Mashpee Ponds SNAPSHOT Water Quality History (2001 - 2(Mashpee Ponds SNAPSHOT History Simplified_Final1.xls

The following is a summary of the water quality tests for the last 13 years or so on the Mashpee Ponds that MEC monitors. The water samples are tested at UMASS Dartmouth.

I've color coded the cell fill as follows: green for Oligotrophic (best condition), white for medium condition; gold for Eutrophic (bad), purple for Hyper-eutrophic (worst).

For example: Ashumet for 2011 had the best Chlorophyl readings down to 9 meters depth but worst readings for Phosphorus at 21 meters and bad readings for Transparency (Secchi depth).

TROPHIC STATE CLASSIFICATIONS	Best OLIGO	Mid MESO	Bad EU	Worst Hyper-EU
PHOSPHORUS ug/l	below 12	12 to 24	above 24	96-384
CHLOROPHYL A ug/l	below 2.6	2.6 to 7.2	above 7.2	56-155
Transparency (meters)	above 4	2 to 4	below 2	below 0.25

TP(ug/L) = 30.974 x TP(uM)

Unofficial comments by George R. re 2013 vs 2012 results:

Ashumet: Chlorophil. still Best. Some degradation in Phos. & Trans. Big increase in Phos. on bottom.
John's: Chlor. & Phos. levels doubled. Trans. decreased

Santuit: Chlor., Phos. and Trans all still Bad.

Mashpee: Some degradation of Chlor. & Trans. Phos.- mixed bag

Wakeby: Degradation in Chlor. and Trans. Phos. Mixed bag

Moody: Chlor. Still Best. Increas in Phos. Increase in Trans.

Unofficial comments by George R. re 2012 vs 2011 results:

Ashumet: Chlorophil. still Best. Phosphorus and Transparency improv

John's: Chlor., Phos. and Trans all improved. 6.25M trans is probably an

Santuit: Chlor., Phos. and Trans all still Bad.

Mashpee: Chlor. and Trans. Improved. Some increase in Phos.

Wakeby: Chlor. and Trans. Improved. Some increase in Phos.

Moody: Chlor. Still Best. Increas in Phos. Decrease in Trans.

ASHUMET SNAPSHOT

Test Date	Depth (M)	pH	Alk (mg CaCO3/L)	Chlor. ug/l	Phaeo ug/L	Total Phosphor uM	Total Nitrogen uM	Total Phosphor ug/l	Secchi Transparency (Meters)
Aug 29, '13	0.5	7.0	10.2	1.6	0.8	0.5	20.2	16.1	3.0
	3.0	7.0	9.9	1.3	0.6	0.5	19.2	15.2	
	9.0	6.4	13.9	8.9	<0.05	0.5	17.6	16.4	
	19.0	5.8	5.4	<0.05	29.6	4.6	85.2	141.6	
20-Aug-12	0.5	6.8	10.6	1.2	<0.05	0.4	19.7	11.2	4.6
	3.0	6.8	10.5	0.9	0.6	0.4	26.3	11.2	
	9.0	6.3	11.7	1.6	2.1	1.1	25.6	33.8	
	16.0	6.5	25.2	0.8	0.1	1.2	51.4	38.4	
SEPT 1,2011	0.5	6.9	12.4	1.0	3.3	0.7	31.8	21.1	1.7
	3.0	6.9	13.2	2.6	1.7	0.7	21.9	21.3	
	9.0	6.6	15.6	0.7	2.4	0.3	33.8	10.6	
	21.0	6.6	20.4	4.5	24.1	4.7	37.4	144.7	
AUG 21,2010	0.5	7.1	9.6	13.5	0.8	1.4	47.3	43.7	3.4
	3.0	7.0	9.7	11.1	0.5	0.6	41.2	18.0	
	9.0	6.9	9.6	4.7	3.0	1.5	31.0	45.8	
	17.0	6.8	28.3	37.9	123.8	7.5	177.4	231.4	
Aug-07 Ed Baker report	0.5			5.1				14.3	2.5
AUG. 2007 CREATED 8/13/07	0.5	6.3	7.6	5.1	0.1	0.5	24.5	15.5	2.7
	3.0	6.3	7.6	3.5	0.5	0.9	22.5	27.9	
	9.0	6.1	10.8	5.6	0.0	0.5	19.2	15.5	
	20.0	6.3	16.4	6.3	64.4	16.5	165.3	511.1	
Aug. 2006 created Aug 2007	0.5	6.7	14.7	2.2	0.7	0.5	26.9	15.5	
	3.0	6.7	14.3	2.2	1.3	0.7	25.6	21.7	
	9.0	6.2	20.6	2.2	0.6	0.6	20.0	18.6	
	17.0	6.6	48.0	1.0	1.3	11.6	77.7	359.3	
Aug-05 Ed Baker report	0.5			4.7				13.9	2.3
Aug-04 Ed Baker report	0.5			4.3				38.7	2.25
Aug-03 Ed Baker report	0.5			1.8				18.6	3.05

