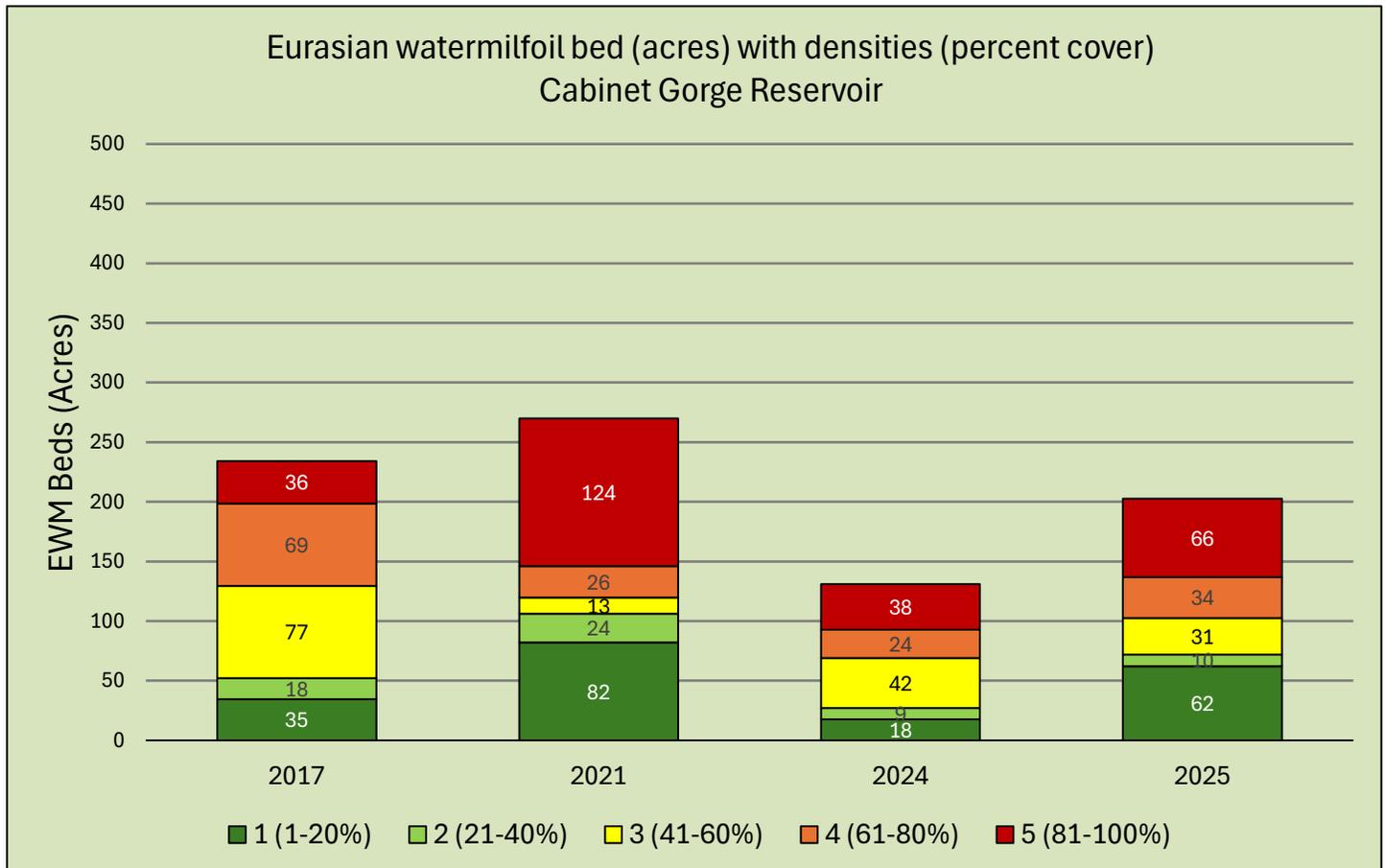


Figure 2. Breakdown by coverage ranking of surveyed Eurasian watermilfoil beds (acres) - Cabinet Gorge Reservoir in 2017, 2021, and 2024.

