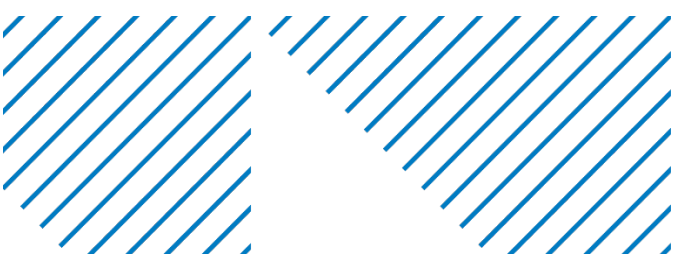




Exhibit 0

2022 EWM Treatment and Monitoring Results



Memorandum

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)

The purpose of this memorandum is to present the results of the Beaver Dam Lake 2022 EWM management program. Memorandum contents include:

- Discussion of herbicide treatment of EWM during 2022.
- Overview of EWM in Beaver Dam Lake.
- Discussion of EWM in individual management areas.

In this memorandum:

- EWM frequency of occurrence in the littoral zone is the percent of sample points up to the 25-foot depth that contained EWM.
- EWM extent is the acres of EWM.
- Percent of littoral zone with EWM is the acres of EWM divided by the total acres of the littoral zone, which is the area up to the 25-foot depth, and then multiplied by 100 to convert to percent.

Two whole lake point-intercept plant surveys were completed in 2022 to assess the results of EWM management efforts. A survey of all plants was completed July 15 through July 18. A survey of invasive species (EWM and curly-leaf pondweed) was completed October 1 through 2 and 7. Sample locations are

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 2

shown on maps found in Appendix E of the *Beaver Dam Lake Aquatic Plant Management Plan*.¹ The 2022 EWM data, together with historical data, are summarized in Table 1, Table 2, and Table 3.

The 2022 EWM management of Beaver Dam Lake included spot treatment of EWM with ProcellaCOR in West Lake, Williams Bay, and City Bay. An intended ProcellaCOR treatment of EWM in Cemetery Bay was not completed in 2022 because a construction project prevented access to the lake. Norwegian Bay, East Lake, Rabbit Island Bay, and Library Lake did not require EWM management in 2022.

¹ Barr Engineering Company. 2021. *Beaver Dam Lake Aquatic Plant Management Plan*, Prepared for Beaver Dam Lake Management District. <http://www.beaverdamlake.org/apmp>

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 3

Table 1 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Beaver Dam Lake

Location	% sample points up to 25-foot depth with Eurasian watermilfoil, including visuals																							
	Fall 2006	Fall 2007	Fall 2008	July 2009	Fall 2009	July 2010	Fall 2010	July 2011	Fall 2011	June 2012	July 2012	Fall 2012	May 2013	June 2013	July 2013	Fall 2013	July 2014	Fall 2014	July 2015	Fall 2015	July 2016	Fall 2016	July 2017	Fall 2017
Norwegian Bay	28.57	16.39	52.46	39.71	80.00	33.82	28.36	11.76	51.52	13.24	54.41	72.13	39.71	0.00	7.35	58.82	4.41	44.12	1.47	1.47	8.82	22.06	10.29	17.65
East Lake	5.13	0.00	13.38	14.00	27.86	22.70	27.54	28.78	33.79	N/A ¹	17.57	27.86	N/A ¹	N/A ¹	2.88	19.73	0.73	2.10	0.00	0.00	0.00	1.36	1.41	1.36
City Bay	59.12	7.74	72.84	32.78	62.13	21.67	55.93	54.40	70.39	8.89	48.07	58.90	46.93	0.00	21.67	46.11	1.67	9.44	0.00	7.78	0.00	1.67	2.22	5.56
Cemetery Bay	41.10	0.00	40.00	0.00	6.82	0.00	10.23	3.37	47.73	N/A ¹	0.00	18.39	N/A ¹	3.37	0.00	2.25	0.00	1.14	4.49	44.94	5.62	26.97	0.00	0.00
West Lake	18.77	11.07	21.19	14.84	13.33	10.59	13.61	7.35	10.18	N/A ¹	8.64	14.15	N/A ¹	N/A ²	6.69	17.31	5.50	11.52	0.00	1.21	4.28	8.36	5.83	11.64
Williams Bay	13.33	28.05	23.81	16.98	11.01	3.85	12.15	9.80	10.19	N/A ¹	3.85	15.96	N/A ¹	N/A ²	0.96	6.36	0.00	9.43	0.00	0.00	1.87	8.33	1.89	0.93
Rabbit Island Bay	39.39	28.72	30.10	18.49	20.54	12.82	26.79	10.17	17.86	0.00	1.67	11.43	N/A ²	N/A ²	0.85	3.33	1.68	5.00	0.00	1.67	4.20	10.00	0.00	3.33
Library Lake	73.33	61.97	47.30	5.04	2.60	0.72	7.41	0.00	0.00	N/A ¹	2.88	1.79	N/A ¹	N/A ¹	0.00	0.72	0.00	1.44	5.76	12.23	0.00	0.00	1.44	3.60
East Lake Basins	12.74	24.17	26.45	13.84	12.90	7.93	14.26	7.02	10.71	N/A³	5.53	12.54	N/A³	N/A³	3.48	10.95	2.88	8.06	1.17	3.31	2.30	9.09	2.71	4.96
West Lake Basins	16.79	5.52	44.89	21.97	43.72	19.67	34.89	31.38	54.31	N/A³	30.86	43.24	N/A³	N/A³	10.08	33.12	1.46	10.65	1.05	11.46	3.03	6.98	3.33	6.98
Beaver Dam Lake— All Basins	14.42	15.77	34.46	17.17	25.96	12.77	22.64	17.43	29.51	N/A³	16.03	26.16	N/A³	N/A³	6.17	20.29	2.30	9.11	1.12	6.64	2.73	7.84	3.08	6.16

¹N/A Frequency of occurrence not available because the area was not surveyed

² N/A Frequency of occurrence not available because limited areas were surveyed - not the whole lake/bay area. Rabbit Island Bay channels surveyed and a small area near the Eagle Point boat launch.

³N/A Frequency of occurrence not available because some areas were not surveyed and/or only limited areas were surveyed in West Lake (area near Eagle Point boat landing) and Rabbit Island Bay (only the channels)

⁴All EWM was rake removed during the 2019 fall plant survey.

⁵The majority of the EWM was in the west canal and all EWM in Rabbit Island Bay was rake removed during the 2019 fall plant survey.

⁶All EWM was rake removed during the 2020 fall plant survey.

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 4

Table 1 (Continued) 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Beaver Dam Lake

Location	% sample points up to 25-foot depth with Eurasian watermilfoil, including visuals									
	July 2018	Fall 2018	July 2019	Fall 2019	July 2020	Fall 2020	July 2021	Fall 2021	July 2022	Fall 2022
Norwegian Bay	1.47	2.94	0.00	4.41	0.00	0.00	0.00	0.00	1.47	4.41
East Lake	0.00	0.00	0.00	0.00	0.00	0.71 ⁶	0.00	0.00	0.00	5.52
City Bay	0.00	1.67	0.00	2.22	0.00	3.89	0.56	0.56	2.22	14.44
Cemetery Bay	0.00	0.00	5.62	14.61	3.37	2.25	1.12	7.87	14.61	33.71
West Lake	2.76	6.83	0.31	0.31 ⁴	1.85	13.54	0.00	1.21	2.42	3.33
Williams Bay	0.94	1.90	0.94	0.94 ⁴	12.15	27.10	0.00	1.83	0.00	1.83
Rabbit Island Bay	0.84	4.17	0.00	3.36 ⁵	5.88	16.81	0.00	0.00	10.08	23.53
Library Lake	5.76	10.07	0.00	0.72 ⁴	2.16	5.04	0.00	0.00	0.72	5.04
East Lake Basins	0.21	1.05	1.04	4.18	0.63	2.09	0.41	1.66	3.73	13.90
West Lake Basins	2.75	6.27	0.29	1.01	4.20	14.49	0.00	0.86	3.01	6.89
Beaver Dam Lake— All Basins	1.71	4.12	0.60	2.31	2.74	9.42	0.17	1.19	3.31	9.75

⁴All EWM was rake removed during the 2019 fall plant survey.

⁵The majority of the EWM was in the west canal and all EWM in Rabbit Island Bay were rake removed during the 2019 fall plant survey.

⁶All EWM was rake removed during the 2020 fall plant survey.

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 5

Table 2 2006-2022 EWM Extent in Beaver Dam Lake

Location	Acreage of EWM (based on plant surveys)																							
	Fall 2006	Fall 2007	Fall 2008	July 2009	Fall 2009	July 2010	Fall 2010	July 2011	Fall 2011	June 2012	July 2012	Fall 2012	May 2013	June 2013	July 2013	Fall 2013	July 2014	Fall 2014	July 2015	Fall 2015	July 2016	Fall 2016	July 2017	Fall 2017
Norwegian Bay	3.64	4.75	18.12	8.65	28.23	12.09	9.61	1.99	19.67	3.36	21.21	26.91	15.16	0.00	2.19	23.37	1.10	17.89	0.45	0.81	2.48	6.94	4.66	6.19
East Lake	0.00	0.00	9.34	8.14	19.37	14.13	17.48	17.18	23.93	N/A ¹	11.33	19.98	N/A ¹	N/A ¹	1.18	15.72	0.33	0.90	0.00	0.00	0.00	1.97	0.63	0.48
City Bay	60.25	3.94	68.06	27.89	61.62	20.11	54.01	47.97	73.66	7.65	48.76	55.75	50.85	0.00	20.70	49.01	0.79	7.26	0.00	6.87	0.00	1.50	2.37	5.13
Cemetery Bay	10.90	0.00	17.80	0.00	1.81	0.00	3.97	0.86	21.32	N/A ¹	0.00	7.17	N/A ¹	0.75	0.00	0.51	0.00	0.26	1.54	31.56	1.70	13.76	0.00	0.00
West Lake	25.27	11.36	33.19	24.59	19.67	15.80	25.15	8.65	14.78	N/A ¹	15.31	23.11	N/A ¹	3.15 ²	10.05	29.13	7.23	29.94	0.00	1.72	6.83	20.64	9.46	21.05
Williams Bay	3.63	10.23	12.64	9.48	4.80	1.15	6.68	4.57	4.65	N/A ¹	1.68	6.92	N/A ¹	0.26 ²	0.33	2.46	0.00	7.45	0.00	0.00	0.92	5.78	1.89	0.26
Rabbit Island Bay	5.80	12.36	13.21	10.57	8.51	6.26	11.47	4.22	8.01	0.00	0.51	5.64	0.00 ²	N/A ²	0.38	1.45	0.61	3.11	0.00	1.37	1.41	9.51	0.00	0.83
Library Lake	0.66	0.59	3.62	0.40	0.09	0.04	0.72	0.00	0.00	N/A ¹	0.20	0.04	N/A ¹	N/A ¹	0.00	0.06	0.00	0.14	0.70	1.90	0.02	0.00	0.20	0.43
East Lake Basins	74.79	8.69	113.32	44.68	111.03	46.33	85.07	67.99	138.58	N/A³	81.30	109.81	N/A³	N/A³	24.07	88.60	2.22	26.31	1.99	39.24	4.18	24.16	7.66	11.80
West Lake Basins	35.36	34.54	62.66	45.04	33.07	23.25	44.02	17.44	27.44	N/A³	17.70	35.70	N/A³	N/A³	10.76	33.10	7.84	40.64	0.70	4.99	9.18	35.93	11.55	22.57
Beaver Dam Lake— All Basins	110.15	43.23	175.98	89.72	144.10	69.58	129.09	85.43	166.02	N/A³	99.00	145.51	N/A³	N/A³	35.88	121.70	10.06	66.96	2.68	44.23	13.36	60.10	19.21	34.37

¹N/A EWM extent not available because the area was not surveyed

²EWM extent is based on survey of limited areas—not the whole lake/bay area. Rabbit Island Bay channels surveyed and a small area near the Eagle Point boat launch which included portions of West Lake and Williams Bay.

³All EWM was rake removed during the 2019 fall plant survey.

⁴The majority of the EWM in the west canal and all EWM in Rabbit Island Bay were rake removed during the 2019 fall plant survey.

⁵All EWM was rake removed during the 2020 fall plant survey.

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 6

Table 2 (Continued) 2006-2022 EWM Extent in Beaver Dam Lake

Location	Acreage of EWM (based on plant surveys)									
	July 2018	Fall 2018	July 2019	Fall 2019	July 2020	Fall 2020	July 2021	Fall 2021	July 2022	Fall 2022
Norwegian Bay	0.30	0.65	0.00	0.70	0.00	0.00	0.00	0.00	0.23	0.89
East Lake	0.00	0.00	0.00	0.00	0.00	0.24 ⁵	0.00	0.00	0.00	2.54
City Bay	0.00	1.56	0.00	0.97	0.00	3.75	0.14	0.27	1.03	11.95
Cemetery Bay	0.00	0.00	1.22	4.10	1.41	0.74	0.27	3.75	7.43	18.69
West Lake	5.46	12.35	1.55	0.36 ³	4.41	27.89	0.00	2.64	3.99	4.73
Williams Bay	0.72	0.54	0.27	0.25 ³	8.76	17.29	0.00	0.71	0.11	0.43
Rabbit Island Bay	0.27	1.32	0.00	0.62 ⁴	3.96	11.26	0.00	0.00	4.59	15.06
Library Lake	0.76	1.85	0.00	0.04 ³	0.24	0.51	0.00	0.00	0.04	0.61
East Lake Basins	0.30	2.21	1.22	5.77	1.41	4.73	0.41	4.02	8.69	34.07
West Lake Basins	7.21	16.06	1.82	1.27	17.37	56.95	0.00	3.35	8.73	20.83
Beaver Dam Lake— All Basins	7.52	18.27	3.04	7.05	18.78	61.68	0.41	7.37	17.42	54.90

³All EWM was rake removed during the 2019 fall plant survey.

⁴The majority of the EWM in the west canal and all EWM in Rabbit Island Bay were rake removed during the 2019 fall plant survey.

⁵All EWM was rake removed during the 2020 fall plant survey.

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 7

Table 3 2006-2022 % of Littoral Zone with EWM in Beaver Dam Lake

Location	% Littoral Zone with EWM (based on plant surveys)																				
	Fall 2006	Fall 2007	Fall 2008	July 2009	Fall 2009	July 2010	Fall 2010	July 2011	Fall 2011	July 2012	Fall 2012	July 2013	Fall 2013	July 2014	Fall 2014	July 2015	Fall 2015	July 2016	Fall 2016	July 2017	Fall 2017
Norwegian Bay	9.52	12.42	47.38	22.62	73.82	31.62	25.13	0.05	51.44	55.47	70.38	5.72	61.11	2.88	46.79	1.18	2.12	6.49	18.15	12.18	16.19
East Lake	0.00	0.00	14.83	12.92	30.75	22.43	27.75	27.27	37.98	17.98	31.71	1.87	24.95	0.53	1.43	0.00	0.00	0.00	3.13	0.93	0.71
City Bay	59.45	3.89	67.15	27.52	60.80	31.92	53.29	47.33	72.68	48.11	55.01	20.42	48.36	0.78	7.17	0.00	6.78	0.00	1.48	2.34	5.06
Cemetery Bay	20.21	0.00	33.00	0.00	3.36	0.00	7.36	1.59	39.53	0.00	13.29	0.00	0.94	0.00	0.48	2.86	58.51	3.15	25.51	0.00	0.00
West Lake	17.60	7.91	23.12	17.13	13.70	11.01	17.52	6.03	10.30	10.67	16.10	7.00	20.29	5.04	20.86	0.00	1.20	4.76	14.86	6.43	14.30
Williams Bay	7.95	22.41	27.70	20.77	10.52	2.52	0.15	10.01	10.19	3.68	15.15	0.72	5.39	0.00	12.29	0.00	0.00	2.02	11.74	3.93	0.54
Rabbit Island Bay	9.56	20.38	21.78	17.43	14.03	10.32	18.91	6.96	13.21	0.84	9.30	0.63	2.39	1.01	5.13	0.00	2.26	2.33	15.72	0.00	1.36
Library Lake	4.81	4.30	26.40	2.92	0.66	0.29	5.25	0.00	0.00	1.46	0.27	0.00	0.45	0.00	0.99	5.11	13.86	0.15	0.00	1.44	3.14
East Lake Basins	29.15	3.39	44.17	17.42	43.28	18.06	33.16	26.51	54.02	31.69	42.81	9.38	34.54	0.87	10.26	1.99	15.30	1.63	9.42	2.93	4.52
West Lake Basins	13.42	13.11	23.78	17.09	12.55	8.82	16.70	6.62	10.41	6.72	13.55	4.08	12.56	2.98	15.42	0.70	1.89	3.48	13.69	4.27	8.35
Beaver Dam Lake— All Basins	21.18	8.31	33.84	17.25	27.71	13.38	24.82	16.43	31.92	19.04	27.98	6.90	23.40	1.93	12.87	2.68	8.50	2.57	11.58	3.62	6.47

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 8

Table 3 (Continued) 2006-2022 % of Littoral Zone with EWM in Beaver Dam Lake

Location	% Littoral Zone with EWM (based on plant surveys)									
	July 2018	Fall 2018	July 2019	Fall 2019	July 2020	Fall 2020	July 2021	Fall 2021	July 2022	Fall 2022
Norwegian Bay	0.78	1.70	0.00	1.83	0.00	0.00	0.00	0.00	0.61	2.32
East Lake	0.00	0.00	0.00	0.00	0.00	0.36 ³	0.00	0.00	0.00	3.80
City Bay	0.00	1.54	0.00	0.96	0.00	3.70	0.14	0.26	1.01	11.79
Cemetery Bay	0.00	0.00	2.26	7.60	2.62	1.37	0.49	6.96	13.78	34.65
West Lake	3.70	8.37	1.05	0.24 ¹	2.99	18.90	0.00	1.79	2.70	3.20
Williams Bay	1.51	1.13	0.57	0.52 ¹	18.40	36.30	0.00	1.49	0.22	0.90
Rabbit Island Bay	0.44	2.16	0.00	1.01 ²	6.47	18.40	0.00	0.00	7.50	24.62
Library Lake	5.54	13.49	0.00	0.29 ¹	1.76	3.69	0.00	0.00	0.32	4.46
East Lake Basins	0.12	0.85	0.47	2.22	0.54	1.82	0.16	1.54	3.34	13.09
West Lake Basins	2.67	5.95	0.67	0.47	6.43	21.08	0.00	1.24	3.23	7.71
Beaver Dam Lake—All Basins	1.42	3.45	0.57	1.33	3.54	11.63	0.08	1.39	3.28	10.35

¹All EWM was rake removed during the 2019 fall plant survey.