John's SNAPSHOT

Test Date	Depth (M)	pH	Alk (mg CaCO3/L)	Chlor. ug/l	Phaeo ug/L	Total Phosphor uM	Total Nitrogen uM	Total Phosphor ug/l	Secchi Transparency (Meters)
Aug 19,'13	0.5	7.2	10.3	2.8	0.6	0.8	19.2	24.5	4.0
	3.0	7.2	10.0	2.7	0.5	0.8	19.3	24.8	
	9.0	6.4	12.0	4.2	1.7	0.6	27.5	18.9	
	19.0	6.5	19.3	<0.05	29.1	0.7	52.4	20.8	
15-Aug-12	0.5	7	8.8	1.24	0.26	0.38	18.05	11.8	6.25
	3	6.98	8.5	1.72	<0.05	0.37	19.8	11.5	
	9	6.87	8.4	2.01	<0.05	0.38	18.9	11.8	
	17	6.59	23.9	0.99	5.78	0.78	73.5	24.2	
8/24/11	0.5	7.1	8.6	6.0	0.6	0.5	25.9	16.4	3.7
	3.0	7.2	8.8	4.8	0.9	0.5	24.7	16.1	
	9.0	6.7	11.5	11.8	2.5	0.3	28.6	9.3	
	21	6.8	20.6	0.0	56.8	0.1	54.0	4.3	
9/1/10	0.5	7.4	9.2	4.3	0.0	0.7	25.6	21.7	
	3.0	7.5	9.1	3.3	0.3	0.6	24.9	19.8	
	9.0	6.6	11.7	7.0	1.8	0.3	35.7	10.5	
	20.0	6.8	21.7	0.0	46.6	0.9	63.5	28.5	
9/1/2008									4.0
AUG. 2007 CREATED 8/13/07	0.5	6.4	8.4	6.4	0.6	0.5	22.8	15.5	3.8
	3.0	6.3	8.2	6.5	1.2	0.5	22.5	15.5	
	9.0	6.2	10.6	5.5	2.0	0.4	34.5	12.4	
	19.0	6.2	21.3	0.0	7.9	0.9	67.8	27.9	
AUG. 2006 CREATED 8/13/07	0.5	6.5	17.0	4.2	0.6	0.4	33.9	12.4	3.0
	3	6.7	17.0	5.2	1.2	0.4	28.1	12.4	
	9	6.3	21.0	2.2	1.0	0.5	43.3	15.5	
	16.85	6.5	46.2	2.0	1.8	0.8	73.1	24.8	
AUG. 2005 CREATED 8/13/05	0.5			8.0				22.3	2.9
AUG. 2004 CREATED 8/13/04	0.5			3.6				5.3	3.3
AUG. 2003 CREATED 8/13/03	0.5			9.6				34.1	3.8
AUG. 2001 CREATED 8/13/02	0.5	6.8	8.0	3.7				4.0	3.9
	3	6.8	8.0	3.2				4.0	
2001 PALS report	9	6.4	8.1	6.7				7.4	
	18	6.4	26.7	3.9				26.9	
AUG. 2000 CREATED 8/13/01	0.5			3.7				4.0	

