

## E.3.

## Lake Waukewan Top 20 BMP Sites

Site	Location	Town	Land Use	Issues	Recommendations	Impact rating	Sediment (t/yr)	Phosphorus (kg/yr)	BMP Cost Estimate	BMP Annual Maintenance Cost Estimate	10-yr Cost	10-yr Cost for TP Removed (\$/kg)	Cost	Technical Level
1-09 C	Waukewan St. (W of site 1-09 B)	Meredith	Town Road	Bare soil- adjacent parking lot, winter sand	Remove winter sand early spring, reseed bare soil and thinning grass on adjacent property	Low	15.8	6.1	\$575	\$75	\$1,325	\$218	Low	Low
2-07	100 Winona Shores Road	Meredith	Town Road	Slight to moderate ditch erosion (will get worse with big storms), slight road shoulder erosion, lots of winter sand	Vegetate ditch or armor with stone, vegetate shoulder	Low	13.8	6.3	\$1,150	\$50	\$1,650	\$264	Medium	Low
1-21	Waukewan ditches from Rt. 104 to bottom of hill at Wall Street	Meredith	Town Road	Moderate to severe ditch erosion, moderate road shoulder erosion, winter sand	Vegetate ditch, reshape ditch, install sediment pools, vegetation mats or riprap	High	12.6	4.9	\$2,000	\$250	\$4,500	\$927	Medium	Medium
2-08	Picket fence & Winona (across from cemetery)	New Hampton	State and Private Road Intersection	Severe ditch erosion at one point along road, ditch turnout is plugged- will take out road at some point, moderate surface erosion, bare soil	Change ditch cross-section & remove plug and/or stabilize new ditch, install detention pond?	Medium	17.9	8.1	\$3,625	\$250	\$6,125	\$754	High	High
1-08 A	Waukewan Swimming Bath House Parking Lot	Meredith	Municipal/Public	Moderate surface erosion, slight road shoulder erosion, bare soil in parking area, winter sand-snow dump area with lots of snow and winter sand adjacent to catchbasin that outlets directly to lake.	Add new surface material to parking area (crushed stone?) to prevent movement of sand, vegetate shoulder, Re-seed grassed areas, armor catchbasin outlet at beach and create plunge pool.	Medium	10.5	4.0	\$1,260	\$300	\$4,260	\$1,055	Medium	Medium
2-03 B	Road ditch near 28 Forest Hill Rd	Meredith	Town Road	Moderate surface erosion, moderate ditch erosion, moderate road shoulder erosion, bare soil, winter sand	Armor ditch with stone, install check dams, vegetate shoulder	Medium	8.9	4.0	\$2,400	\$500	\$7,400	\$1,833	High	High
2-05	Other side of 36 Forest Hill	Meredith	Town Road	Moderate surface erosion, moderate ditch erosion, moderate road shoulder erosion, bare soil, winter sand	Armor ditch with stone, install check dams, add another cross culvert and divert to level spreader	Medium	8	3.6	\$4,100	\$300	\$7,100	\$1,957	High	High
2-02	Robin Way	Meredith	Town unpaved road	Moderate surface erosion, moderate ditch erosion, moderate road shoulder erosion, bare soil	Armor ditch with stone, vegetate shoulder, remove railroad ties and direct to a vegetated swale	Medium	5.2	2.4	\$3,600	\$150	\$5,100	\$2,162	Medium	Medium
1-06	Waukewan St.	Meredith	Town Road	Slight surface erosion, slight road shoulder erosion, bare soil, shoreline erosion from ice action, road sediment into catch basin and ditch along railroad tracks that outfalls directly to the lake	Vegetate shoulder, remove winter sand, redirect water from culvert away from lake and install a detention basin.	Low	6.3	2.4	\$3,000	\$250	\$5,500	\$2,245	High	High
1-04	84 Red Gate Lane	Meredith	Town Road	Severe surface erosion, severe ditch erosion, severe road shoulder erosion, bare soil, lots of winter sand	Armor inlet/outlet, install ditch and armor with stone, install turnouts, vegetate shoulder, Pave road?	High	1.6	0.7	\$3,150	\$250	\$5,650	\$7,785	High	High
2-06	Indian Trail Rd & Chapman Point	Meredith/New Hampton T/L	Town/Private unpaved road	General gravel road maintenance, poor crown, bare soil, moderate surface erosion, winter sand, wrong aggregate mix?	Build-up road/add new surface material, reshape crown, vegetate shoulder	Medium	18	8.2	\$8,300	\$2,500	\$33,300	\$4,079	High	High

