

Orleans Ponds

Database, Prioritization, Data Gaps, Management

Town of Orleans

Freshwater Ponds Management Work Group

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Orleans Freshwater Ponds



2016 - 2017 Project Tasks

- Collect and organize all available pond and lake water quality data (PALS, Seashore, DEP, DFW, etc.)
- Compare data to regional and Massachusetts regulatory and ecological standards (impaired or not)
- Analyze data for short and long-term temporal trends
- Help town to define criteria for management prioritization
- Identify data gaps for preparation of management plans



PRIORITIZATION

- Regulatory
- Public Use
- Ecological
- Data Gaps

PALS #	POND	Regulatory					
		Great Pond	Integrated List Status	Herring Run	Cyano closing	# of Cyano closings	ACEC
OR-167	Baker	Y	4				
OR-136	Boland	N	not listed				
OR-171	Chigger	N	not listed				
	Critchetts	N	not listed				
OR-153	Crystal	Y	5				Pleasant Bay
OR-262	Deep	N	not listed				
OR-174	Gould	N	not listed				Pleasant Bay
OR-113	Icehouse	N	not listed				
OR-147	Kettle	N	not listed				
OR-256	Meadow Bog	N	not listed				
OR-176	Pilgrim	Y	3	Y			
OR-123	Reubens	N	not listed				
OR-249	Sarahs	N	not listed				Pleasant Bay
OR-253	Shoal	N	not listed				
OR-247	Twinings	N	not listed				
OR-142	Uncle Harvey	N	not listed		Y	2	
OR-228	Uncle Israels	N	not listed				
OR-264	Uncle Seths	N	not listed				Pleasant Bay
OR-203	Wash	N	not listed				



PRIORITIZATION

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PALS #	POND	Public Use		
		Public Swimming Beach	Boat Ramp	# of Houses
OR-167	Baker	Y	N	
OR-136	Boland			
OR-171	Chigger			
	Critchetts			
OR-153	Crystal	Y	Y	
OR-262	Deep			
OR-174	Gould			
OR-113	Icehouse			
OR-147	Kettle			
OR-256	Meadow Bog			
OR-176	Pilgrim	Y	N	
OR-123	Reubens			
OR-249	Sarahs			
OR-253	Shoal			
OR-247	Twinings			
OR-142	Uncle Harvey			
OR-228	Uncle Israels			
OR-264	Uncle Seths			
OR-203	Wash			



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PALS #	POND	Ecological					
		Depth	% Secchi	DO D	TP S	TP D	CHL S
OR-167	Baker	17.73	44%	2.50	5	12	1
OR-136	Boland	5.51	26%	0.26	30	195	7
OR-171	Chigger						
	Critchetts						
OR-153	Crystal	13.63	37%	0.57	7	29	2
OR-262	Deep	5.51	31%	1.67	12	19	8
OR-174	Gould	3.88	63%	0.83	13	25	5
OR-113	Icehouse	6.07	69%	0.86	10	17	6
OR-147	Kettle	1.59	19%	1.96	171		11
OR-256	Meadow Bog	1.52	61%	7.43	61	77	40
OR-176	Pilgrim	8.93	38%	0.86	12	71	7
OR-123	Reubens	0.95	31%	6.18	225		111
OR-249	Sarabs	5.30	44%	1.38	20	57	19
OR-253	Shoal	1.71	36%	2.18	29	39	17
OR-247	Twinings	3.56	72%	3.26	10	16	3
OR-142	Uncle Harvey	5.85	53%	1.56	13	18	4
OR-228	Uncle Israels	0.63	78%	4.74	103		31
OR-264	Uncle Seths	3.05	43%	1.15	27	39	10
OR-203	Wash	2.56	55%	1.30	20	43	14