Table 6. 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)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Cab_01 (Cab_30 is the treatment plot in pretreatment reports and is nested within portions of Cab_01 subplots)	Cab_01.1a	3	5	4	4	16.3	16.3	9.9	8.9	2014
	Cab_01.1b				3				1.6	
	Cab_01.2	0	1	0	0	0.0	5.6	0.0	0.0	2014, 2023, 2025
	Cab_01.3a	5	5	3	5	35.7	35.7	8.6	2.8	2014, 2023, 2025
	Cab_01.3b				3				2.5	2014, 2023, 2025
	Cab_01.3c				4				1.5	2014, 2023, 2025
	Cab_01.3d				3				8.4	
	Cab_01.4	1	1	0	0	15.3	15.3	0.0	0.0	2014, 2025
	Cab_01.5	2	2	0	1	0.8	0.8	0.0	0.8	2014, 2025
	Cab_01.6a	3	5	1	0	6.8	6.8	0.8	0.0	2014, 2025
	Cab_01.6b				2				1.3	
	Cab_01.7	1	2	0	0	2.3	2.3	0.0	0.0	2014, 2025
	Plot Totals					77.1	82.7	19.3	27.7	
Cab_02	Cab_02.1a	4	5	4	4	65.1	65.1	12.2	12.2	2014, 2015
	Cab_02.1b			5	5			38.0	41.3	2014, 2015
	Cab_02.1c			1	1			1.4	1.4	2014, 2015
	Cab_02.1d			3	1			4.1	0.9	2014, 2015
	Plot Totals					65.1	65.1	55.6	55.9	
Cab_03	Cab_03.1	3	4	3	5	11.2	14.2	17.4	18.0	2014, 2015
Cab_04	Cab_04.1	3	4	3	1	10.8	5.0	4.7	4.7	2014
	Cab_04.2			1	1			0.7	0.7	
	Cab_04.3				1				2.2	
	Plot Totals					10.8	5.0	5.4	7.6	
Cab_05	Cab_05.1	4	3	0	4	0.3	0.3	0.0	0.2	2014, 2019
	Cab_05.2	3	1	0	1	9.1	8.2	0.0	7.0	2014, 2019,2023
	Cab_05.3	0	1	0	1	0.0	9.0	0.0	9.4	2014, 2019,2023
	Cab_05.4		3	0	1		1.0	0.0	1.0	2014, 2019
	Plot Totals					9.4	18.4	0.0	17.6	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Cab_06	Cab_06.1	3	1	0	1	5.4	5.1	0.0	3.7	2019, 2020,2023, 2025
	Cab_06.2	2	3	0	1	1.5	1.5	0.0	1.8	2019, 2020, 2025
	Cab_06.3	0	3	2	0	0.0	3.6	0.2	0.0	2019, 2020
	Cab_06.4		4	2	4		0.3	0.3	1.3	2019, 2020, 2025
	Plot Totals					6.9	10.4	0.5	6.9	
Cab_08	Cab_08.1	3	1	1	1	3.4	3.4	2.5	2.5	
	Cab_08.2			1	1			0.4	0.6	
	Cab_08.3				1				0.1	
	Plot Totals					3.4	3.4	2.9	3.2	
Cab_09	Cab_09.1	3	2	1	2	6.7	6.7	2.1	1.4	
	Cab_09.2	0	3	2	2	0.0	0.6	0.9	1.0	
	Cab_09.3	2	1	2	1	4.8	5.0	4.1	4.1	
	Cab_09.4		3	2	1		2.0	2.5	2.4	
	Plot Totals					11.5	14.4	9.6	8.9	
Cab_10	Cab_10.1	1	3	1	2	0.9	0.9	1.1	1.4	
	Cab_10.2	2	1	1	3	4.4	4.4	0.6	0.7	
	Cab_10.3	1	1	1	3	7.4	7.4	1.7	2.1	
	Cab_10.4				1				0.8	
	Cab_10.5				1				0.1	
	Plot Totals					12.7	12.7	3.4	5.0	
Cab_11	Cab_11.1	2	1	1	3	2.2	2.2	0.8	1.2	
	Cab_11.2			1	1			0.3	0.3	
	Plot Totals					2.2	2.2	1.1	1.5	
Cab_12	Cab_12.1	2	2	1	2	1.9	1.9	0.4	0.4	2018, 2019, 2020, 2024
	Cab_12.2			0	2			0.0	1.7	
	Cab_12.3				1				1.3	
	Plot Totals					1.9	1.9	0.4	3.3	
Cab_13	Cab_13.1	3	3	3	3	0.6	0.8	0.7	1.9	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Cab_14	Cab_14.1	3	1	1	3	1.9	1.9	1.4	1.2	
	Cab_14.2		3	1	3		0.1	0.4	0.5	
	Plot Totals					1.9	2.0	1.9	1.7	
Cab_15/33	Cab_15/33.1	0	1	0	NA	0.0	8.0	0.0	NA	
Cab_16	Cab_16.1a	4	4	3	5	3.7	1.6	1.0	1.0	
	Cab_16.1b			2	5			0.6	0.6	
	Cab_16.2				2				0.1	
	Plot Totals					3.7	1.6	1.5	1.7	
Cab_17	Cab_17.1	1	2	0	0	5.7	5.7	0.0	0.0	
Cab_18	Cab_18.1	1	3	0	1	2.1	2.1	0.0	2.1	
Cab_19	Cab_19.1	1	0	0	0	0.6	0.0	0.0	0.0	
Cab_20	Cab_20.1	0	2	1	0	0.0	2.9	0.04	0.0	2018
Cab_21	Cab_21.1	3	0	1	2	2.2	0.0	1.3	1.3	
	Cab_21.2				2				0.3	
	Plot Totals					2.2	0.0	1.3	1.6	
Cab_22	Cab_22.1	3	2	0	2	0.1	0.1	0.0	0.5	
Cab_23	Cab_23.1	2				0.1				
Cab_24	Cab_24.1	3	2	1	NA	1.9	1.9	0.3	NA	
Cab_25	Cab_25.1a	2	2	1	2	1.9	1.9	1.0	0.1	
	Cab_25.1b				3				0.2	
	Plot Totals					1.9	1.9	1.0	0.3	
Cab_2524	Cab_2524.1				1				0.0	
	Cab_2524.2				1				0.1	
	Plot Totals					0.0	0.0	0.0	0.1	
Cab_2525	Cab_2525.1				3				5.3	
Cab_2526	Cab_2526.1				1				1.2	
Cab_2527	Cab_2527.1				1				0.8	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Cab_2528	Cab_2528.1				1				0.3	
	Cab_2528.2				1				0.2	
	Plot Totals					0.0	0.0	0.0	0.5	
Cab_2529	Cab_2529.1				1				0.1	
Cab_2530	Cab_2530.1				2				0.2	
	Cab_2530.2				3				0.2	
	Plot Totals					0.0	0.0	0.0	0.4	
Cab_2531	Cab_2531.1				1				0.1	
	Cab_2531.2				1				0.1	
	Cab_2531.3				1				0.1	
	Plot Totals					0.0	0.0	0.0	0.3	
Cab_2532	Cab_2532.1				1				1.4	
	Cab_2532.2				1				1.4	
	Cab_2532.3				1				7.1	
	Plot Totals					0.0	0.0	0.0	9.9	
Cab_2533	Cab_2533.1				3				0.6	
Cab_2534	Cab_2534.1				3				0.0	
Cab_2535	Cab_2535.1				5				2.3	
Cab_2536	Cab_2536.1				2				0.1	
Cab_26	Cab_26.1	0	1	3	4	0.0	6.2	5.3	5.9	
	Cab_26.2				3				0.1	
	Plot Totals					0.0	6.2	5.3	6.0	
Cab_27	Cab_27.1	0	0	0	NA	0.0	0.0	0.0	NA	
Cab_28	Cab_28.1	3	3	4	4	0.3	0.2	0.8	1.4	
	Cab_28.2		4	4	4		0.2	1.0	1.1	
	Cab_28.3				3				0.4	
	Plot Totals					0.3	0.4	1.8	2.9	