²The majority of the EWM in the west canal and all EWM in Rabbit Island Bay were rake removed during the 2019 fall plant survey.

³All EWM was rake removed during the 2020 fall plant survey.

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 9

1.0 Herbicide Treatment of EWM

Goal 1 of the Beaver Dam Lake Aquatic Plant Management Plan is “Reduce Eurasian watermilfoil (EWM) and curly-leaf pondweed (CLP) levels to less than or equal to 7 percent of the littoral zone while minimizing harm to native aquatic plants.”¹ The goal was attained in 2017 (Table 3) when the EWM level was reduced to 6 percent of the littoral area. Treatments in 2018 through 2020 were intended to continue goal attainment. An unexpected increase in EWM during the 2020 growing season resulted in an October EWM level of 12 percent of the littoral area, which failed to meet the District’s EWM goal. The 2021 herbicide treatment reduced the EWM level to 0.08 percent of the littoral area in July and 1.39 percent in October which met the District’s EWM goal.

In 2022, the Beaver Dam Lake Management District treated 11.71 acres with the herbicide ProcellaCoR — 6.55 acres in West Lake, 3.00 acres in Williams Bay, and 2.16 acres in City Bay (Table 4, Figure 1, and Figure 2).

An intended ProcellaCOR treatment of EWM in Cemetery Bay was not completed in 2022 because a construction project prevented access to the lake. Norwegian Bay, East Lake, Rabbit Island Bay, and Library Lake did not require EWM management in 2022.

Table 4 2022 Beaver Dam Lake EWM Herbicide Treatment Program

Location	EWM Extent (ac)	EWM Management Method	EWM Management Area	Name of Herbicide	Herbicide Dose Applied to Treatment Area
West Lake	2.64	Herbicide	6.55	ProcellaCOR	4 PDU
Williams Bay	0.71	Herbicide	3.00	ProcellaCOR	4 PDU
City Bay	0.27	Herbicide	2.16	ProcellaCOR	4 PDU

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 10

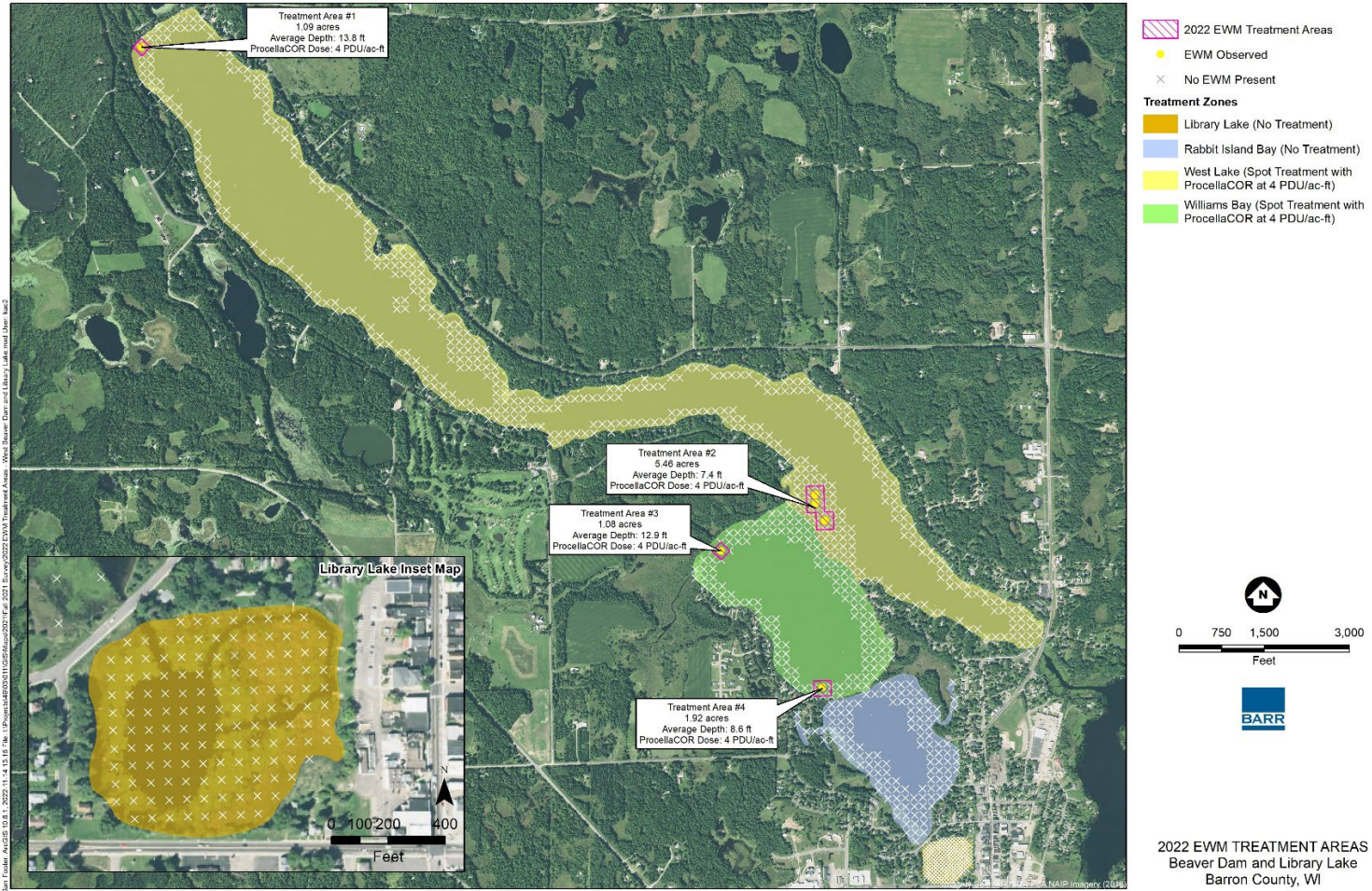


Figure 1 2022 Beaver Dam Lake Eurasian Watermilfoil Treatment Areas: West Basins

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 11

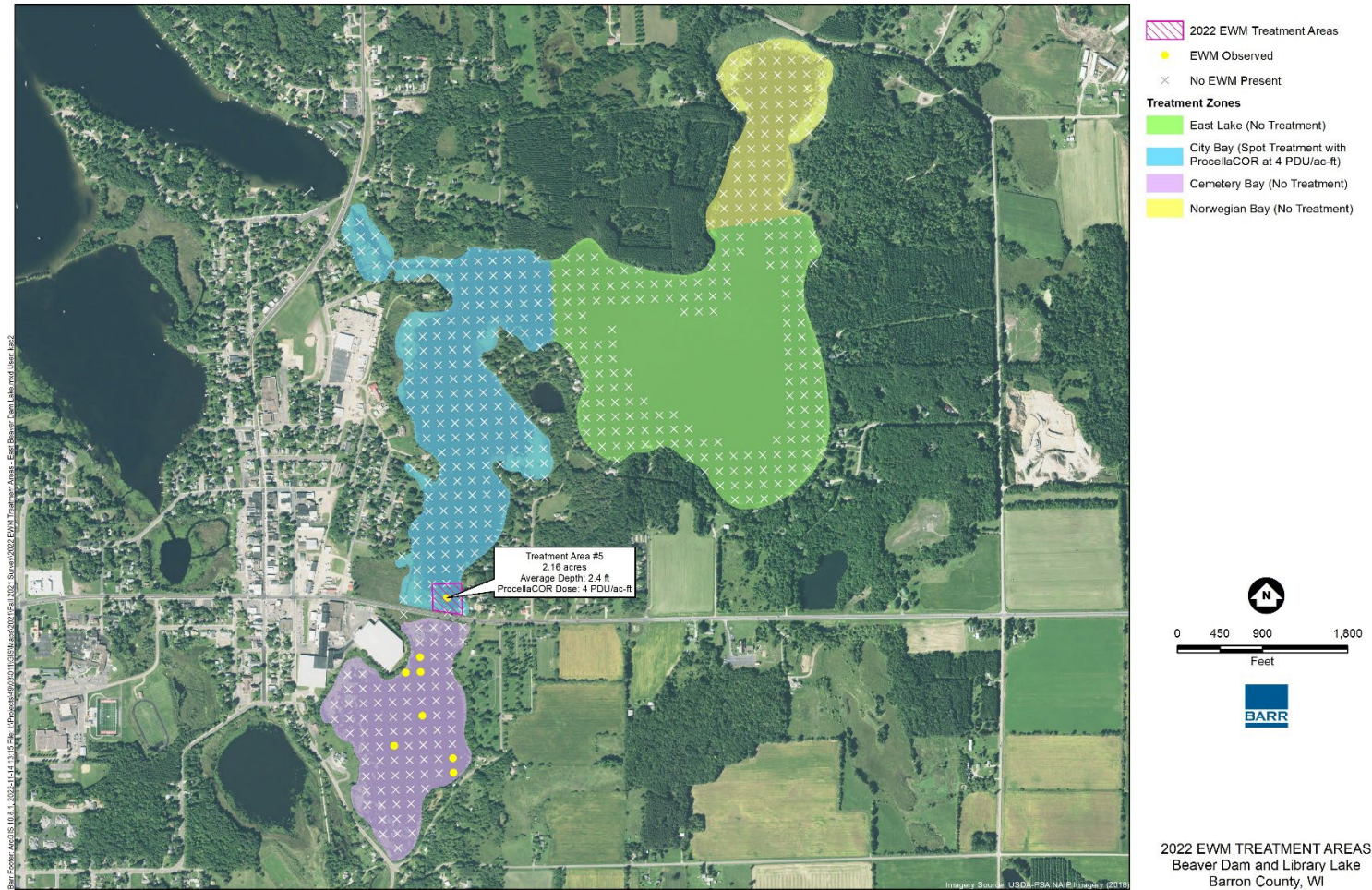


Figure 2 2022 Beaver Dam Lake Eurasian Watermilfoil Treatment Areas: East Basins

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 12

2.0 Lake-Wide EWM

Post-treatment data indicate EWM was only observed within one of the 2022 treatment areas — a single sample point in West Lake near the Eagle Point boat landing — documenting treatment success. Despite this success, EWM frequency and extent increased in 2022 because (1) The intended herbicide treatment of Cemetery Bay could not be completed in 2022 due to lack of access resulting from a construction project and EWM continued to expand in Cemetery Bay and (2) EWM was observed in multiple untreated areas in the lake that lacked EWM in 2021.

Between October 2021 and July 2022,

- EWM frequency increased from 1 percent in October 2021 to 3 percent in July 2022 (Table 1 and Figure 1)
- EWM extent increased from 7 acres in October 2021 to 17 acres in July 2022 (Table 2 and Figure 2).
- percent of littoral zone with EWM increased from 1 percent in October 2021 to 3 percent in July 2022 (Table 3 and Figure 3).

Further expansion of EWM between July (Figure 3 and Figure 4) and October of 2021 (Figure 5 and Figure 6):

- Increased EWM frequency from 3 percent in July to 10 percent in October (Table 1 and Figure 7),
- Increased EWM extent from 17 acres in July to 55 acres in October (Table 2 and Figure 8); and
- Increased the percent of littoral zone with EWM from 3 percent in July to 10 percent in October (Table 3 and Figure 9).

The 10 percent of the littoral zone with EWM in October failed to meet the District's goal of reducing Eurasian watermilfoil (EWM) to less than or equal to 7 percent of the littoral zone.

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 13

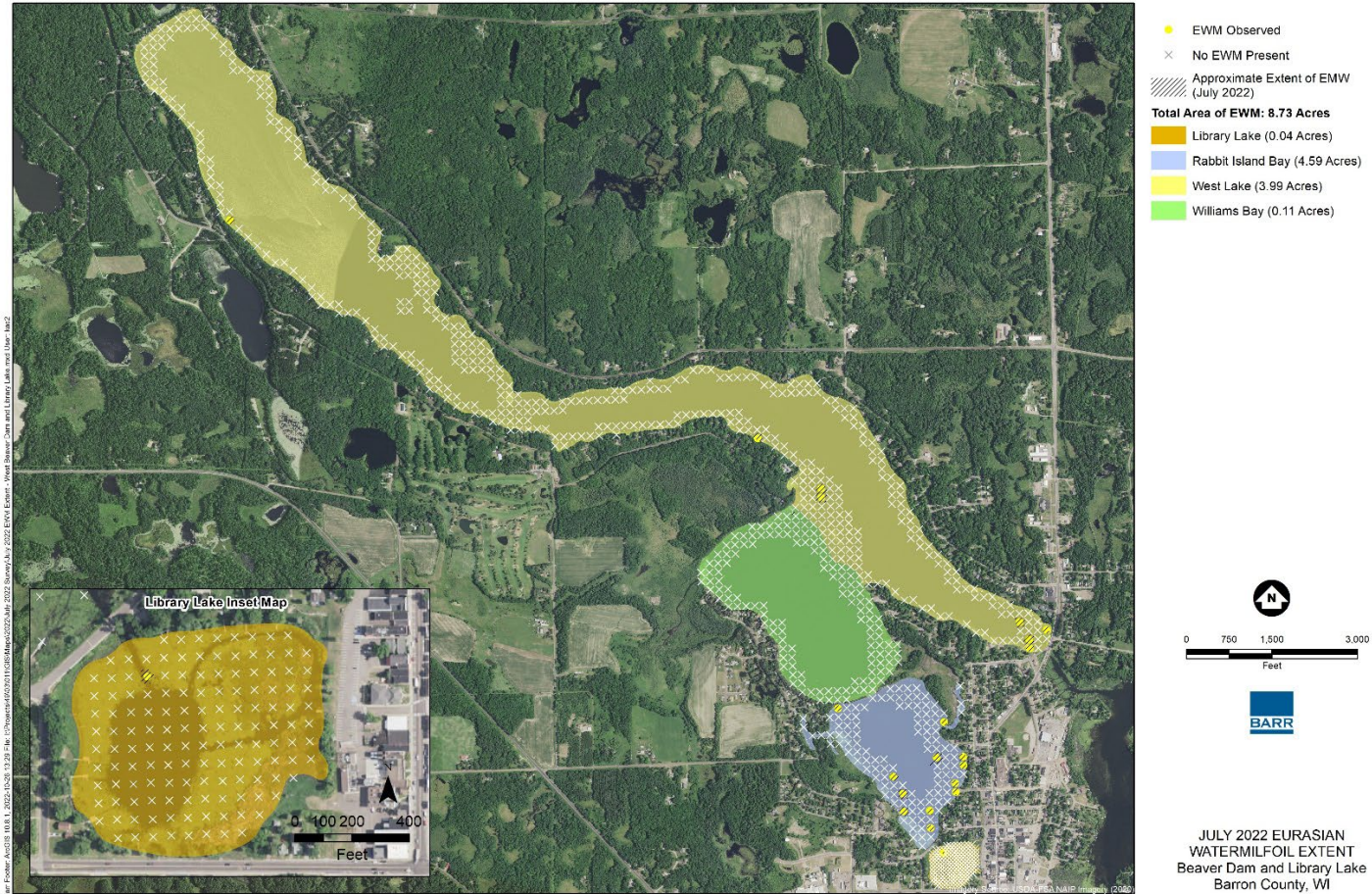


Figure 3 July 2022 Eurasian Watermilfoil Extent in Beaver Dam Lake (West Basins)

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 14

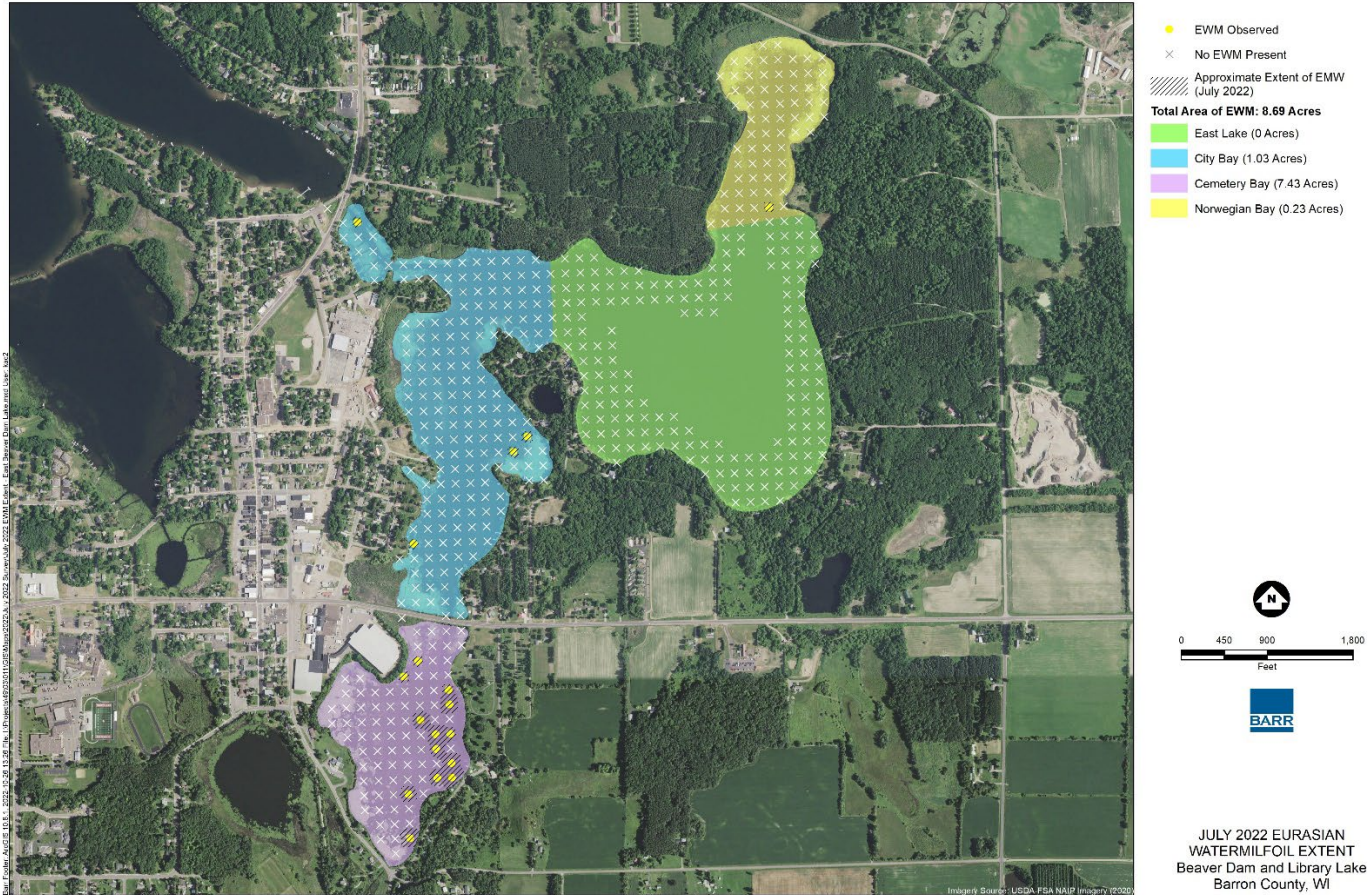


Figure 4 July 2022 Eurasian Watermilfoil Extent in Beaver Dam Lake (East Basins)

