

Lake Waukewan/Winona Watershed Management Plan: Action Plan Update
WATER QUALITY MONITORING

ACTION ITEM	DESCRIPTION	RESPONSIBLE PARTY	FUNDING SOURCE	SCHEDULE	ESTIMATED COST	STATUS (As of June 2016)
LAKES						
Expand Lake Monitoring Program	1) Extend lake monitoring season April through November (or year-round) to capture spring and fall turnover and timing of potential algal blooms.	Lake Associations, Volunteers, NHDES VLAP	Lake Associations, NHDES	2015-2025	\$250	Current monitoring season generally runs July through September, with one sample collected at each site per month.
	2) Recruit and train additional VLAP volunteers.	Lake Associations, Volunteers, NHDES VLAP	Lake and Homeowner Associations, Volunteers, NHDES VLAP	2015-2025	N/A	
	3) Increase frequency of Secchi Disk Transparency and DO/temperature profile readings. More data on DO profiles could help determine the extent of DO depletion and how it relates to sediment phosphorus release.	Lake Associations, Volunteers, NHDES VLAP	Lake and Homeowner Associations, Volunteers, NHDES VLAP	2015-2025	N/A	
Weed Watch & Lake Host Programs	1) Continue Weed Watcher program; recruit new volunteers, conduct routine surveys of dam, tributaries, and shallows during summer months.	Lake Associations, Homeowner Associations, Volunteers, NHDES	Lake and Homeowner Assns., NHDES, Volunteers	Ongoing	N/A	
	2) Support State legislation that increases funds for aquatic invasive plant (e.g. milfoil) eradication.	Lake Associations, Volunteers, NHDES, NH LAKES	Lake Assns., Homeowner Assns., Residents, Towns	2015-2025	N/A	
	3) Increase the number of volunteer inspectors for the Lake Host program at Lake Waukewan. Consider adding Lake Winona to program.	Lake Associations, Volunteers, NH LAKES	Lake Associations, Towns, Volunteers	2015-2025	N/A	
Cyanobacteria Monitoring	1) Work with UNH and NHDES to implement a formal cyanobacteria monitoring program for the lakes.	Lake Associations, UNH, NHDES	Lake Assns, Towns, NHDES, UNH	2015-2025	TBD	
	2) Host a cyanobacteria workshop in coordination with UNH every few years.	Lake Assns, Towns, UNH, NHDES	UNH, NHDES, Donations	2015-2016	\$250	Last one held in Meredith in 2011.
Sediment Cores	Work with PSU to examine sediment cores for phosphorus, copper and other parameters; use students to assist with studies.	Lake Assns, Towns, NHDES, PSU	NHDES, PSU	2015-2020	N/A	
Boat Traffic Study	1) Consider collecting data (TP, Chl-a, Color, Turbidity, and SDT) before, during, and after busy holiday weekends to examine effects of boat traffic. Consider adding boat counts, time lapse photography, and the use of a submerged sonde to quantify the effects of boat traffic.	Lake Assns, NHDES, Consultant	Lake Assns, Donations	2015-2020	\$5,000	
	2) Implement a monitoring program to assess concentrations of gasoline constituents including MtBE in Lake Waukewan from May to September	Meredith Water Dept., UNH, NHDES	Meredith Water Dept.	Completed		Monitoring program began in 2005. 2007 - Monthly reports from June through Oct.; no issues found, 2008- no issues found. No VOC testing has been done since 2008. MtBE fuel no longer sold in NH
	3) Further research is needed to assess whether or not the drinking water intake in Lake Waukewan should have an isolation zone, demarcated by buoys, in which motorized activity should not occur.	Lake Assns, Meredith, NHDES, NH Marine Patrol	LWA	Ongoing	TBD	

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Shoreline Septic Systems	Develop a water quality monitoring program that identifies failing septic systems along the shorelines.	Town Water & Sewer Department, Meredith	NHDES, Other Grants, Donations	Completed		Town of Meredith did a one-time water testing at 9 locations on Lake Waukewan in order to detect failing septic systems. The results were inconclusive
Data Access	Continue to provide water quality data on the Winnepesaukee Gateway website.	LWA, NHDES	Donations, Grants	Ongoing	N/A	LWA uploads water quality data on an annual basis to the Winnepesaukee Gateway
TRIBUTARIES						
Expand Tributary Monitoring Program	1) Conduct intensive tributary monitoring at new and existing stations in the watershed to better understand the effects of nutrient and sediment loading to the lake. Include both wet and dry weather sampling events and collect flow data to help further quantify nutrient loading from individual tributaries.	Lake Assns, WWLSAC, PSU, Towns	NHDES, Other Grants, Donations, Volunteers	Ongoing	\$1,000/yr	
Year-Round Sampling	Consider collecting year-round and/or continuous monitoring data in several of the streams to further characterize loading and flow during different times of the year.	Lake Assns, WWLSAC, NHDES, PSU, Towns	NHDES, Other Grants, Donations, Volunteers	2015-2025	\$500/yr	
Bracket Sampling	Conduct bracket sampling upstream of sampling locations to identify potential sources of increased loading, particularly for subwatersheds with the highest TP loading (e.g. Winona East Inlet, Snake River, and Reservoir Brook).	Lake Assns, WWLSAC, NHDES, PSU, Towns	NHDES, Other Grants, Donations, Volunteers	2015-2025	\$500	
Storm Events	Train volunteers to monitor during storm events at road crossings and culverts near the shorelines. Use information to identify problem areas and recommend solutions.	Lake Assns, WWLSAC, NHDES, PSU, Towns	NHDES, Other Grants, Donations, Volunteers	2015-2025	\$500	
Mapping Update	Develop a detailed drainage network map of persistent and intermittent streams and tributaries that can be used to guide water quality monitoring, road maintenance, stormwater management, development, review, and emergency response planning.	LRPC, Towns, NHDES, PSU	NHDES, Other Grants, Donations, Volunteers	Ongoing	N/A	
Continuous Loggers	Add continuous loggers for stage/flow, temperature, dissolved oxygen, conductivity, turbidity, etc. at key sampling locations throughout the watershed.	Lake Assns, PSU, NHDES, Towns	NHDES, Other Grants, Donations, Volunteers	2015-2025	\$3,000/yr	