Data Gaps										
PALS #	POND	Years of WQ Data	Bathymetry	Sediments	Stream	Shellfish/ Plant Survey	Stormwater	Watershed Delineation	Watershed Analysis	other
OR-167	Baker		Y	N	N	N	N	Pleasant Bay MEP	2007 Orleans Ponds Rpt	
OR-136	Boland		Y	N	N	N	Volunteer sampling	Nauset Marsh MEP	2007 Orleans Ponds Rpt	
OR-171	Chigger			N		N	N			
	Critchetts			N		N	N			
OR-153	Crystal		Y	N	1 Out to Lonnies?	N	N	Pleasant Bay MEP	2007 Orleans Ponds Rpt	
OR-262	Deep		Y	N	connection to Shoal	N	N	Pleasant Bay MEP		
OR-174	Gould		Y	N	2 basins? Connection to Areys?	N	N			adjacent abandoned bog to S
OR-113	Icehouse		Y	N		N	N			connections to nearby ponds/wetlands?
OR-147	Kettle			N		N	N			adjacent abandoned
OR-256	Meadow Bog		Y	N	1 In from Sarabs/ 1 Out to Quanset?	N	N			brackish??
OR-176	Pilgrim		Y	N	1 Out to Lonnies; MEP 2002-2003 (TP included??)	N	N	Pleasant Bay MEP	2007 Orleans Ponds Rpt	bog to S
OR-123	Reubens			N		N	N			connection to Icehouse?
OR-249	Sarabs		Y	N	1 Out to Meadow Bog?/1 Out to wetlands to S?	N	N	Pleasant Bay MEP		
OR-253	Shoal		Y	N	1 In from OR-238; connection to Deep?	N	N	Pleasant Bay MEP		
OR-247	Twinings		Y	N	connection to Shoal?	N	N	Pleasant Bay MEP		
OR-142	Uncle Harvey		Y	N		N	off Harveys Ln?	Pleasant Bay MEP		
OR-228	Uncle Israels		Y	N		N	N			connections to nearby ponds (OR-230?)/ wetlands?
OR-264	Uncle Seths		Y	N	N	N	N	Pleasant Bay MEP		
OR-203	Wash			N	adjacent wetland to S?	N	N			



Orleans Freshwater Ponds



PRIORITIZATION

- Regulatory Public Discussion of results
- Public Use Develop Prioritization List for Management/Data Gaps
- Ecological
- Data Gaps




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QAPP (Quality Assurance Project Plan)

- Typically done for government funded projects; ensures state acceptance of data for their purposes
- Description of sampling and laboratory procedures
- Details QA/QC for data
- Responsible parties for all aspects of sampling, volunteer training, data handling/review
- Reviewed and approved by MassDEP and/or USEPA

- 2. PROGRAM ORGANIZATIONAL CHART: PROJECT PARTNERS AND RESPONSIBILITIES
- 3. PROJECT PARTNERS:
 - 3.1 TOWN OF PLYMOUTH
 - 3.2 COASTAL SYSTEMS PROGRAM, SMAST, UMASS DARTMOUTH
 - 3.3 POND ASSOCIATIONS AND OTHER SAMPLING PARTNERS
- 4. PONDS TO BE SAMPLED
- 5. PROGRAM DESCRIPTION AND GOALS
 - 5.1 WATER QUALITY MONITORING PROTOCOLS FOR THE PONDS
 - 5.2 VOLUNTEER MONITORING
 - 5.3 EDUCATION, OUTREACH AND MANAGEMENT
 - 5.4 SCHEDULES
- 6. WATER QUALITY TEST PARAMETERS
- 7. DATA QUALITY - QUALITY ASSURANCE
 - 7.1 DATA REPRESENTATIVENESS
 - 7.2 PRECISION AND ACCURACY
 - 7.3 COMPARABILITY OF PROJECT DATA
- 8. SAMPLING PROCEDURES
- 9. TRAINING OF VOLUNTEERS
- 10. SAFETY CONSIDERATIONS
- 11. DOCUMENTATION AND RECORDS
- APPENDICES
 - A – PLYMOUTH PALS WATER SAMPLING PROCEDURES
 - B – PLYMOUTH PALS WATER SAMPLING PROCEDURES: FIELD CHECKLIST
 - C – PLYMOUTH PALS WATER SAMPLING PROCEDURES: FIELD INSTRUCTIONS
 - D –FIELD MONITORING/SAMPLING CHAIN-OF-CUSTODY SHEET
 - E – CSP/SMAST ANALYTICAL FACILITY SOPS FOR PLYMOUTH PALS (EXCERPTED FROM CSP/SMAST ANALYTICAL FACILITY LABORATORY QUALITY ASSURANCE PLAN)
 - F – CSP/SMAST ANALYTICAL FACILITY – 2014 QA SUMMARY RESULTS




Coastal Systems Program

University of Massachusetts

Dartmouth

Science for Management

Questions & Discussion



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