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 15

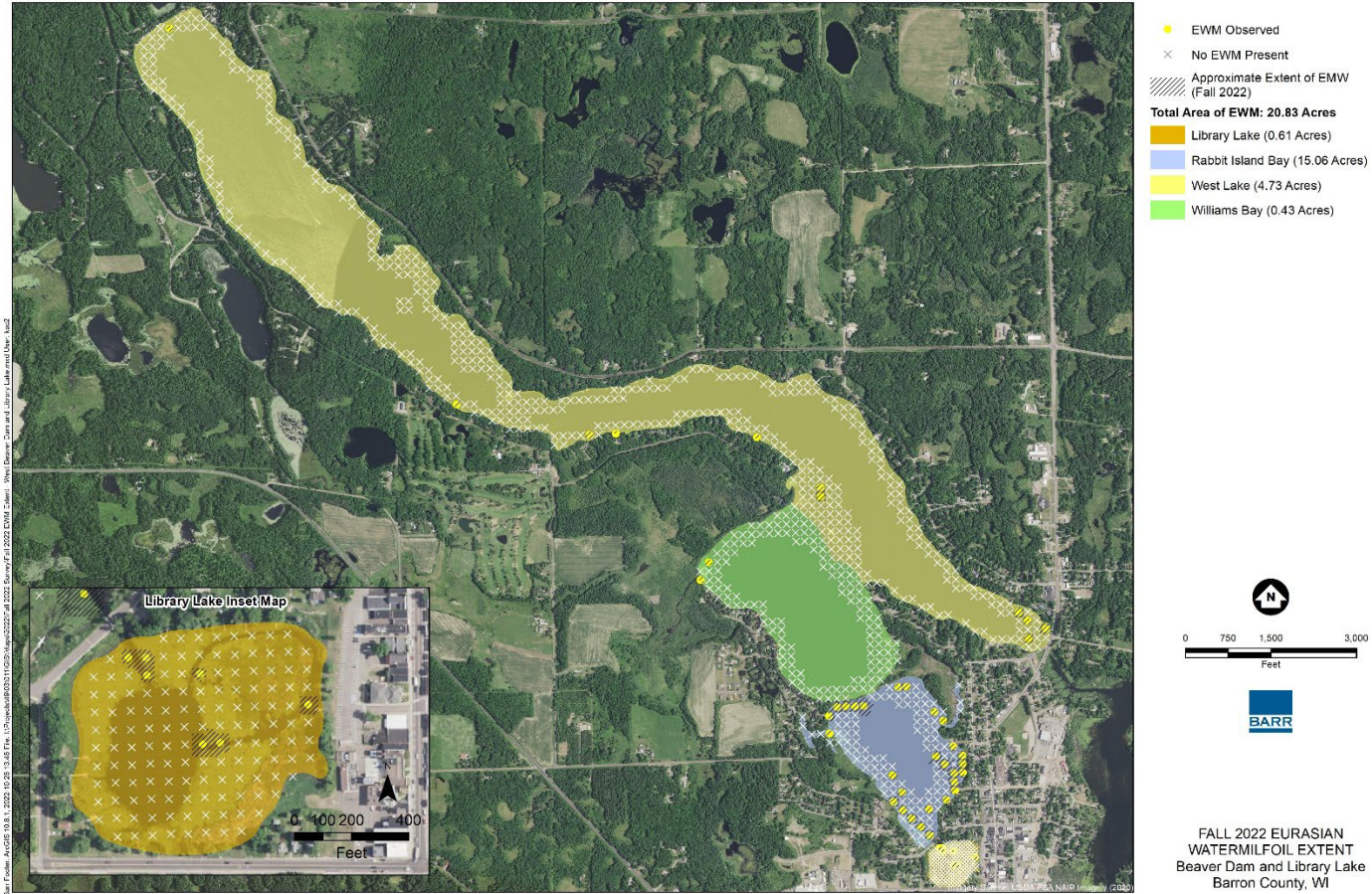


Figure 5 October 2022 Eurasian Watermilfoil Extent in Beaver Dam Lake (West Basins)

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 16

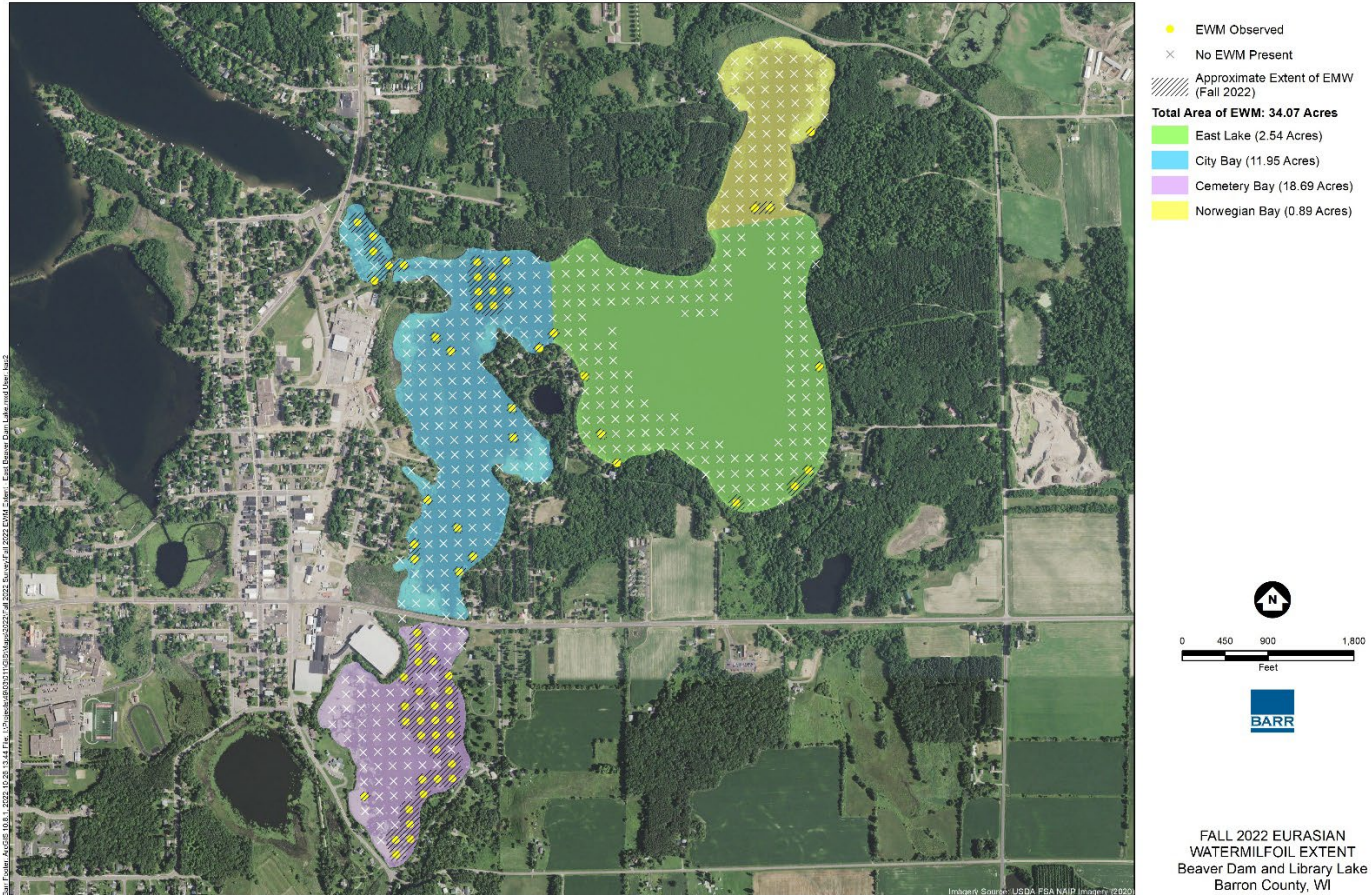


Figure 6 October 2022 Eurasian Watermilfoil Extent in Beaver Dam Lake (East Basins)

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 17

2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in the Littoral Zone

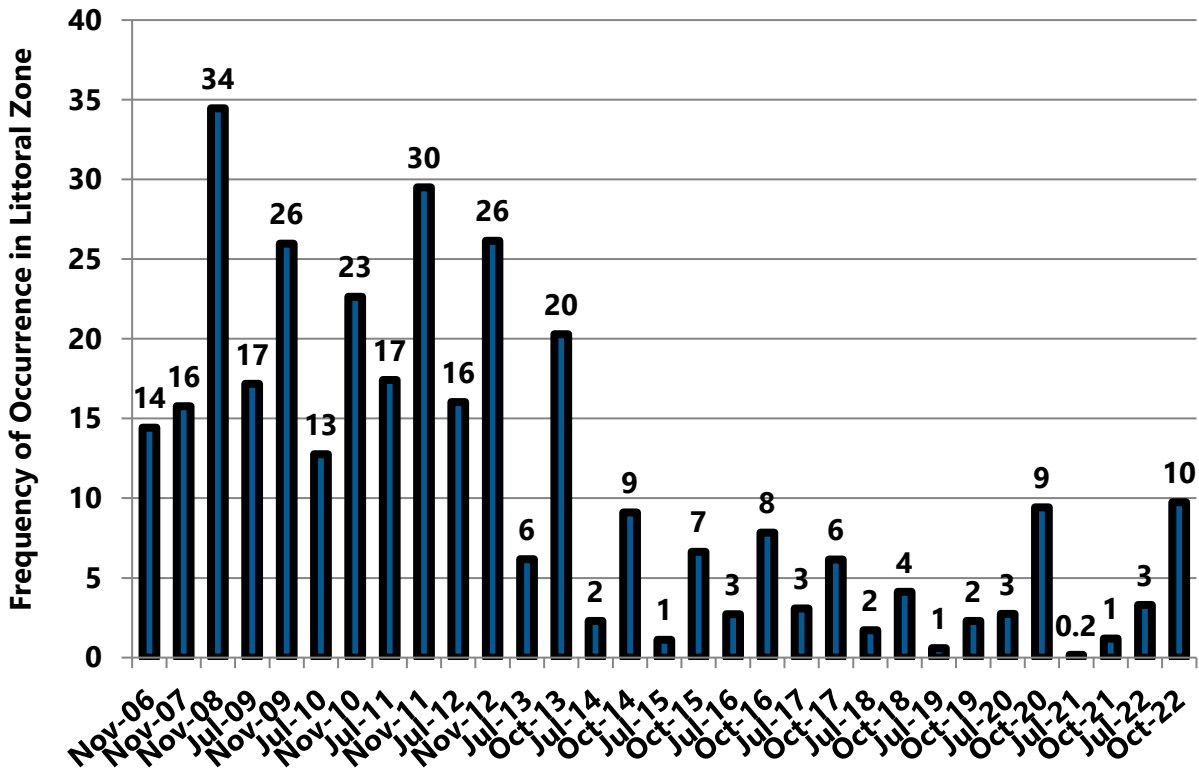


Figure 7 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in the Littoral Zone

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 18

2006-2022 Beaver Dam Lake EWM Extent

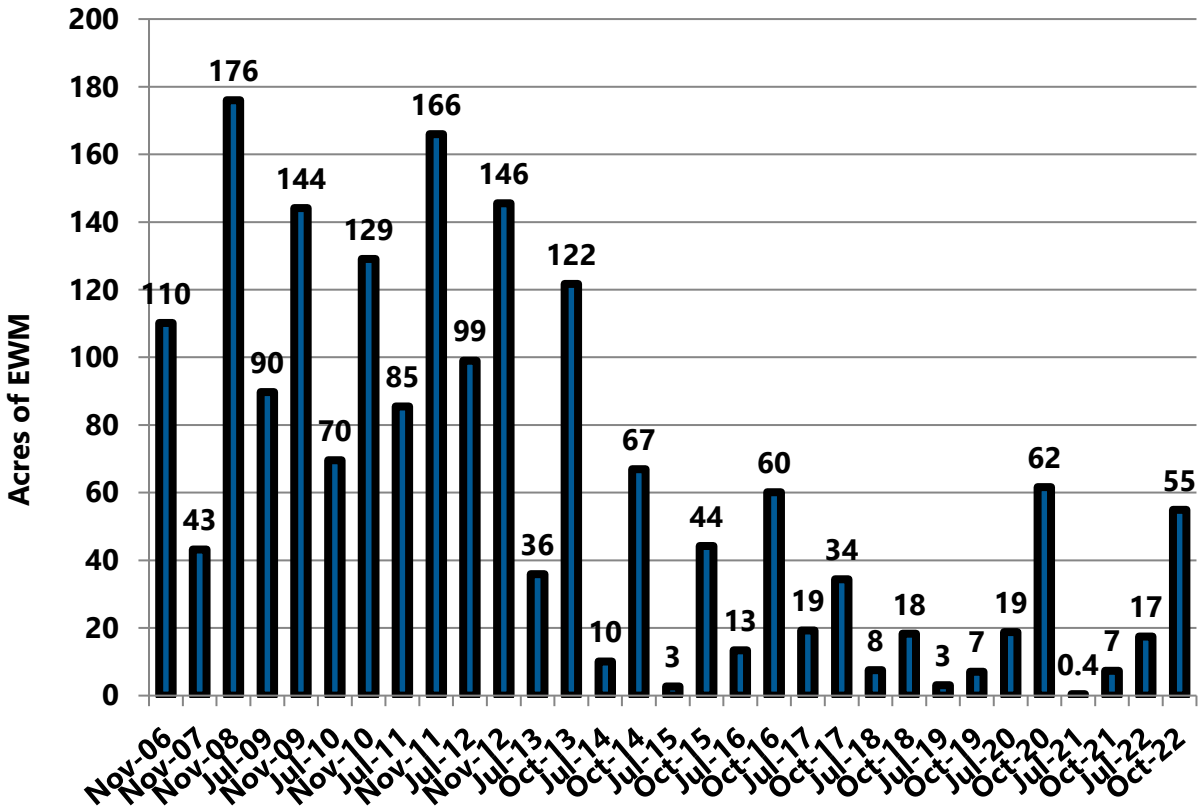


Figure 8 2006-2022 Beaver Dam Lake EWM Acreage

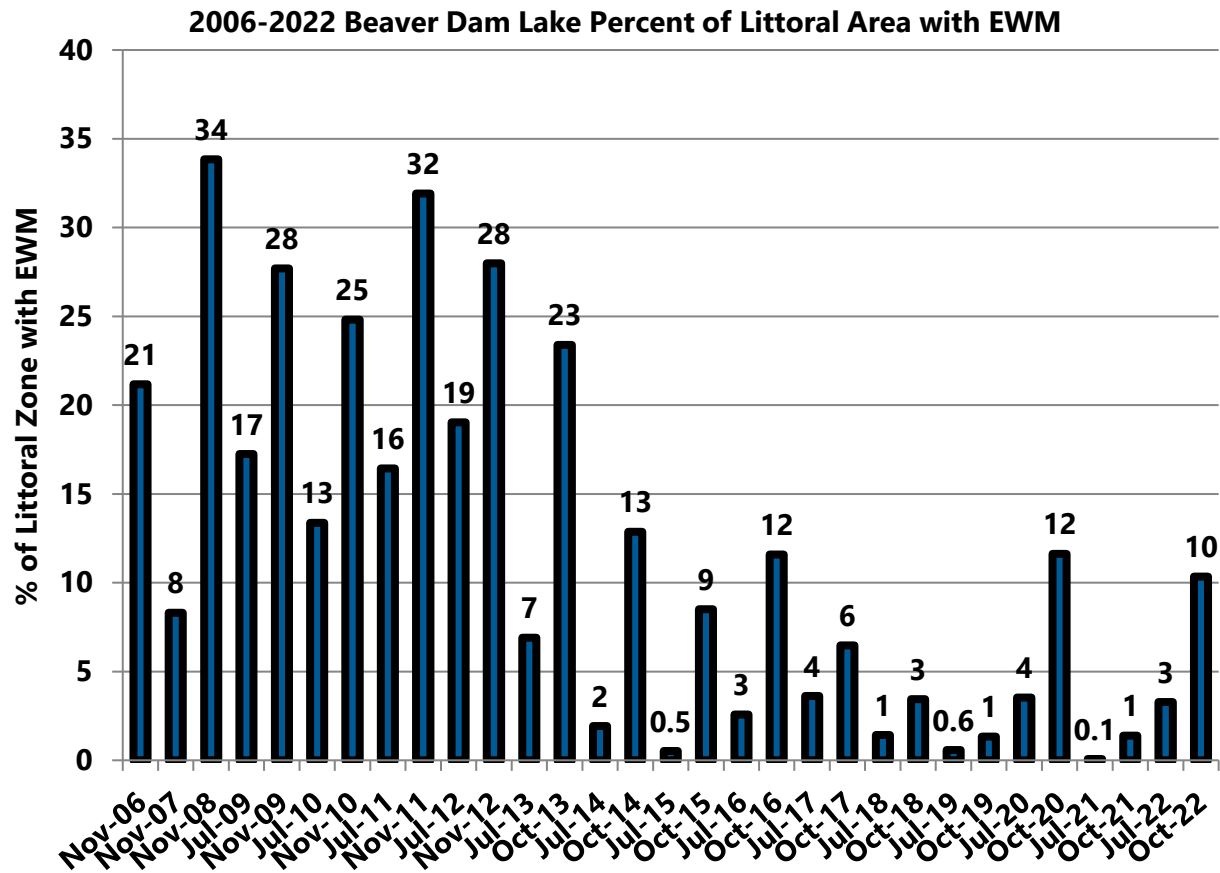


Figure 9 2006-2022 Beaver Dam Lake Percent of Littoral Zone with EWM

3.0 Individual EWM Management Areas

3.1 West Lake –

In 2022, EWM management in West Lake consisted of herbicide treatment of 6.55 acres. On June 22, a ProcellaCOR dose of 4 PDU was applied to Treatment Area 1 and Treatment Area 2 shown on Figure 1.