Plot	Plot_ID	Percent Cover (Coverage) Rank (1-5)				EWM Bed Size (Acres)				Years Treated
		2017	2021	2024	2025	2017	2021	2024	2025	
Cab_29	Cab_29.1	3	1	0	3	0.4	0.4	0.0	0.4	2018, 2019, 2024
	Cab_29.2	1	3	3	3	0.2	0.2	0.2	0.9	2018, 2019, 2024
	Plot Totals					0.6	0.5	0.2	1.3	
Cab_34	Cab_34.1		4	1	1	0.0	0.0	0.0	0.1	
Cab_35	Cab_35.1		5	1	1		0.1	0.1	0.2	
	Cab_35.2				2				0.2	
	Cab_35.3				1				0.1	
	Cab_35.4				1				0.2	
	Cab_35.5				1				0.0	
	Plot Totals					0.0	0.1	0.1	0.7	
Cab_36	Cab_36.1		4	0	0	0.0	0.1	0.0	0.0	
Cab_37	Cab_37.1		4	0	NA	0.0	4.4	0.0	NA	
Cab_38	Cab_38.1		3	1	3	0.0	0.2	0.4	1.0	
Cab_39	Cab_39.1		4	0	4	0.0	0.5	0.0	1.5	
Cab_40	Cab_40.1		4	4	4	0.0	0.0	0.0	0.0	
Cab_41	Cab_41.1		4	3	3	0.0	0.0	0.0	0.4	
Cab_30/42	Cab_42.1	3	2	2	1	0.3	0.0	0.4	0.3	
	Cab_42.2			2	3			0.4	0.2	
	Cab_42.3				3				0.9	
	Cab_42.4				1				0.4	
	Plot Totals					0.3	0.0	0.8	1.8	