Santuit (2) SNAPSHOT

Test Date	Depth (M)	pH	Alk (mg CaCO3/L)	Chlor. ug/l	Phaeo ug/L	Total Phosphor uM	Total Nitrogen uM	Total Phosphor ug/l	Transparency meters
Sept 19,'13	0.1	7.6	15.0	8.8	2.5	1.8	50.5	56.1	0.8
	1.6	7.1	14.5	10.0	3.9	1.8	51.9	55.4	
20-Aug-12	0.2	6.7	15.9	11.4	0.1	2.2	44.1	69.1	0.8
	1.6	6.7	16.0	8.1	3.0	2.8	50.5	85.2	
8/22/11	0.5	7.0	14.9	19.4	3.9	1.9	69.0	58	0.5
	1.5	7.0	15.1	20.2	5.5	1.8	73.5	55	
2-Sep-10	0.5	9.7	13.4	99.7	0.04	2.25	176.84	70	
	2.0	7.8	14.0	48.98	4.01	1.79	135.07	55	
AUG.16, 2007 CREATED 8/13/07	0.5	8.7	14.1	51.9	11.9	1.2	69.0	37	0.6
	1.7	7.0	14.2	75.8	17.5	1.9	75.4	59	
Aug 16 2006	0.5	8.9	26.4	77.5	3.3	2.7	127.7	83.6	0.3
	1.3	8.9	26.2	73.5	0.0	2.8	114.9	86.7	
Aug-05	0.5			32.0				71.7	0.7
Aug-04	0.5			6.3				94.8	0.8
Aug-03	0.5			11.4				55.8	0.7
Aug-02	0.5			6.5				23.2	2.5
Aug-01	0.5			2.2				17.3	2.3

Mashpee2 A SNAPSHOT

Test Date	Depth (M)	pH	Alk (mg CaCO3/L)	Chlor. ug/l	Phaeo ug/L	Total Phosphor uM	Total Nitrogen uM	Total Phosphor ug/l	Transparency meters
Sept 18, '13	0.5	7.0	11.0	2.7	1.7	0.2	22.0	4.6	3.2
	3.0	7.0	10.8	2.8	1.1	1.0	19.8	30.4	
	9.0	6.9	11.1	4.9	2.0	0.3	19.1	7.7	
	25.3	6.7	29.2	0.2	4.4	11.7	100.9	362.1	
15-Aug-12	0.5	7.0	9.9	1.4	0.3	0.5	19.1	14.9	4.7
	3.0	7.2	10.0	1.5	0.1	0.5	20.7	15.8	
	9.0	6.5	12.0	7.4	5.0	0.8	21.5	25.4	
	27.0	6.6	25.0	1.1	6.3	9.5	101.5	294.3	
8/17/11	0.5	7.0	9.7	8.3	1.9	0.1	23.6	2.5	4.1
	3.0	6.91	9.8	5.8	0.4	0.5	25.7	15.2	
	9.0	6.44	12.9	4.1	2.3	0.4	20.6	13.6	
	29.0	6.67	28.5	1.1	9.2	13.2	127.1	408.9	
16-Aug-10	0.5	7.2	11.2	0.6	0.7	0.3	26.1	9	3.7
	3.0	7.1	11.2	0.4	0.7	0.4	24.2	13	
	9.0	6.5	12.4	5.0	5.3	0.5	25.4	16	
	29.0	6.6	22.0	8.8	3.4	7.1	57.1	221	
AUG. 2007 CREATED 8/15/07	0.5	6.6	12.4	2.2	0.7	0.4	22.7	12.4	3.0
	3.0	6.6	12.4	1.7	0.3	0.8	23.6	25	
	9.0	6.2	13.7	8.1	4.7	0.8	22.7	25	
	29.0	6.3	23.7	3.4	2.8	3.3	76.3	102	
Aug. 2006 created Aug 2007	0.5	7.3	25.2	6.3	1.1	0.4	38.9	12.4	2.2
	3.0	6.9	24.2	5.9	1.3	0.6	27.5	18.6	
	9.0	6.4	26.4	5.0	3.4	0.4	21.5	12.4	
	28.0	6.6	59.5	2.9	3.5	6.4	127.1	198.2	
18-Aug-05	0.5			5.4				9.3	3.4
19-Aug-04	0.5			5.0				9.0	3.8
1-Sep-03	0.5			3.8				9.3	4.0
Aug, 2002	0.5			5.2				35.9	2.4