The treatment was successful and EWM was not observed within Treatment Area 1 and in only a single sample location within Treatment Area 2 in July and October 2022 (Figure 1, Figure 3, and Figure 5). However, EWM was observed in untreated areas during both July and October 2022 causing increases in frequency, extent, and percent of littoral area with EWM (Figure 3, and Figure 5):

- EWM frequency increased from 1 percent in October 2021 to 2 percent in July 2022 to 3 percent in October 2022 (Table 1 and Figure 10);
- EWM extent increased from 3 acres in October 2021 to 4 acres in July 2022 to 5 acres in October 2022 (Table 2, Figure 3, Figure 5, and Figure 11); and
- percent of littoral zone with EWM increased from 2 percent in October 2021 to 2.7 percent in July 2022 to 3.2 percent in October 2022 (Table 3 and Figure 12).

2006-2022 Beaver Dam Lake EWM Frequency of Occurrence: West Lake

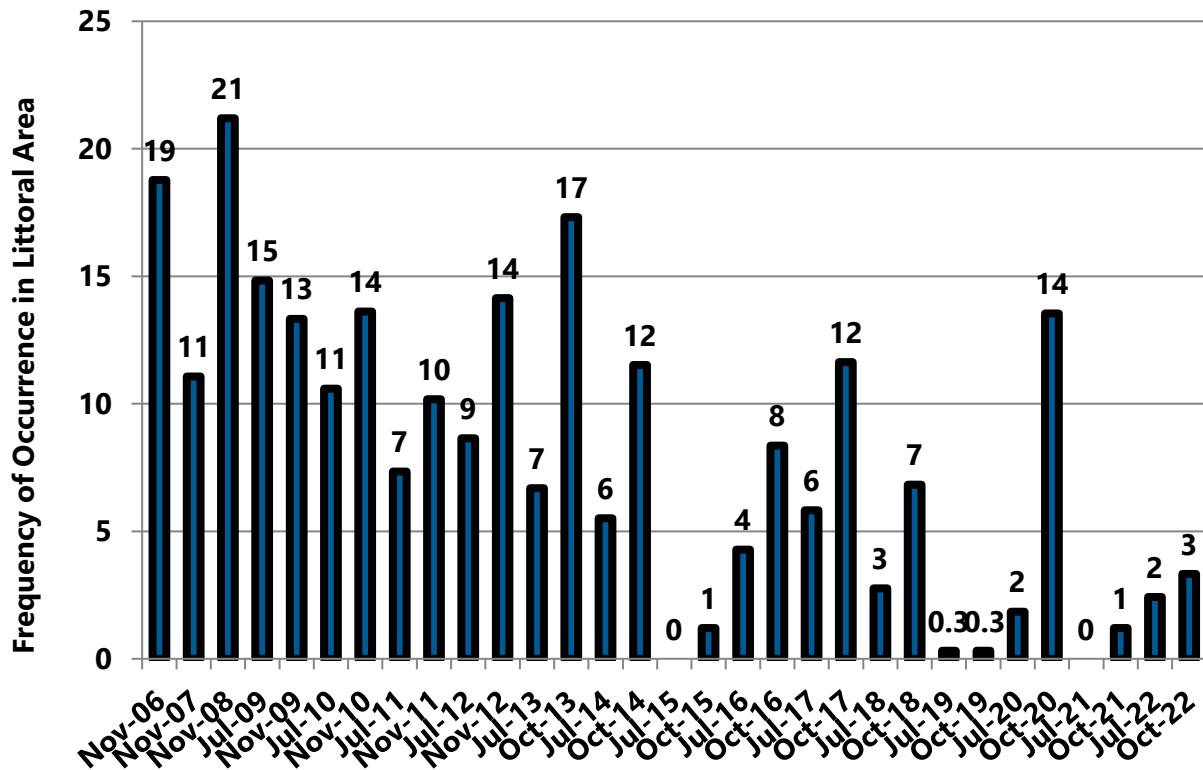


Figure 10 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: West Lake

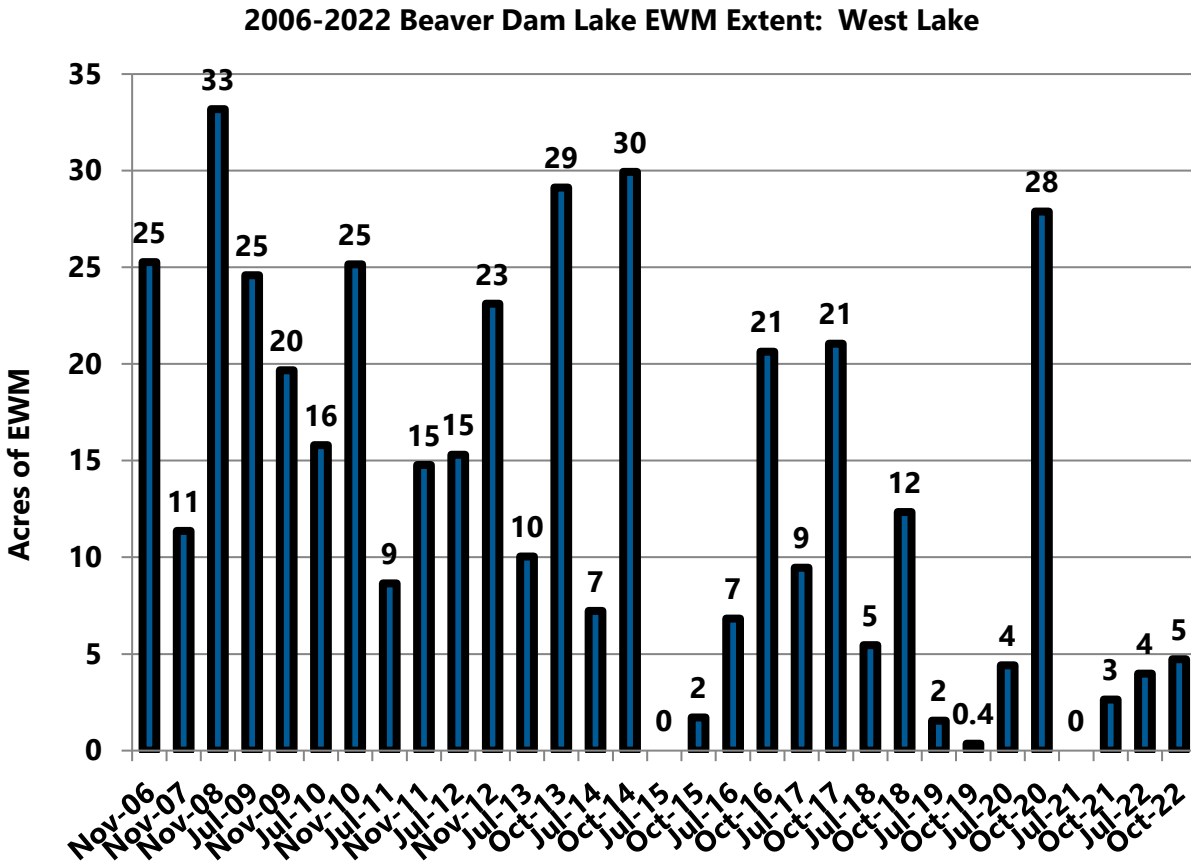


Figure 11 2006-2022 Beaver Dam Lake EWM Acreage: West Lake

2006-2022 Beaver Dam Lake Percent of Littoral Zone with EWM: West Lake

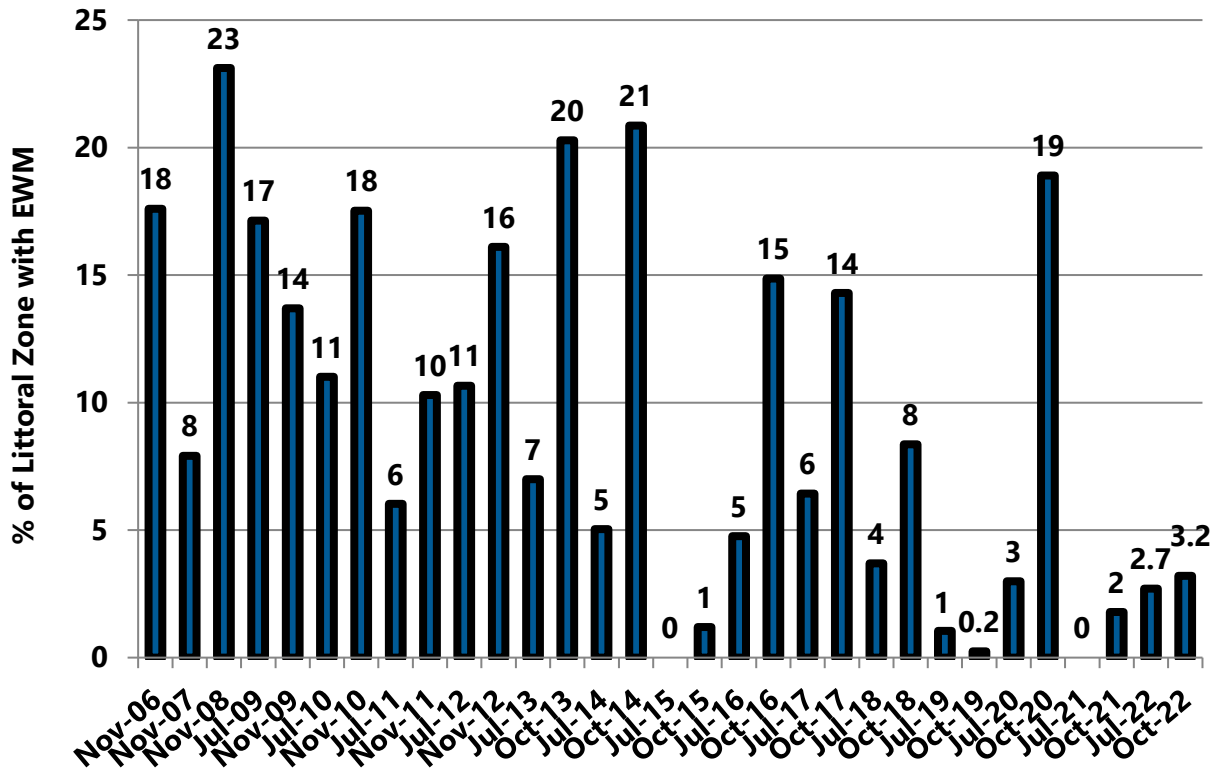


Figure 12 2006-2022 Percent of Littoral Zone with EWM: West Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 23

3.2 Williams Bay

In 2022, EWM management in Williams Bay consisted of herbicide treatment of 3 acres. On June 22, a ProcellaCOR dose of 4 PDU was applied to Treatment Area 3 and Treatment Area 4 shown on Figure 1.

The treatment was successful and EWM was not observed in either treatment area in July or October 2022 (Figure 3 and Figure 5). EWM was observed in untreated areas during both July and October 2022 but remained at low levels in the bay (Figure 3 and Figure 5).

- EWM frequency declined from 2 percent in October 2021 to 0 percent in July 2022 and then increased to 2 percent in October 2022 (Table 1 and Figure 15);
- EWM extent declined from 0.7 acres in October 2021 to 0.1 acres in July of 2022 and then increased to 0.4 acres in October 2022 (Table 2, Figure 3, Figure 5, and Figure 16); and
- percent of littoral zone with EWM declined from 1 percent in October 2021 to 0.2 percent in July 2022 and then increased to 1 percent in October 2022 (Table 3 and Figure 17).

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 24

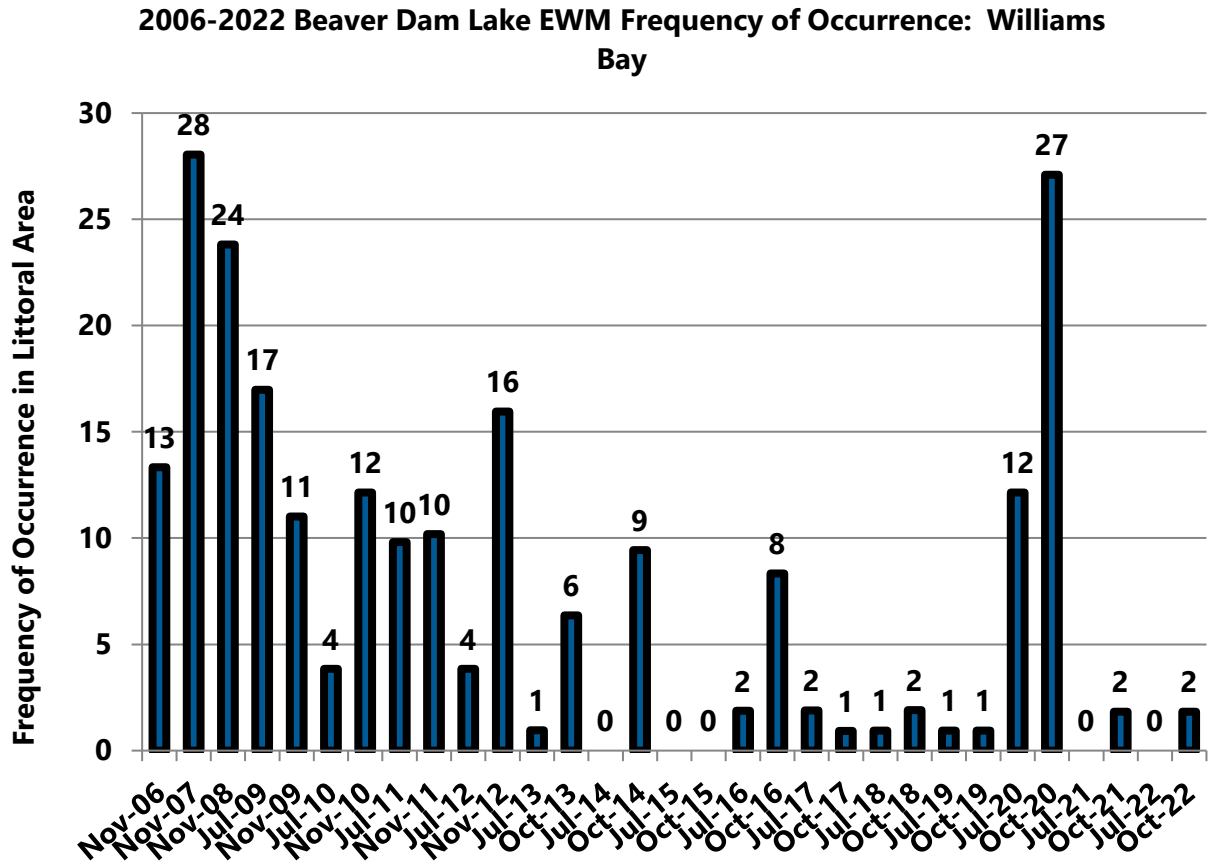


Figure 13 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: Williams Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 25

2006-2022 Beaver Dam Lake EWM Extent: Williams Bay

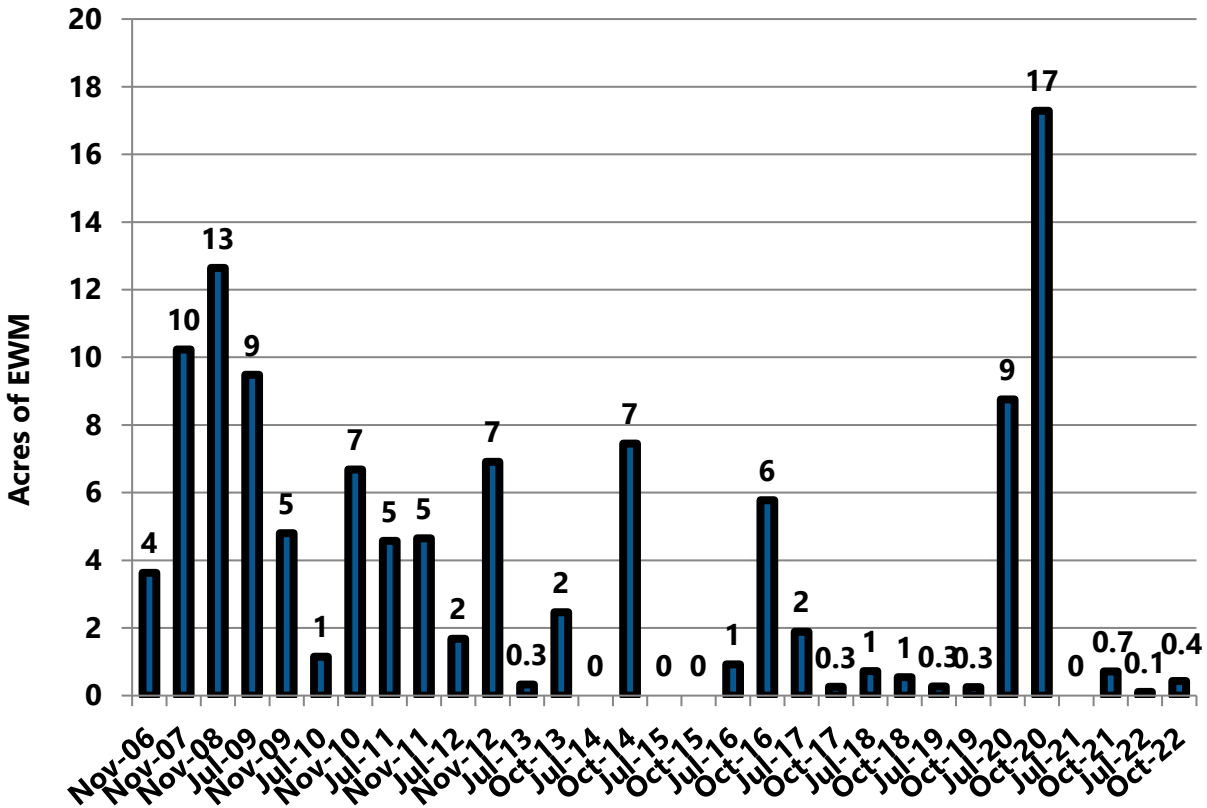


Figure 14 2006-2022 Beaver Dam Lake EWM Acreage: Williams Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 26