Cabinet Gorge Reservoir: Reservoir-wide Point Intercept Survey

Sampling crews collected 176 sample points on Cabinet Gorge Reservoir. A total of 14 plant species were identified, including 11 native and 3 invasive species. Species-specific frequency of occurrence is presented in Table 7. The native species elodea (*Elodea canadensis*) was the most prevalent species, occurring in 53% of sample points, followed by the native species coontail (*Ceratophyllum demersum*) at 48% and the invasive Eurasian watermilfoil (*Myriophyllum spicatum*) at 40%. Curlyleaf pondweed typically senesces and drops out of the plant community by late summer, so its true occurrence is likely higher than what was documented during this survey. A spring survey would probably detect a greater presence of this species. Table 8 compares species-specific frequencies across the 2014, 2017, 2018, 2021, and 2025 surveys.

Table 7. Frequency table for plant species found in Cabinet Gorge Reservoir during the 176 point-intercept surveys

Scientific Name	Common Name	# Points with Species	Percent Occurrence
No Species	no species found at point	65	37%
<i>Elodea spp.</i>	unspecified elodea (waterweed)	94	53%
<i>Ceratophyllum demersum</i>	coontail	85	48%
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	71	40%
<i>Potamogeton spp.</i>	unspecified pondweed	11	6%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	7	4%
<i>Ranunculus aquatilis</i>	white water buttercup	7	4%
<i>Chara spp.</i>	muskgrass	3	2%
<i>Sagittaria spp.</i>	unspecified arrowhead	3	2%
<i>Butomus umbellatus</i>	flowering rush	2	1%
<i>Potamogeton crispus</i>	curlyleaf pondweed	2	1%
<i>Elodea bifoliata</i>	long-sheath waterweed	1	1%
<i>Equisetum spp.</i>	unspecified horsetail	1	1%
<i>Heteranthera dubia</i>	water stargrass	1	1%
<i>Callitriche spp.</i>	unspecified water-starwort	0	0%
<i>Isoetes spp.</i>	quillwort	0	0%
<i>Myriophyllum sibiricum</i>	northern watermilfoil	0	0%
<i>Najas guadalupensis</i>	common water nymph	0	0%
<i>Nitella spp.</i>	stonewort	0	0%
<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0%
<i>Potamogeton epihydrus</i>	Nuttall's pondweed	0	0%
<i>Potamogeton foliosus</i>	leafy pondweed	0	0%
<i>Potamogeton gramineus</i>	grassy pondweed	0	0%
<i>Potamogeton illinoensis</i>	Illinois pondweed	0	0%
<i>Potamogeton praelongus</i>	white-stemmed pondweed	0	0%
<i>Potamogeton vaginatus</i>	sheathed pondweed	0	0%
<i>Potamogeton zosteriformis</i>	flatstem pondweed	0	0%
<i>Stuckenia pectinata</i>	sago pondweed	0	0%
Unidentified species	unidentified species	0	0%
<i>Vallisneria americana</i>	American eelgrass	0	0%
<i>Zannichellia palustris</i>	horned pondweed	0	0%