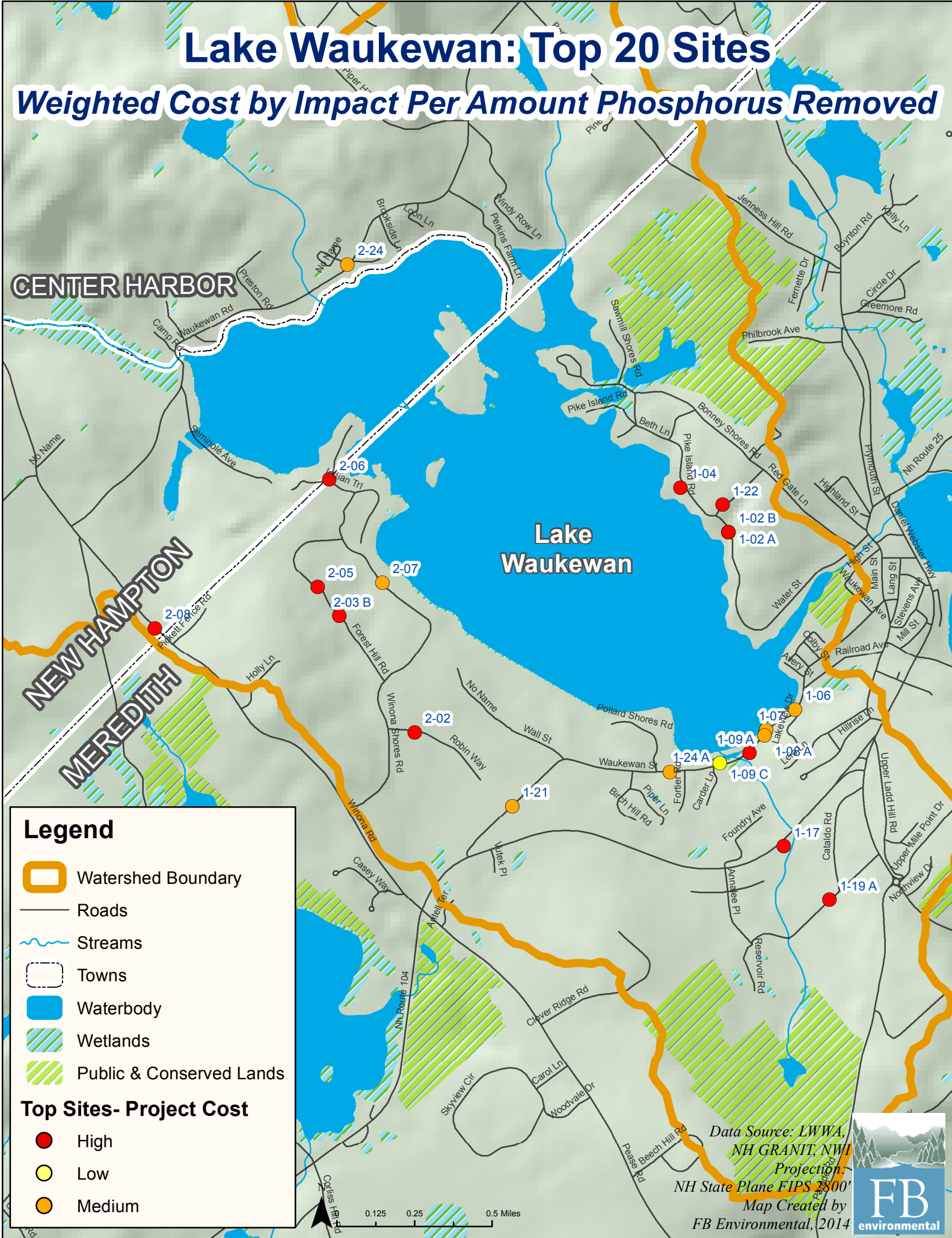
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2-24	Mayo Farms Cottages + Campground	Center Harbor	Commercial	Slight road shoulder erosion, winter sand, undercut streambank with erosion and lack of vegetation, fields mowed to streambank	Vegetate shoulder, establish buffer	High	1.2	0.5	\$5,000	\$100	\$6,000	\$11,023	High	Medium
1-02 A	Next to 110 Water St-culvert/crossing upstream	Meredith	Town Road	Moderate surface erosion, moderate road shoulder erosion, bare soil, streambank erosion, winter sand. Stormwater from Rd has created gullies toward crossing/stream, small stream flows to Waukewan- lots of inputs from winter sand and road shoulder	Vegetate shoulder, reshape ditch and armor with stone, install turnouts away from stream into woods, reseed bare soil & thinning grass	High	0.7	0.3	\$2,075	\$250	\$4,575	\$14,409	Medium	High
1-02 B	Next to 110 Water St. (downstream side)	Meredith	Town Road	Moderate surface erosion, moderate road shoulder erosion, lots of winter sand, streambank erosion	Vegetate ditch, reshape ditch and armor with stone, install turnouts away from stream, reseed bare soil & thinning grass	High	0.7	0.3	\$1,475	\$250	\$3,975	\$14,606	Medium	High
1-22	Red Gate Road	Meredith	Town Road	Moderate surface erosion, undersized ditches on either side of road, moderate road shoulder erosion, winter sand, gravel road that slopes towards the lake	install turnouts, install ditch, buildup road with new surface material.	High	2.5	1.1	\$13,720	\$500	\$18,720	\$16,508	High	High
1-17	Rt. 104 stream crossing, Reservoir Brook, upstream	Meredith	State Road	slight surface erosion, unstable inlet/outlet (top erosion headwall), moderate ditch erosion	armor inlet/outlet, vegetate ditch, armor ditch with stone, reshape ditch	Low	0.4	0.2	\$1,300	\$100	\$1,000	\$5,512	Medium	Medium