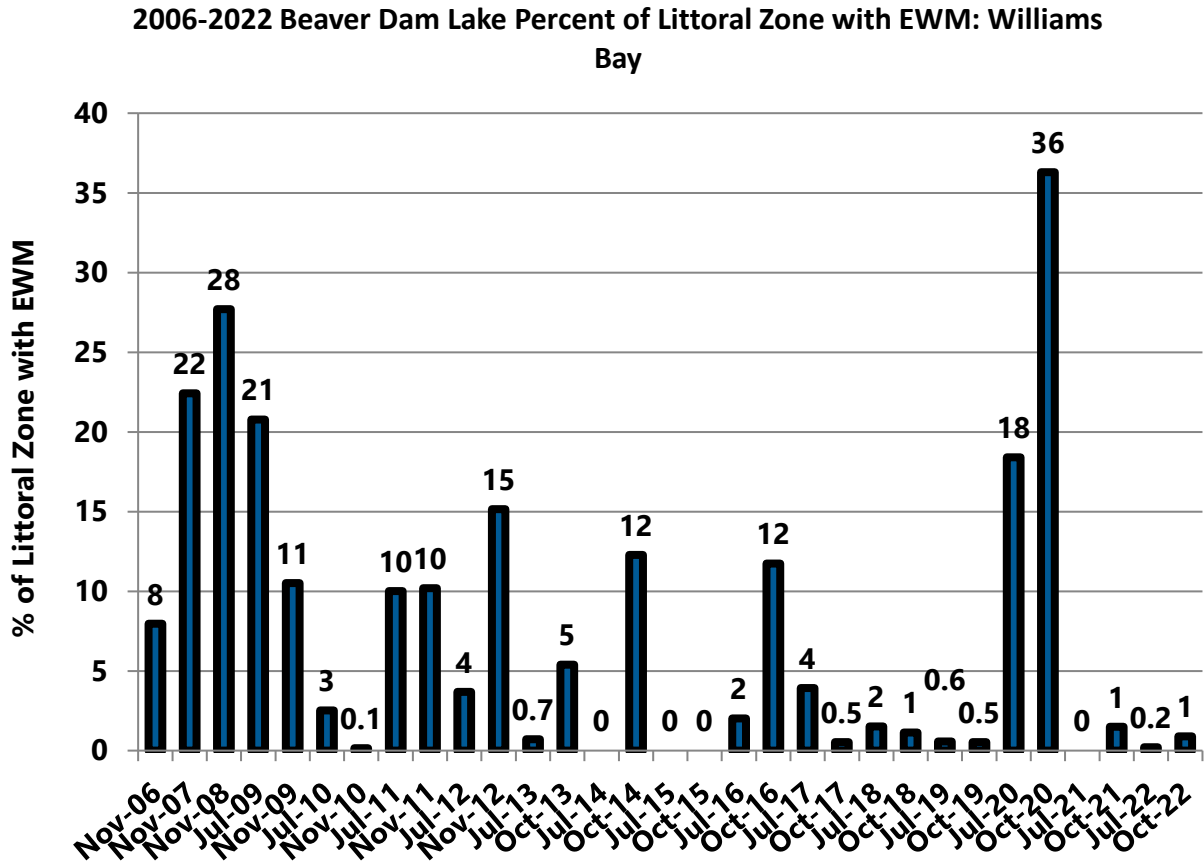


Figure 15 2006-2022 Percent of Littoral Zone with EWM: Williams Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 27

3.3 Rabbit Island Bay

Because EWM was not observed in Rabbit Island Bay during October 2021, no treatment occurred in 2022. EWM reappeared in July 2022 and tripled in extent between July and October 2022.

- EWM frequency increased from 0 percent in October 2021 to 10 percent in July 2022 to 24 percent in October 2022 (Table 1 and Figure 16);
- EWM extent increased from 0 acres in October 2021 to 5 acres in July 2022 to 15 acres in October 2022 (Table 2, Figure 3, Figure 5, and Figure 17);
- Percent of littoral zone with EWM increased from 0 percent in October 2021 to 8 percent in July 2022 to 25 percent in October 2022 (Table 3 and Figure 18).

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 28

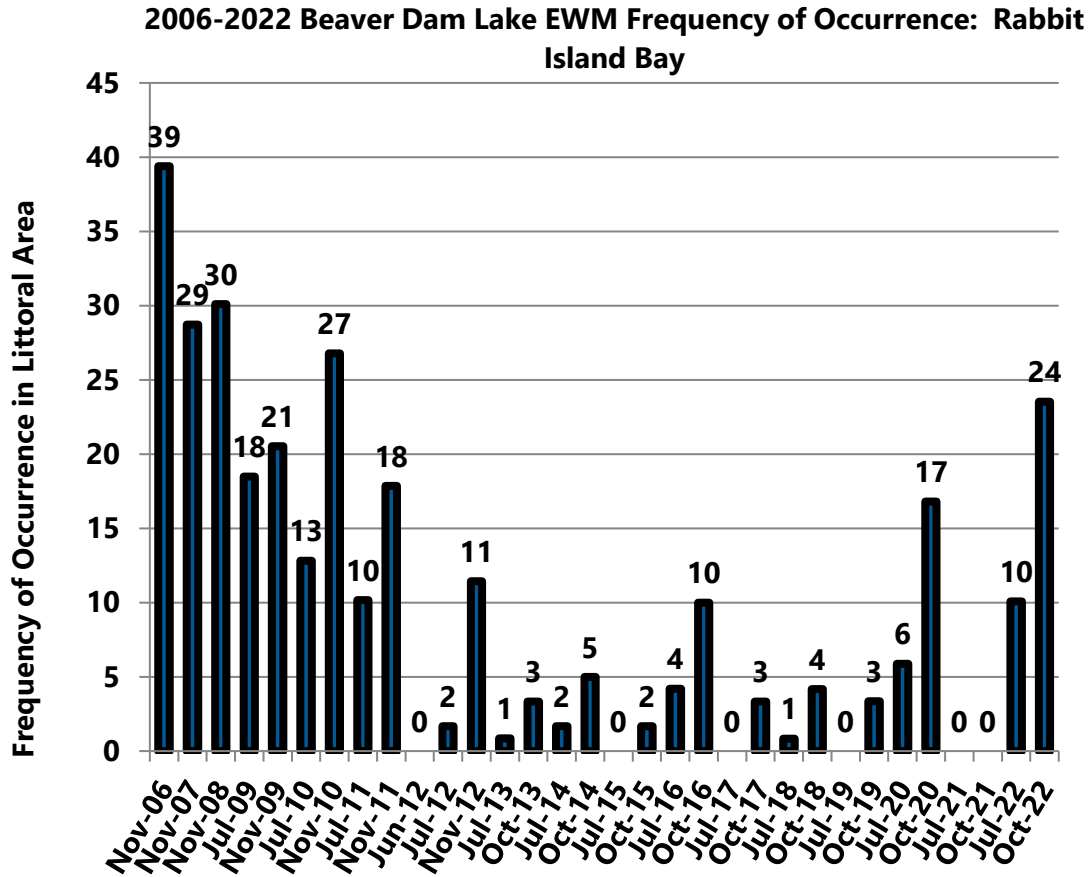


Figure 16 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: Rabbit Island Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 29

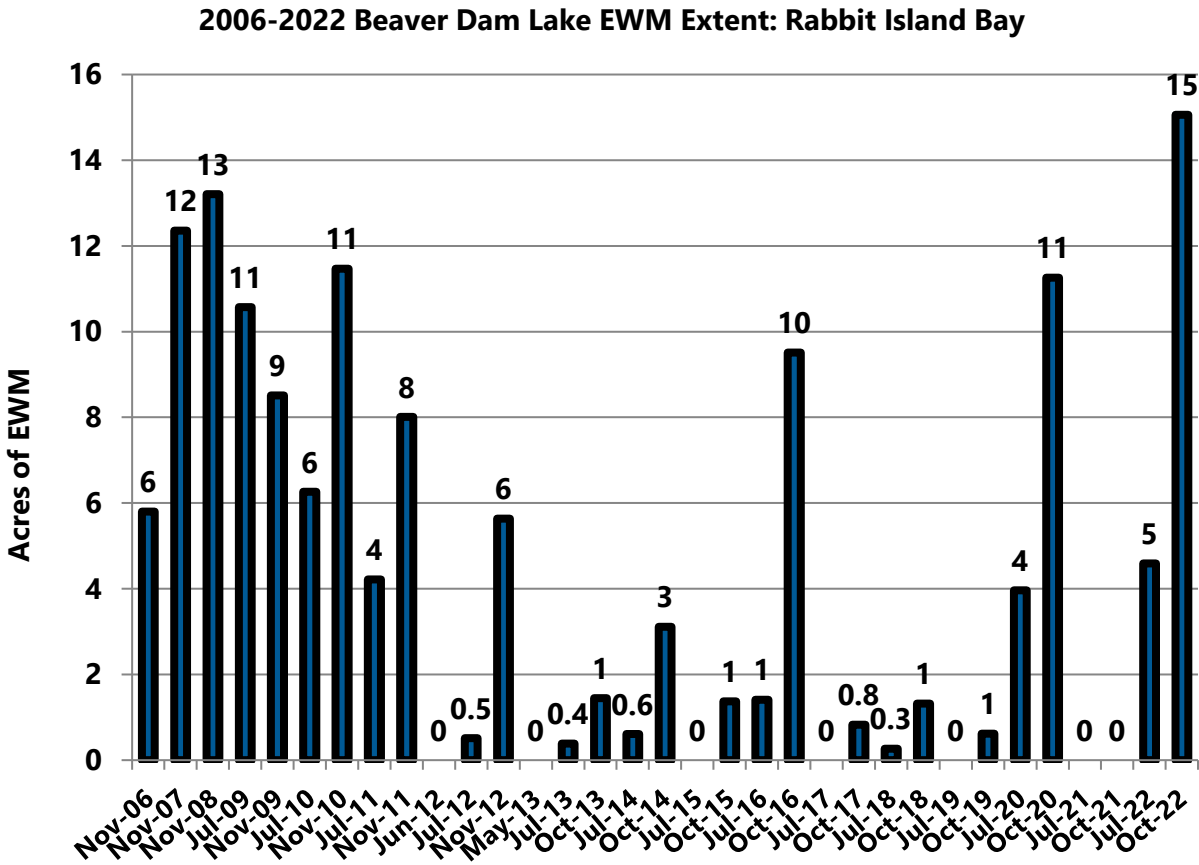


Figure 17 2006-2022 Beaver Dam Lake EWM Acreage: Rabbit Island Bay

2006-2022 Beaver Dam Lake Percent of Littoral Zone with EWM: Rabbit Island Bay

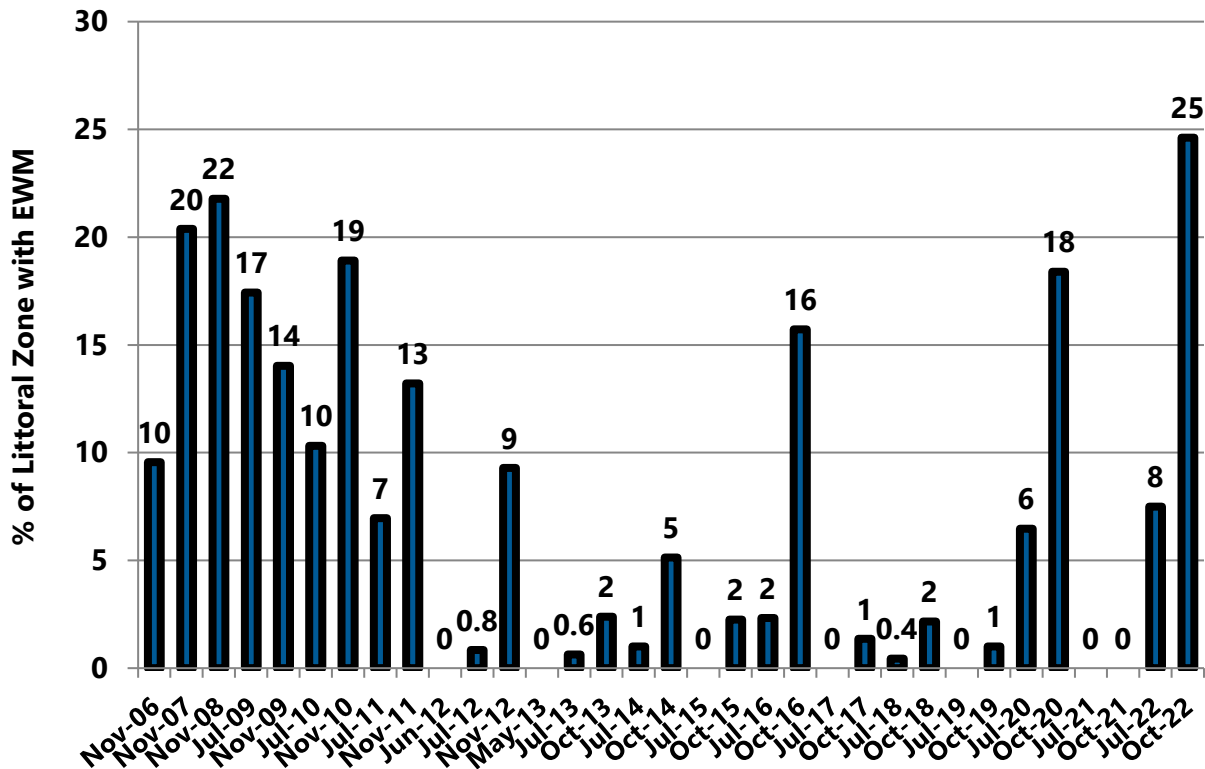


Figure 18 2006-2022 Percent of Littoral Zone with EWM: Rabbit Island Bay

3.4 Library Lake

EWM was not observed in Library Lake during October 2021 and no treatment occurred in 2022. EWM reappeared in July 2022, increased in extent between July and October 2022, but remained at low levels in the lake (Figure 3 and Figure 5).

- EWM frequency increased from 0 percent in October 2021 to 0.7 percent in July 2022 to 5 percent in October 2022 (Table 1 and Figure 19).
- EWM extent increased from 0 acres in October 2021 to 0.04 acres in July 2022 to 0.6 acres in October 2022 (Table 2, Figure 3, Figure 5, and Figure 20);

- Percent of littoral zone with EWM increased from 0 percent in October 2021 to 0.3 percent in July 2022 to 4 percent in October 2022 (Table 3 and Figure 21).

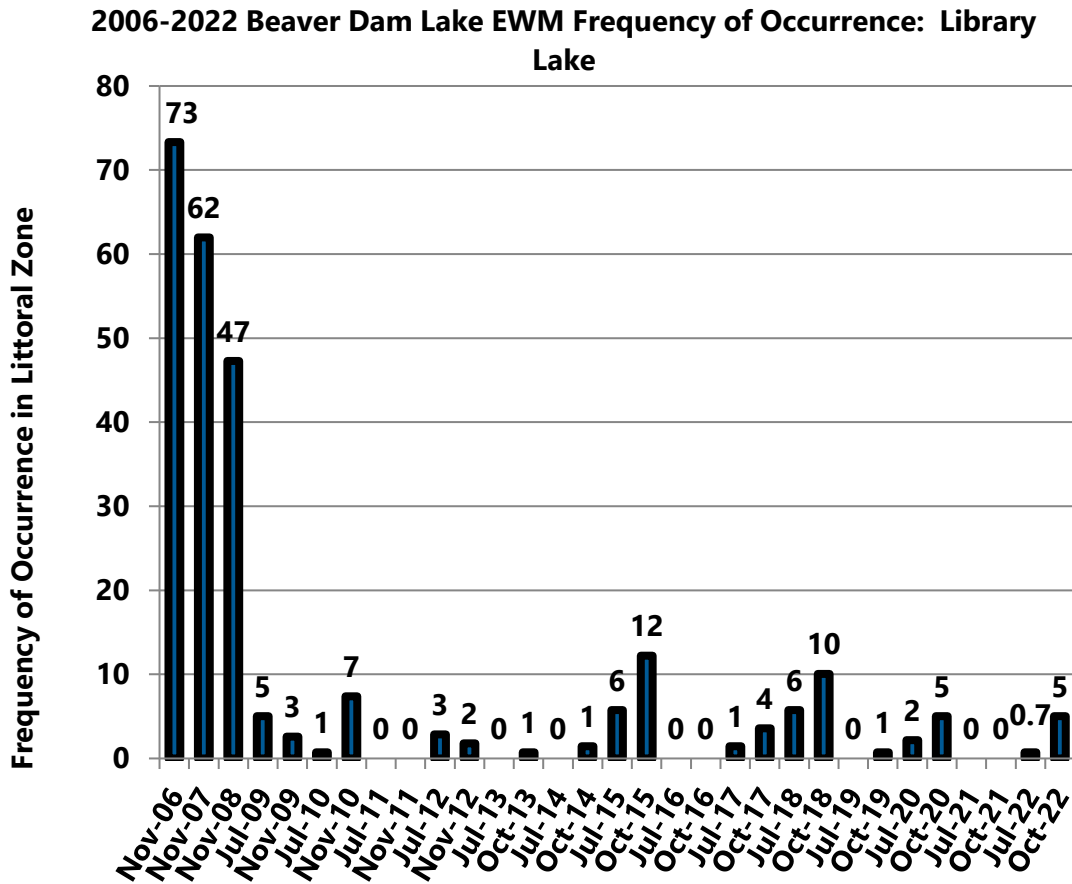


Figure 19 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: Library Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 32