Wakeby 2 B SNAPSHOT

Test Date	Depth (M)	pH	Alk (mg CaCO3/L)	Chlor. ug/l	Phaeo ug/L	Total Phosphor uM	Total Nitrogen uM	Total Phosphor ug/l	Transparency meters
Sept 18 '13	0.5	7.1	12.0	8.3	2.6	0.7	25.2	22.9	1.1
	3.0	7.1	11.9	6.9	2.4	0.8	22.9	23.8	
	9.0	6.8	12.0	5.8	2.7	0.7	23.3	22.9	
	14.0	6.7	39.3	1.4	7.7	11.8	123.5	365.5	
15-Aug-12	0.5	7.2	10.2	1.9	0.2	0.7	22.1	22.9	4.1
	3.0	7.3	9.9	2.3	0.4	0.6	21.2	18.0	
	9.0	6.7	19.3	38.5	<0.05	3.0	39.5	92.9	
	17.5	6.6	31.3	4.3	12.8	6.7	91.4	208.8	
8/17/11	0.5	7.0	10.1	7.1	0.7	0.3	22.8	9.9	3.3
8/17/11	3.0	7.0	10.1	5.5	1.7	0.5	31.1	16.7	
8/17/11	9.0	6.6	26.6	12.5	18.2	2.8	45.9	85.8	
8/17/11	19.0	6.8	33.7	6.1	13.2	13.6	136.7	421.9	
8/16/10	0.5	7.4	11.8	0.6	1.1	0.6	25.9	17.3	2.7
8/16/10	3.0	7.3	11.6	0.7	1.0	0.5	28.9	15.5	
8/16/10	9.0	6.7	34.9	3.0	1.0	9.5	116.6	294.6	
8/16/10	19.0	6.6	22.4	10.2	0.0	4.3	45.9	133.8	
8/20/09	0.5								4.1
8/18/2008	0.5								4.1
8/20/2007	0.5								3.2
AUG. 2007 CREATED 8/13/07	0.5	6.5	12.6	4.4	1.1	0.5	23.1	15.5	3.2
	3.0	6.4	13.7	7.9	3.5	1.4	24.8	43.4	
	9.0	6.3	34.7	2.8	18.9	6.1	122.3	188.9	
	19.0	6.4	38.2	1.4	39.8	2.4	98.1	74.3	
Aug 30, 2006	0.5	6.9	25.0	3.4	2.2	0.5	31.0	15.5	2.8

Moody 2 SNAPSHOT

Test Date	Depth (M)	pH	Alk (mg CaCO3/	Chlor. ug/l	Phaeo ug/L	Total Phosphor uM	Total Nitrogen uM	Total Phosphor ug/l	Transparency meters
Sept 19 '13	0.1	6.1	3.6	0.9	1.8	0.9	16.4	26.9	3.7
	3.0	6.2	3.7	0.7	0.8	0.8	14.7	23.5	
18-Sep-12	0.5	5.9	3.3	1.8	2.0	0.5	53.8	14.6	2.8
	3.0	5.8	2.9	1.3	1.8	0.5	20.5	14.2	
8/22/11	0.5	6.4	3.2	1.1	1.9	0.1	26.4	1.5	3.7
	3.7	6.4	3.0	1.8	0.9	0.0	24.3	1.2	
Sept 2,2010	0.5	6.7	3.8			0.1	17.2	4.3	3.7
	2.7	6.7	3.9			0.2	20.3	6.8	
8/27/2007	0.5	5.9	1.3	0.6	0.8	0.2	19.1	6.9	3.7
	2.7	5.8	1.2	1.0	0.8	0.2	19.7	6.2	
Aug 16, 2006	0.5	5.9	3.0	1.2	0.4	0.4	23.0	12.4	3.65
	2.5	5.8	2.8	1.0	0.7	0.4	21.9	12.4	
Aug-05	0.5			2.1				9.6	2.4
Aug-04	0.5			2.3				11.2	1.7
Aug-03	0.5			8.9				27.9	0.9
Aug-02	0.5			7.6				24.8	0.9
Aug-01	0.5			6.4				17.3	1.7