1-07	Waukewan St. next to beach area (south end)	Meredith	Town Road	Moderate surface erosion, shoreline erosion	Install runoff diverter (waterbar), or create infiltration and sediment capture with stone, add to buffer, reseed bare soil and thinning grass	Medium	0.6	0.2	\$1,100	\$100	\$2,100	\$9,259	Medium	Low
1-09 A	Stream Crossing West of Beach area, Waukewan St.	Meredith	Town Road	Unstable inlet, severe ditch erosion, moderate to severe road shoulder erosion, bare soil, winter sand, severe undercut streambank with lack of vegetation and erosion	Armor inlet of large road crossing, stabilize road shoulder/ditch to prevent undercutting, vegetate shoulder on upstream side, and add to buffer on downstream side of crossing.	Medium	1.2	0.5	\$3,280	\$200	\$5,280	\$9,700	High	Medium
1-19 A	Reservoir St between 20 and 22	Meredith	Town Road	Moderate to severe surface erosion, unstable outlet, clogged culvert, slight to moderate road shoulder erosion, bare soil, winter sand	Armor outlet, vegetate ditch, reshape ditch, vegetate shoulder, work with owner to clean/vegetate bank	High	0.4	0.2	\$2,550	\$100	\$3,550	\$19,566	Medium	Medium
1-24 A	Waukewan Street next to 107 (stream crossing)	Meredith	Town Road	Moderate surface erosion, unstable inlet/outlet, moderate road shoulder erosion	Armor inlet/outlet, vegetate shoulder around streambank	Medium	0.3	0.1	\$1,000	\$50	\$1,500	\$11,023	Medium	Medium
							<b>Total</b>	<b>54.2</b>			<b>\$128,610</b>	<b>\$2,371</b>		

# Lake Waukewan: Top 20 Sites

**Weighted Cost by Impact Per Amount Phosphorus Removed**



## Legend

- Watershed Boundary
- Roads
- Streams
- Towns
- Waterbody
- Wetlands
- Public & Conserved Lands

## Top Sites- Project Cost

- High
- Low
- Medium

0.125 0.25 0.5 Miles

Data Source: LWWA,  
NH GRANIT, NHI  
Projection:  
NH State Plane FIPS 2800'  
Map Created by  
FB Environmental, 2014