2006-2022 Beaver Dam Lake EWM Extent: Library Lake

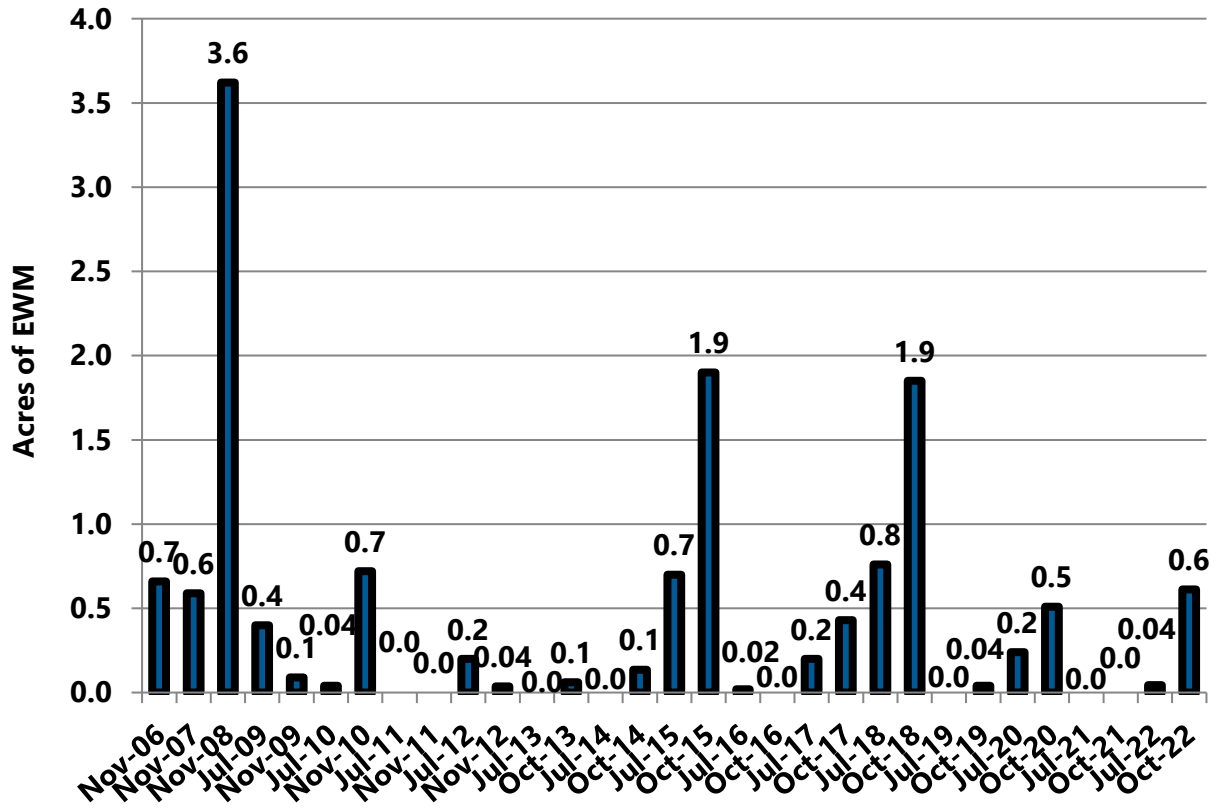


Figure 20 2006-2022 Beaver Dam Lake EWM Acreage: Library Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 33

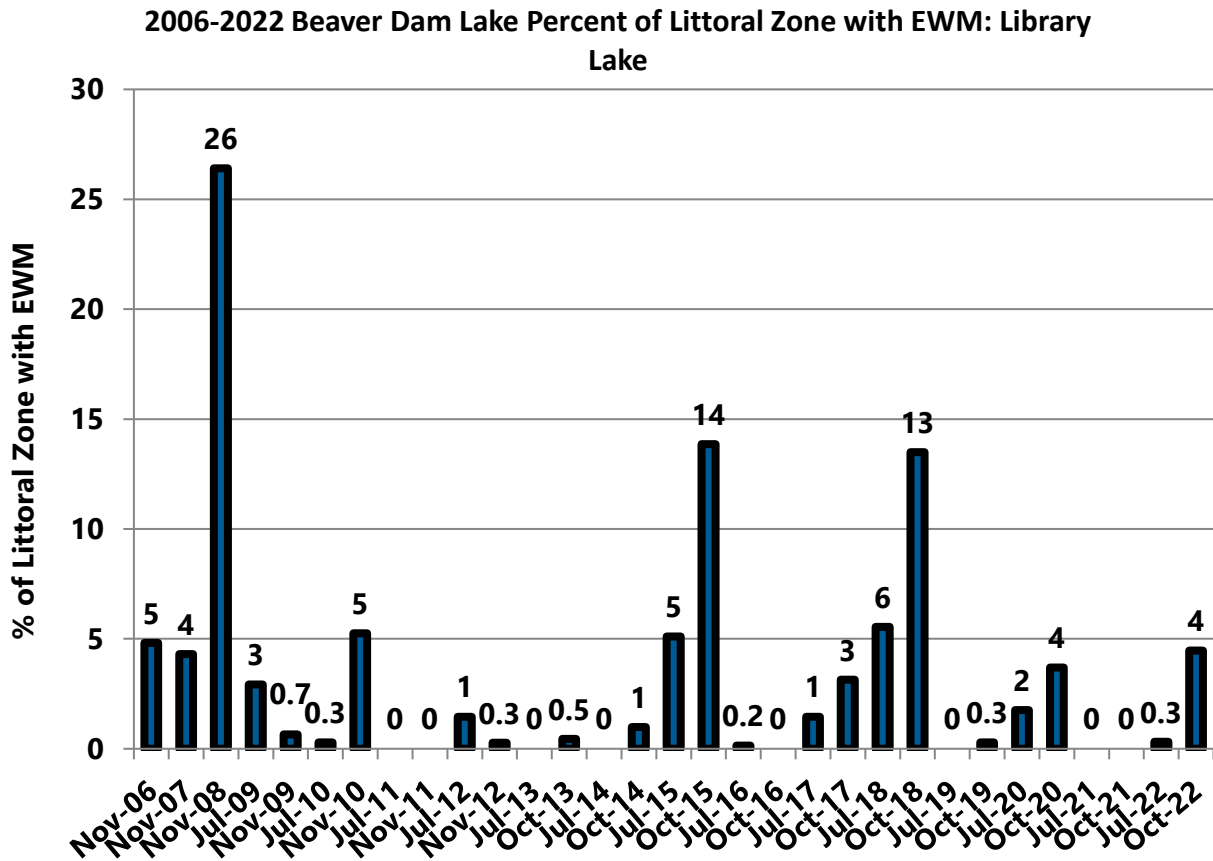


Figure 21 2006-2022 Percent of Littoral Zone with EWM: Library Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 34

3.5 Cemetery Bay

An intended ProcellaCOR treatment of EWM in Cemetery Bay was not completed in 2022 because a construction project prevented access to the lake. EWM in the bay continued to expand in extent throughout 2022 (Figure 4 and Figure 6).

- EWM frequency increased from 8 percent in October 2021 to 15 percent in July 2022 to 34 percent in October 2022 (Table 1 and Figure 22).
- EWM extent increased from 4 acres in October 2021 to 7 acres in July 2022 to 19 acres in October 2022 (Table 2, Figure 4, Figure 6, and Figure 23); and
- Percent of littoral zone with EWM increased from 7 percent in October 2021 to 14 percent in July 2022 to 35 percent in October 2022 (Table 3 and Figure 24).

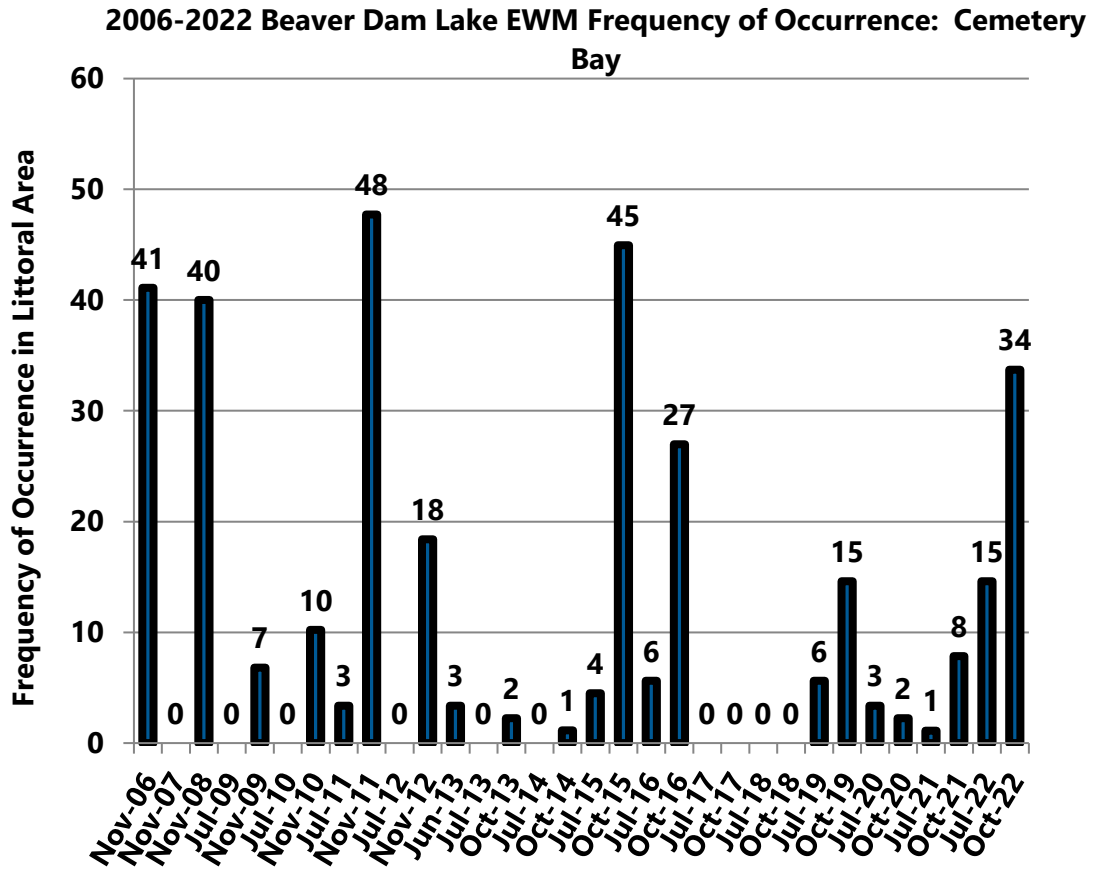


Figure 22 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: Cemetery Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 36

2006-2022 Beaver Dam Lake EWM Extent: Cemetery Bay

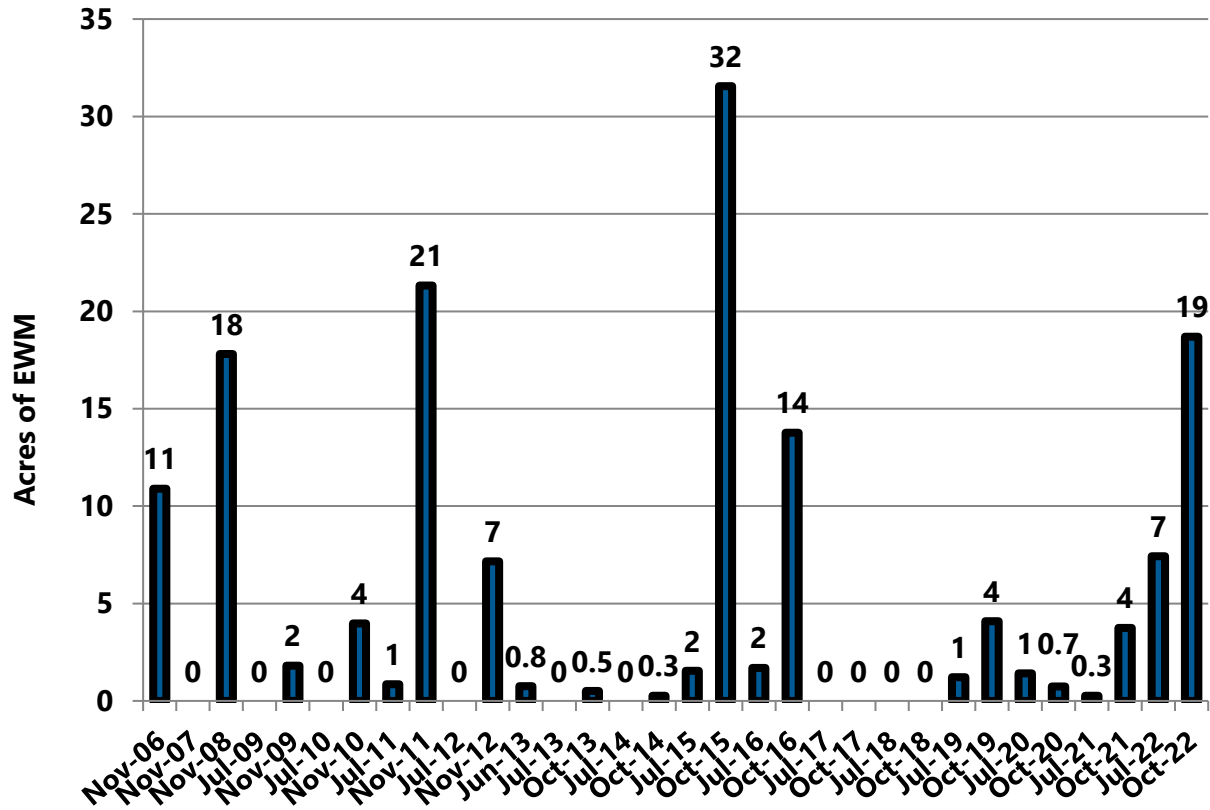


Figure 23 2006-2022 Beaver Dam Lake EWM Acreage: Cemetery Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 37

**2006-2022 Beaver Dam Lake Percent of Littoral Zone with EWM:
 Cemetery Bay**

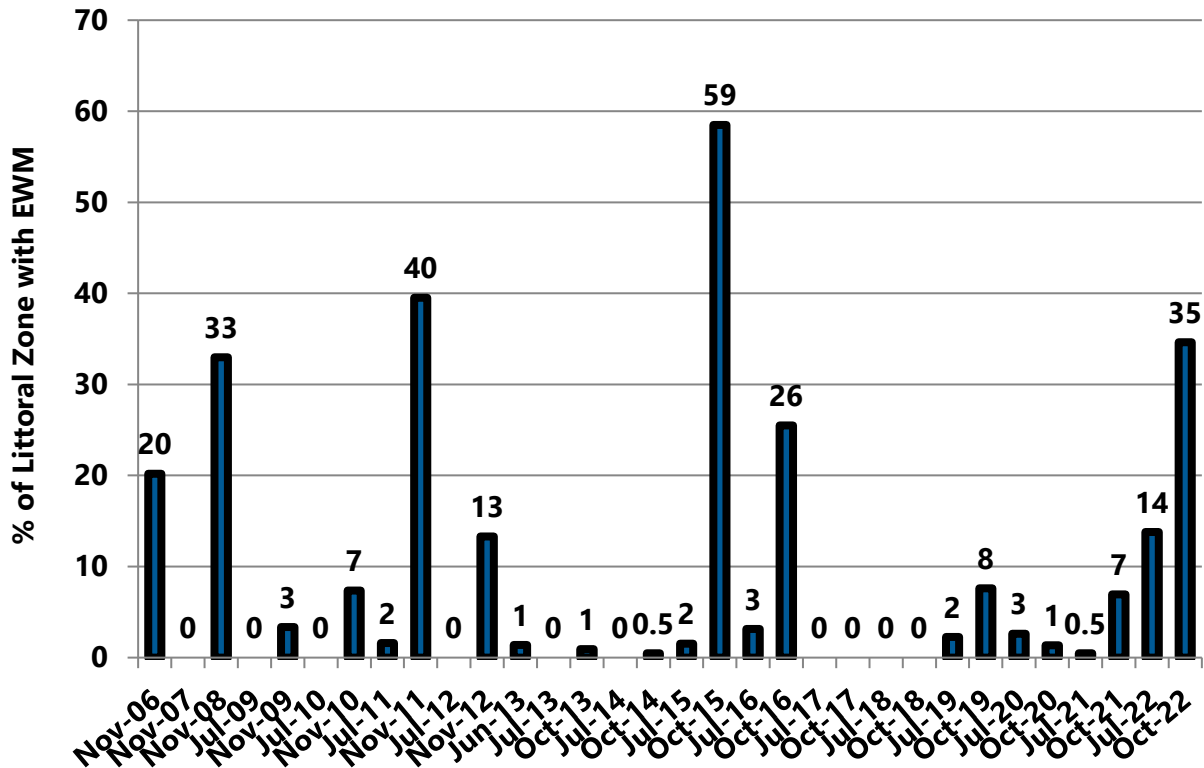


Figure 24 2006-2022 Percent of Littoral Zone with EWM: Cemetery Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 38

3.6 City Bay

In 2022, EWM management in City Bay consisted of herbicide treatment of 2.16 acres. On June 22, a ProcettaCOR dose of 4 PDU was applied to Treatment Area 5 shown on Figure 2. The treatment was successful and EWM was not observed in the treatment area during July or October 2022 (Figure 4 and Figure 6). However, EWM was observed in untreated areas during both July and October 2022 causing increases in frequency, extent, and percent of littoral area with EWM (Figure 4 and Figure 6).

- EWM frequency increased from 1 percent in fall of 2021 to 2 percent in July 2022 to 14 percent in October 2022 (Table 1 and Figure 25);
- EWM extent increased from 0.3 acres in fall of 2021 to 1 acre in July 2022 to 12 acres in October 2022 (Table 2, Figure 4, Figure 6, and Figure 26); and
- Percent of littoral zone with EWM increased from 0.3 percent in fall of 2021 to 1 percent in July of 2022 to 12 percent in October 2022 (Table 3 and Figure 27).