Table 8. Species-specific frequency comparisons for 5 different years (2014, 2017, 2018, 2021, & 2025) for Cabinet Gorge Reservoir.

Cabinet Gorge Reservoir		Year	2014	2017	2018	2021	2025
		# Sampling points	335	152	175	182	176
Scientific Name	Common Name	# Sampling locations w/ species detected (% of total points)					
No Species detected	No Species detected	0 - (0%)	79 - (52%)	65 - (37%)	57 - (31%)	65 - (37%)	
<i>Butomus umbellatus</i>	flowering rush	6 - (2%)	1 - (1%)	4 - (2%)	1 - (1%)	2 - (1%)	
<i>Callitriche spp.</i>	unspecified water-starwort	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Ceratophyllum demersum</i>	coontail	61 - (18%)	91 - (60%)	90 - (51%)	94 - (52%)	85 - (48%)	
<i>Chara spp.</i>	unspecified muskgrass	8 - (2%)	13 - (9%)	12 - (7%)	7 - (4%)	3 - (2%)	
<i>Elodea bifoliata</i>	long-sheath waterweed	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	1 - (1%)	
<i>Elodea spp.</i>	unspecified elodea	65 - (19%)	62 - (41%)	100 - (57%)	90 - (49%)	94 - (53%)	
<i>Equisetum spp.</i>	unspecified horsetail	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	1 - (1%)	
<i>Heteranthera dubia</i>	water stargrass	1 - (0%)	0 - (0%)	1 - (1%)	0 - (0%)	1 - (1%)	
<i>Isoetes spp.</i>	unspecified quillwort	1 - (0%)	0 - (0%)	2 - (1%)	0 - (0%)	0 - (0%)	
<i>Myriophyllum sibiricum</i>	northern watermilfoil	27 - (8%)	9 - (6%)	9 - (5%)	1 - (1%)	0 - (0%)	
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	52 - (16%)	69 - (45%)	86 - (49%)	56 - (31%)	71 - (40%)	
<i>Najas spp.</i>	waternymph species	0 - (0%)	1 - (1%)	0 - (0%)	1 - (1%)	0 - (0%)	
<i>Nitella spp.</i>	unspecified stonewort	0 - (0%)	0 - (0%)	4 - (2%)	0 - (0%)	0 - (0%)	
<i>Potamogeton amplifolius</i>	largeleaf pondweed	0 - (0%)	0 - (0%)	2 - (1%)	0 - (0%)	0 - (0%)	
<i>Potamogeton crispus</i>	curlyleaf pondweed	26 - (8%)	14 - (9%)	11 - (6%)	3 - (2%)	2 - (1%)	
<i>Potamogeton epihydrus</i>	ribbon-leaved pondweed	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Potamogeton foliosus</i>	leafy pondweed	35 - (10%)	24 - (16%)	13 - (7%)	1 - (1%)	0 - (0%)	
<i>Potamogeton gramineus</i>	variableleaf pondweed	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Potamogeton illinoensis</i>	Illinois pondweed	16 - (5%)	6 - (4%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Potamogeton praelongus</i>	whitestem pondweed	2 - (1%)	13 - (9%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Potamogeton richardsonii</i>	Richardson's pondweed	42 - (13%)	22 - (15%)	18 - (10%)	3 - (2%)	7 - (4%)	
<i>Potamogeton spp.</i>	unspecified pondweed	0 - (0%)	0 - (0%)	1 - (1%)	1 - (1%)	11 - (6%)	
<i>Potamogeton vaginatus</i>	sheathed pondweed	0 - (0%)	0 - (0%)	3 - (2%)	0 - (0%)	0 - (0%)	
<i>Potamogeton zosteriformis</i>	flatstem pondweed	29 - (9%)	12 - (8%)	1 - (1%)	1 - (1%)	0 - (0%)	
<i>Ranunculus aquatilis</i>	white water buttercup	29 - (9%)	3 - (2%)	9 - (5%)	7 - (4%)	7 - (4%)	
<i>Sagittaria spp.</i>	unspecified arrowhead	0 - (0%)	0 - (0%)	1 - (1%)	2 - (1%)	3 - (2%)	
<i>Stuckenia pectinata</i>	sago pondweed	13 - (4%)	12 - (8%)	4 - (2%)	0 - (0%)	0 - (0%)	
<i>Vallisneria americana</i>	American eelgrass	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	
<i>Zannichellia palustris</i>	horned pondweed	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	0 - (0%)	