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 39

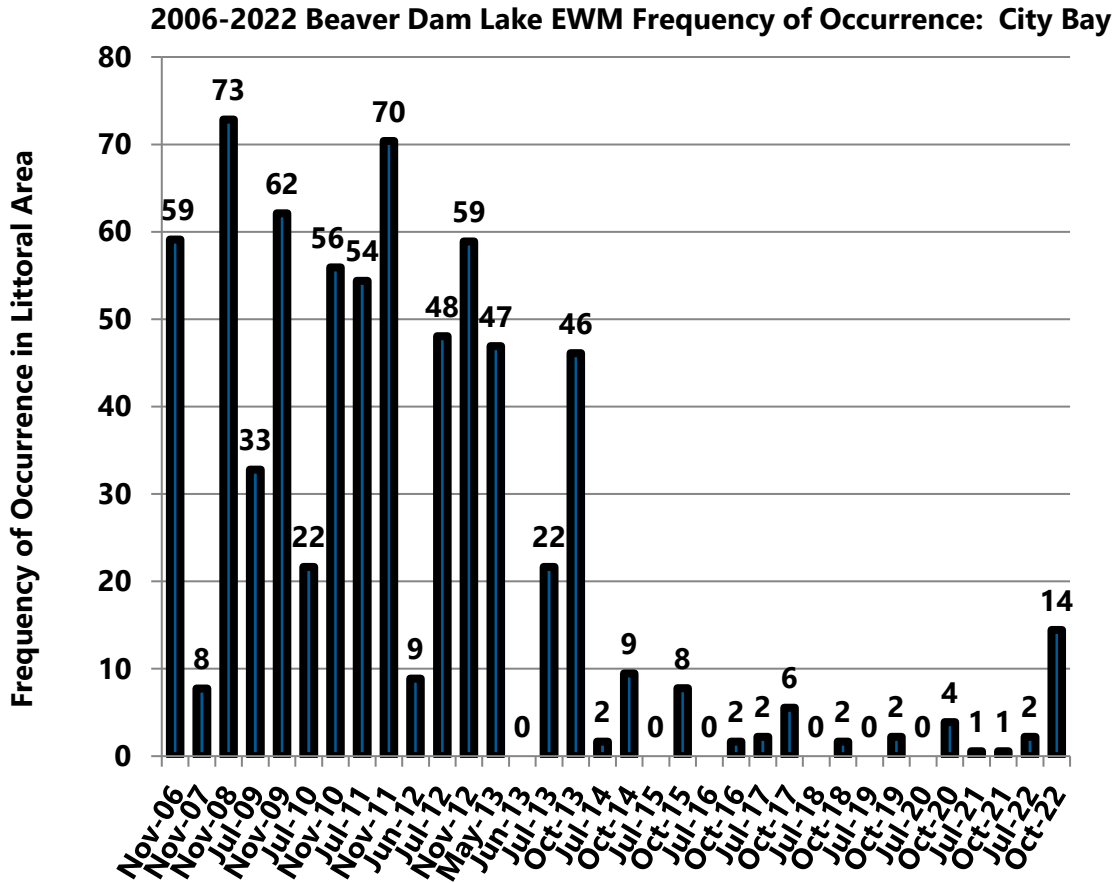


Figure 25 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: City Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 40

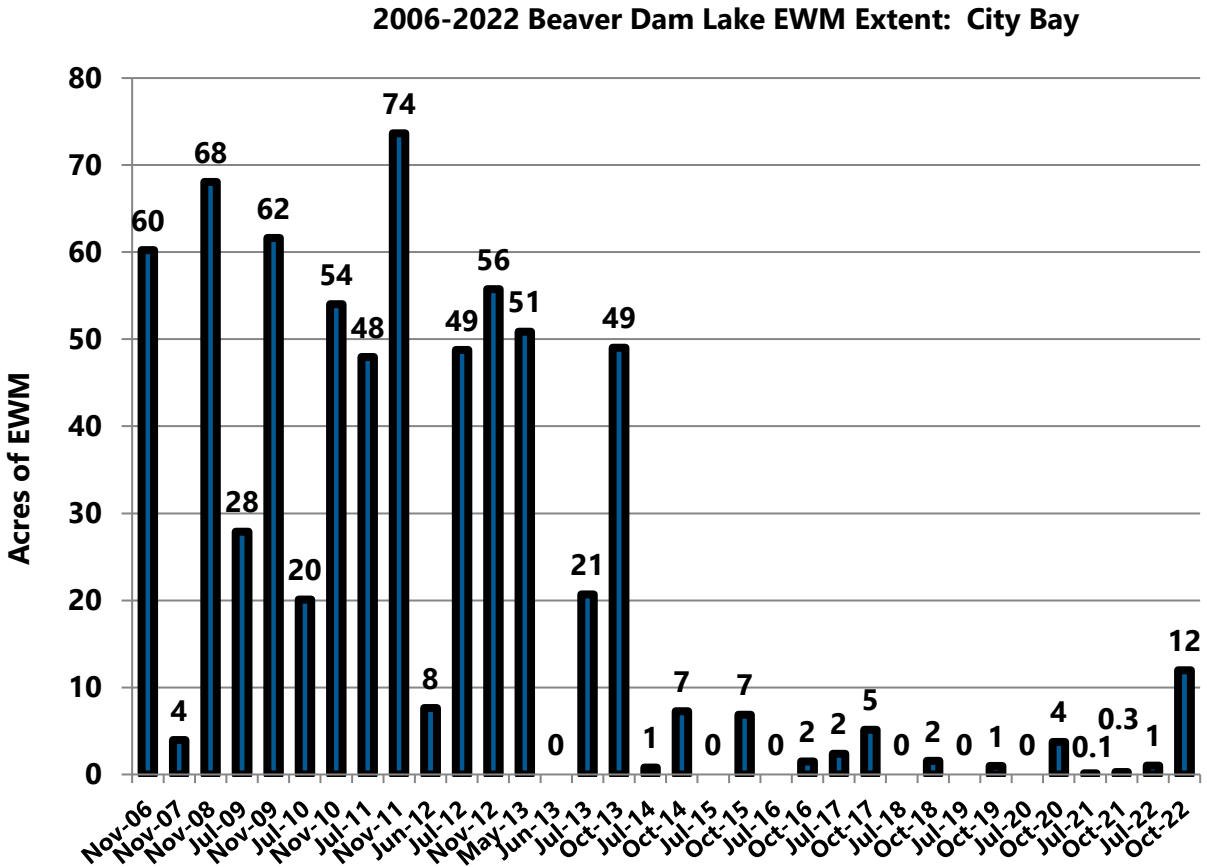


Figure 26 2006-2021 Beaver Dam Lake EWM Acreage: City Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 41

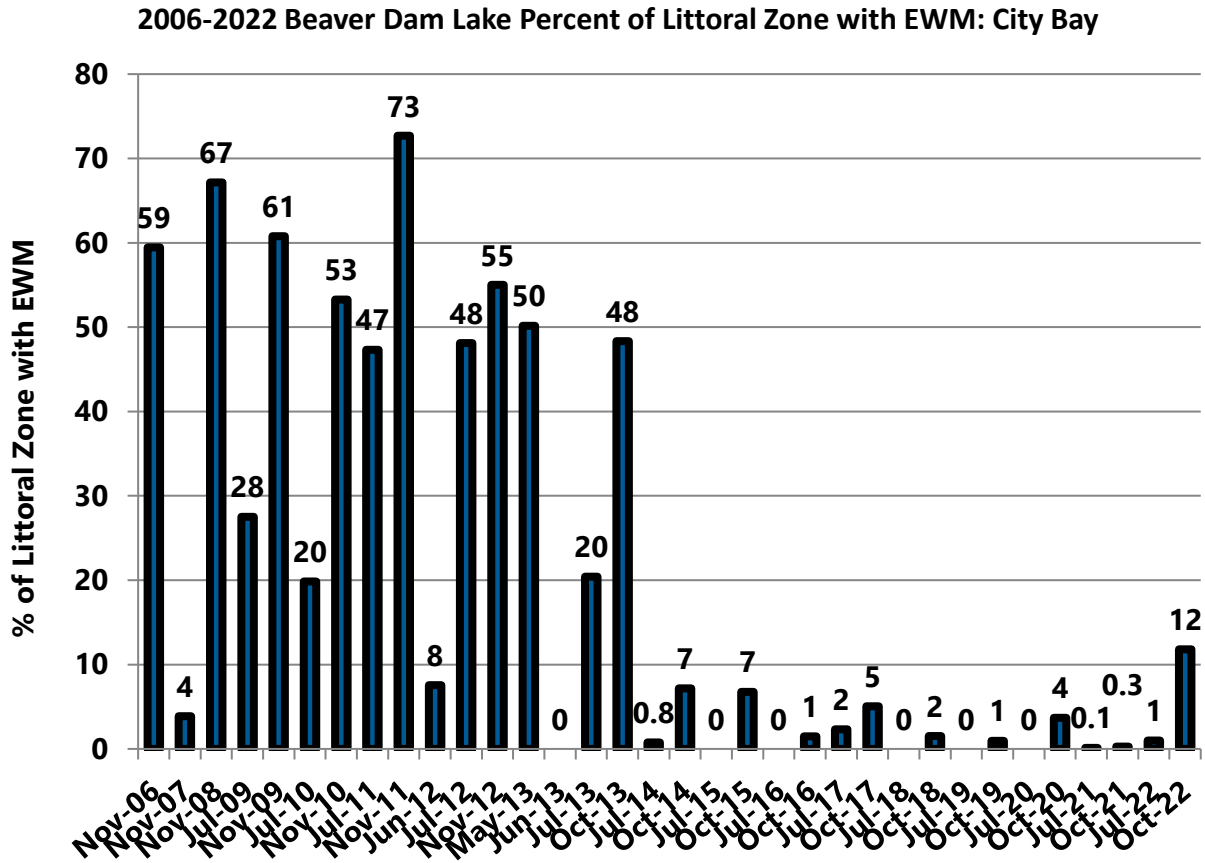


Figure 27 2006-2022 Percent of Littoral Zone with EWM: City Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 42

3.7 East Lake

EWM was not observed in East Lake during 2018, 2019, and July of 2020. EWM was observed at one location near the northeast corner of East Lake during October 2020, but all EWM was rake removed. In 2021, EWM was not observed in East Lake during the July and October plant surveys. EWM was not observed during the July 2022 plant survey (Figure 4), but reappeared in October 2022 (Figure 6) when:

- EWM frequency was 6 percent (Table 1 and Figure 28);
- EWM extent was 3 acres (Table 2, Figure 4, Figure 6, and Figure 29); and
- Percent of littoral zone with EWM was 4 percent (Table 3 and Figure 30).

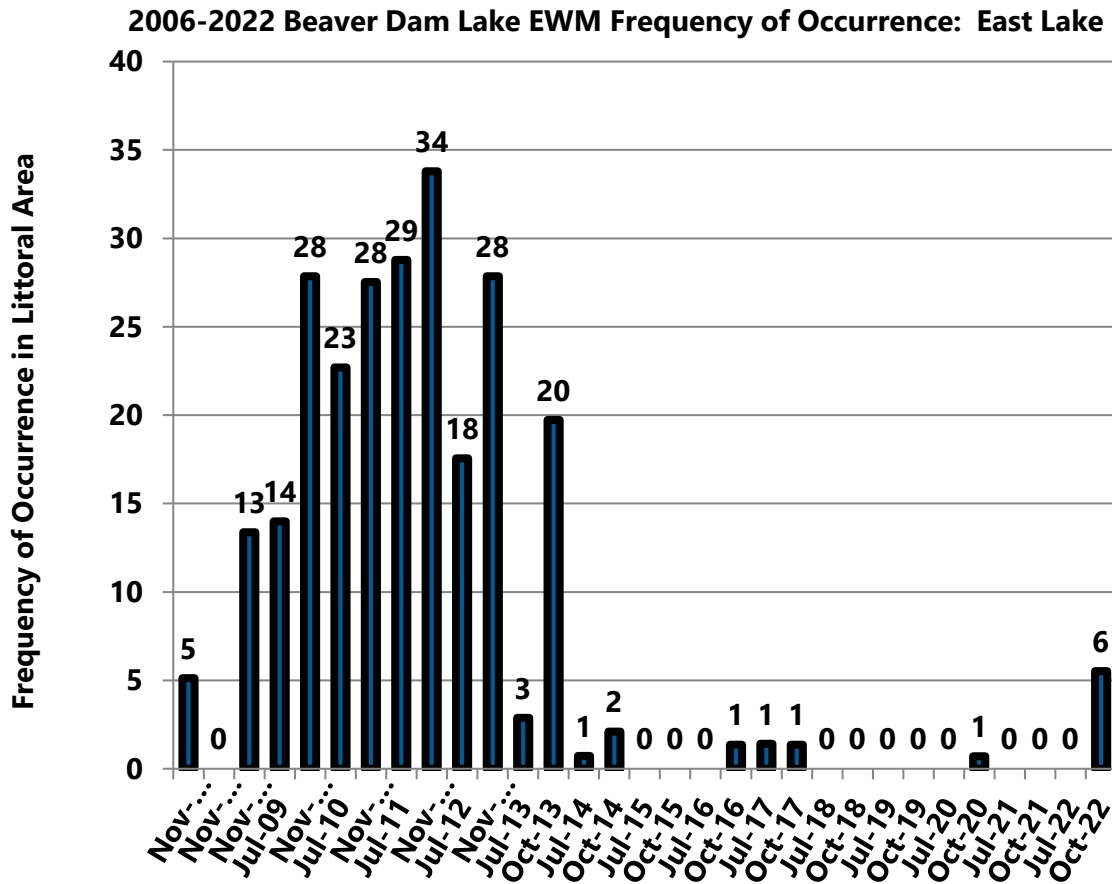


Figure 28 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: East Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 44

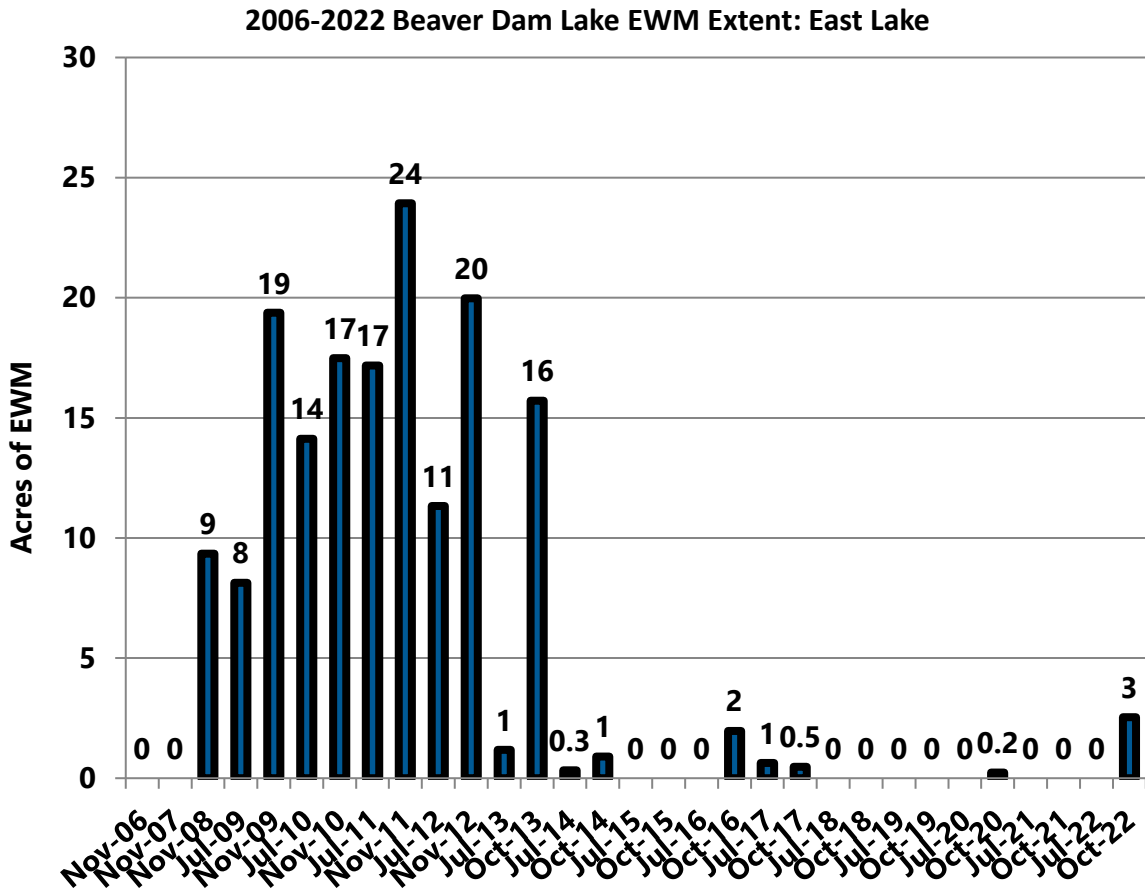


Figure 29 2006-2022 Beaver Dam Lake EWM Acreage: East Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 45

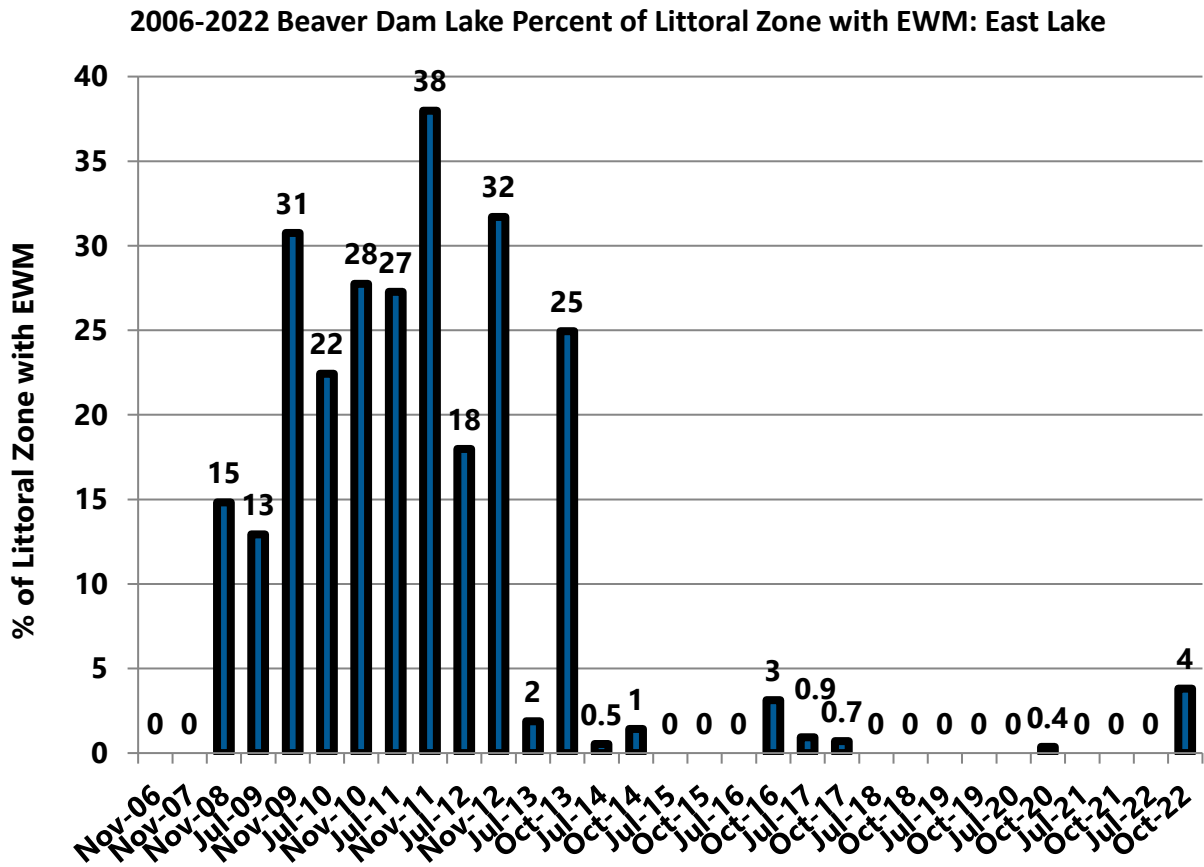


Figure 30 2006-2022 Percent of Littoral Zone with EWM: East Lake

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 46

3.8 Norwegian Bay

In 2020 and 2021, EWM was not observed in Norwegian Bay during either the July or October plant surveys. Hence, no treatment occurred in 2022. EWM reappeared in July 2022 and increased in extent between July and October 2022 (Figure 4 and Figure 6).

- EWM frequency was 1 percent in July and increased to 4 percent in October (Table 1 and Figure 31);
- EWM extent was 0.2 acre in July and increased to 1 acre in October (Table 2, Figure 4, Figure 6, and Figure 32); and
- Percent of littoral zone with EWM was 1 percent in July and 2 percent in October (Table 3 and Figure 33).

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 47

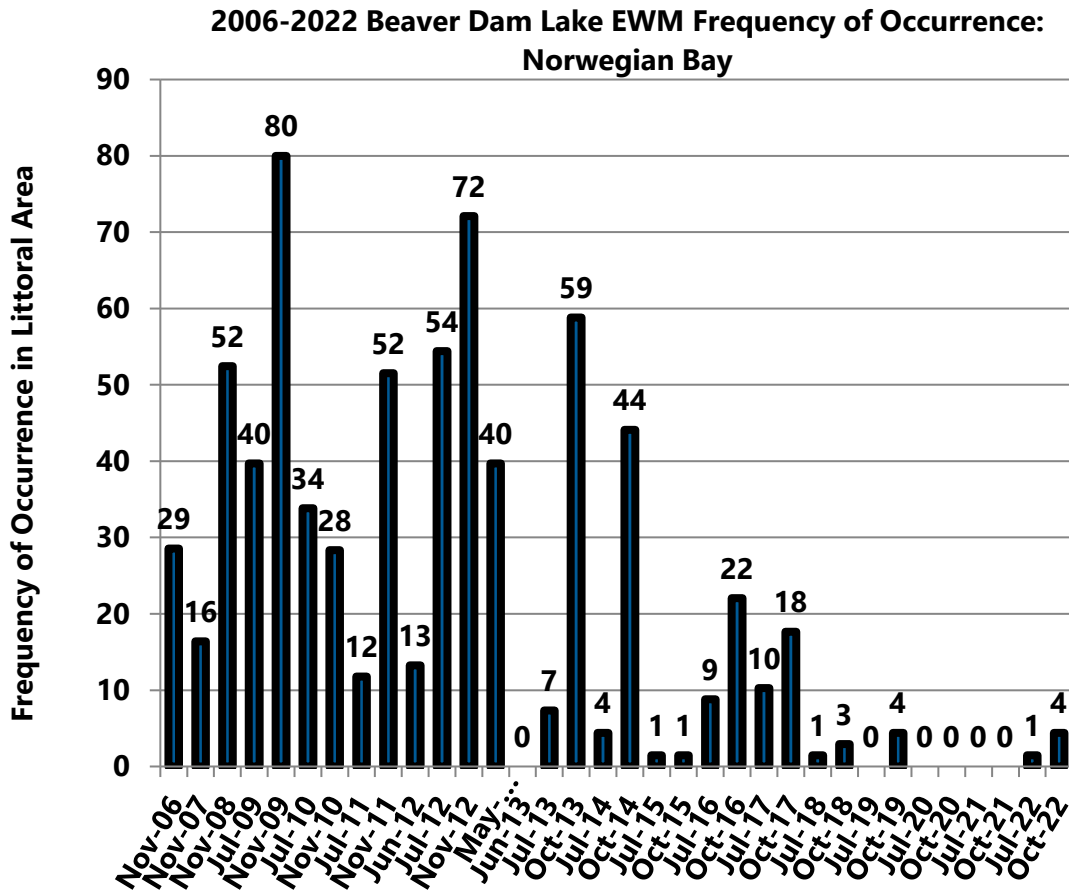


Figure 31 2006-2022 Beaver Dam Lake EWM Frequency of Occurrence in Littoral Zone: Norwegian Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 48

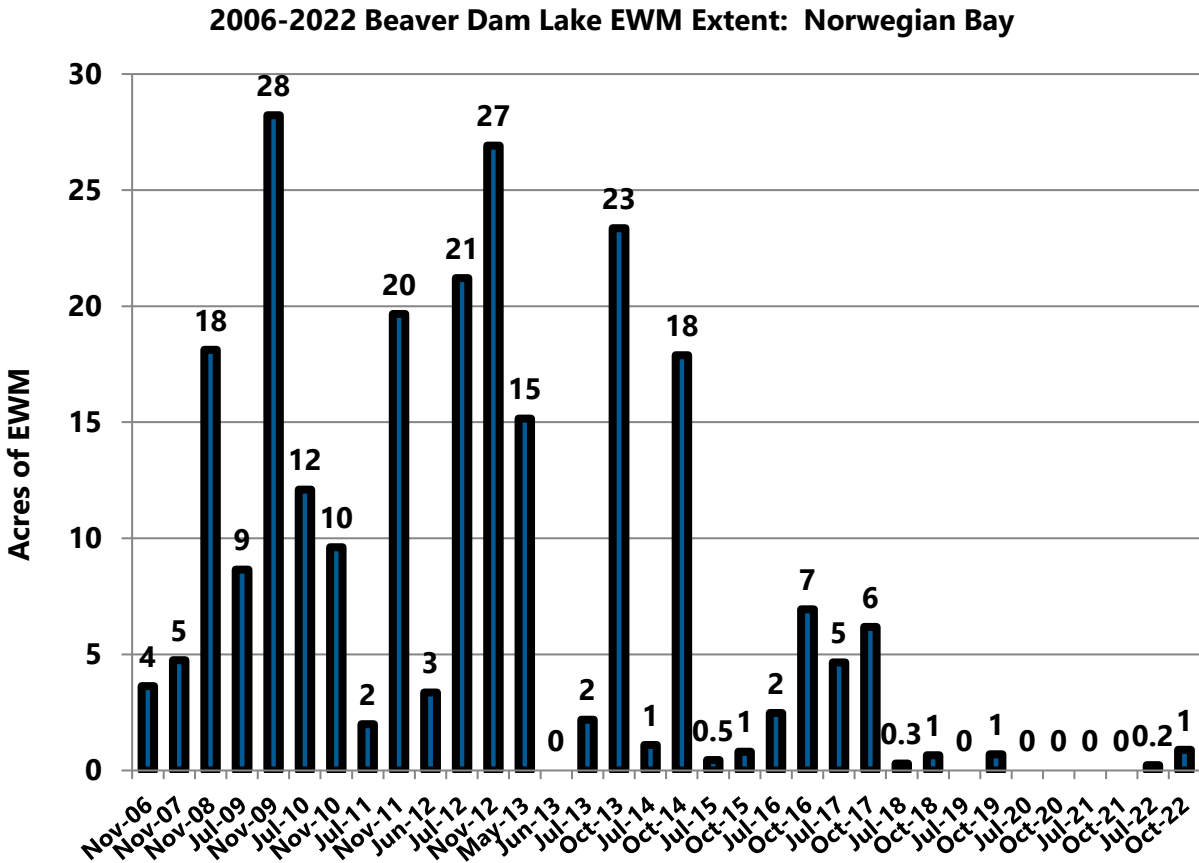


Figure 32 2006-2022 Beaver Dam Lake EWM Acreage: Norwegian Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 49

**2006-2022 Beaver Dam Lake Percent of Littoral Zone with EWM:
 Norwegian Bay**

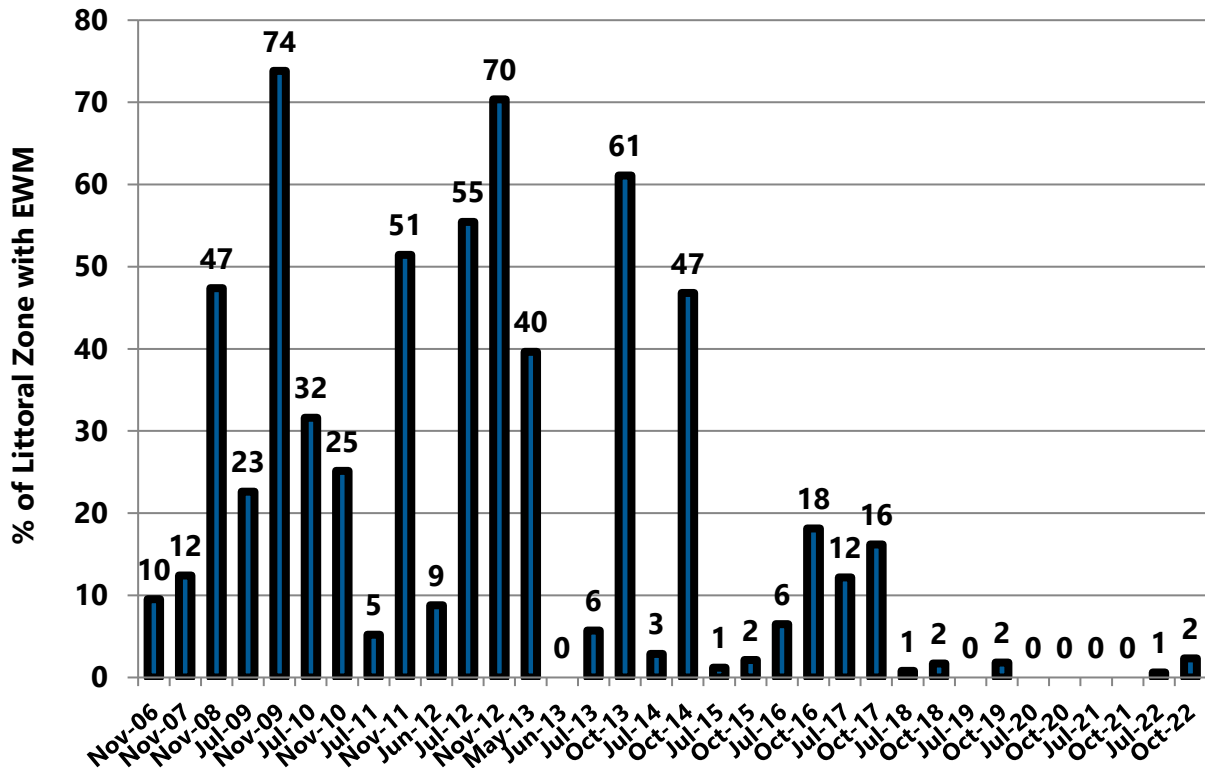


Figure 33 2006-2022 Percent of Littoral Zone with EWM: Norwegian Bay

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 50

4.0 Summary

Goal 1 of the Beaver Dam Lake Aquatic Plant Management Plan is “Reduce Eurasian watermilfoil (EWM) and curly-leaf pondweed (CLP) levels to less than or equal to 7 percent of the littoral zone while minimizing harm to native aquatic plants.”¹ The goal was attained in 2017 and treatments in 2018 through 2020 were intended to continue goal attainment. An increase in EWM during the 2020 growing season resulted in an October EWM level of 12 percent of the littoral area, which failed to meet the District’s EWM goal. A 2021 treatment attained the District’s EWM goal by reducing EWM to 0.1 percent of the littoral area in July and 1 percent in October.

Because EWM was not observed in October 2021, Norwegian Bay, East Lake, Rabbit Island Bay, and Library Lake did not require EWM management in 2022. To continue attainment of the District’s EWM goal, treatment of 6.55 acres in West Lake, 3.00 acres in Williams Bay, and 2.16 acres in City Bay with ProcellaCOR was completed in 2022 (Table 4, Figure 1, and Figure 2).

2022 post-treatment data document treatment success. EWM was only observed within one of the 2022 treatment areas — a single sample point in West Lake near the Eagle Point boat landing. Despite this success, EWM frequency and extent increased in 2022 because (1) The intended herbicide treatment of Cemetery Bay could not be completed in 2022 due to lack of access resulting from a construction project and EWM continued to expand in Cemetery Bay and (2) EWM was observed in multiple untreated areas in the lake that lacked EWM in 2021 (Figure 3, Figure 4, Figure 5, and Figure 6). By October 2022, EWM had increased to 10 percent of the littoral area which failed to attain the District’s EWM goal (Table 2).

A summary of EWM in the eight individual treatment zones during 2022 is detailed in the following paragraphs.

West Lake— The 2022 herbicide treatment was successful and EWM was not observed within Treatment Area 1 and was observed at a single sample point within Treatment area 2 (Figure 1) during July and October 2022 (Figure 3 and Figure 5). However, EWM was observed in untreated areas during both July and October causing increases in frequency, extent, and percent of littoral area with EWM. In October 2022, EWM frequency was 3 percent and EWM extent was 5 acres which was 3 percent of littoral zone (Table 1, Table 2, Table 3, Figure 5, Figure 10, Figure 11, and Figure 12).

Williams Bay— The 2022 herbicide treatment was successful and EWM was not observed within either treatment area (Figure 1) during July or October 2022 (Figure 3 and Figure 5). EWM was observed in untreated areas during both July and October 2022 but remained at low levels in the bay. In October 2022, EWM frequency was 2 percent and EWM extent was 0.4 acres which was 1 percent of littoral zone (Table 1, Table 2, Table 3, Figure 5, Figure 13, Figure 14, and Figure 15).

To: Beaver Dam Lake Management District (Board of Commissioners)
From: Barr Engineering Co. (Meg Rattei)
Subject: 2022 EWM Treatment Results
Date: November 15, 2022
Project: 49030011.23
c: James Bartlett (Lake Restoration, Inc.), Tyler Mesalk (WDNR), and Alex Smith (WDNR)
Page 51

Rabbit Island Bay— Because EWM was not observed in Rabbit Island Bay during October 2021, no treatment occurred in 2022. EWM reappeared in July 2022 and tripled in extent between July and October 2022 (Figure 3 and Figure 5). In October 2022, EWM frequency was 24 percent and EWM extent was 15 acres which was 25 percent of littoral zone (Table 1, Table 2, Table 3, Figure 5, Figure 16, Figure 17, and Figure 18).

Library Lake— EWM was not observed in Library Lake during October 2021 and no treatment occurred in 2022. EWM reappeared in July 2022 and increased in extent between July and October 2022 (Figure 3 and Figure 5). In October 2022, EWM frequency was 5 percent and EWM extent was 0.6 acres which was 4 percent of littoral zone (Table 1, Table 2, Table 3, Figure 5, Figure 19, Figure 20, and Figure 21).

Cemetery Bay— An intended ProcettaCOR treatment of EWM in Cemetery Bay was not completed in 2022 because a construction project prevented access to the lake. EWM in the bay continued to expand in extent throughout 2022 (Figure 4 and Figure 6). In October 2022, EWM frequency was 34 percent and EWM extent was 19 acres which was 35 percent of littoral zone (Table 1, Table 2, Table 3, Figure 6, Figure 22, Figure 23, and Figure 24).

City Bay— The 2022 herbicide treatment was successful and EWM was not observed within the treatment area during July or October 2022. However, EWM was observed in untreated areas during both July and October 2022 causing increases in frequency, extent, and percent of littoral area with EWM (Figure 4 and Figure 6). In October 2022, EWM frequency was 14 percent and EWM extent was 12 acres which was 12 percent of littoral zone (Table 1, Table 2, Table 3, Figure 6, Figure 25, Figure 26, and Figure 27).

East Lake—EWM was not observed in East Lake during 2018, 2019, and July 2020. EWM was observed in one location near the northeast corner of East Lake during October 2020 and all EWM was rake removed. EWM was not observed in East Lake during July and October 2021. Hence, no treatment occurred in 2022. EWM was not observed during July 2022, but reappeared during October 2022 when EWM frequency was 6 percent and EWM extent was 3 acres which was 4 percent of littoral zone (Table 1, Table 2, Table 3, Figure 4, Figure 6, Figure 28, Figure 29, and Figure 30).

Norwegian Bay— In 2020 and 2021, EWM was not observed in Norwegian Bay during either the July or October plant surveys. Hence, no treatment occurred in 2022. EWM reappeared in July 2022 and increased in extent between July and October 2022 (Figure 4 and Figure 6). In October 2022, EWM frequency was 4 percent and EWM extent was 1 acre which was 2 percent of littoral zone (Table 1, Table 2, Table 3, Figure 6, Figure 31, Figure 32, and Figure 33).