Conclusion

The 2025 reservoir-wide survey of Noxon Rapids and Cabinet Gorge Reservoirs provided an updated assessment of Eurasian watermilfoil (EWM) distribution, percent cover, and long-term trends across both systems. Survey results indicate that overall EWM abundance in 2025 was generally consistent with levels observed in previous years and aligned with findings from the 2025 pretreatment surveys (*McLane, 2025*).

. Mapped bed acreage, percent cover estimates, and bed-specific changes—particularly within areas treated by the Task Force—show clear evidence of effective management, with several treated plots exhibiting reduced or undetectable EWM presence.

The long-term dataset (2017, 2021, 2024, 2025) demonstrates that EWM bed locations and general extents have remained relatively stable over time, with changes largely attributable to management actions, reservoir conditions, and natural variability in plant growth. Given this stability and considering the staff time and financial resources required for full reservoir-wide point-intercept surveys, it is reasonable to adjust survey frequency moving forward.

Based on the consistency of EWM patterns across years and the value of long-term trend data, a 5-year reservoir-wide survey cycle is recommended. This interval would continue to provide reliable trend information while reducing annual workload and allowing resources to be reallocated toward other AIS issues across the state, adaptive management, and rapid response efforts. Annual or biennial monitoring of known beds—including treatment-specific assessments—can still occur as needed, ensuring managers maintain awareness of any major shifts in EWM distribution between full surveys.

Overall, the 2025 survey confirms that ongoing coordinated management remains effective, and implementing a 5-year cycle for full reservoir-wide surveys offers a balanced, cost-efficient approach to long-term AIS monitoring on Noxon Rapids and Cabinet Gorge Reservoirs.

Work Cited:

McLane, Craig. FWP Report - Noxon Rapids Reservoir and Cabinet Gorge Reservoir Herbicide Pretreatment Survey Report – 2025. 2025.

Appendices with Additional Information

Appendix I: Noxon Rapids Reservoir map series showing point-intercept data and EWM beds, including presence/absence of native and invasive species, mapped plots, and EWM cover classes and densities.

Appendix II: Cabinet Gorge Reservoir map series showing point-intercept data and EWM beds, including presence/absence of native and invasive species, mapped plots, and EWM cover classes and densities.

Appendix III: Noxon Rapids Reservoir 4-year comparison of individual EWM beds (2017, 2021, 2024, 2025), including density and plot size/shape.

Appendix IV: Cabinet Gorge Reservoir 4-year comparison of individual EWM beds (2017, 2021, 2024, 2025), including density and plot size/shape.

Appendix V: Noxon Rapids Reservoir point-intercept dataset.

Appendix VI: Cabinet Gorge Reservoir point-intercept dataset.