

2019 Field Work at Van Vliet Lake Summary of Findings

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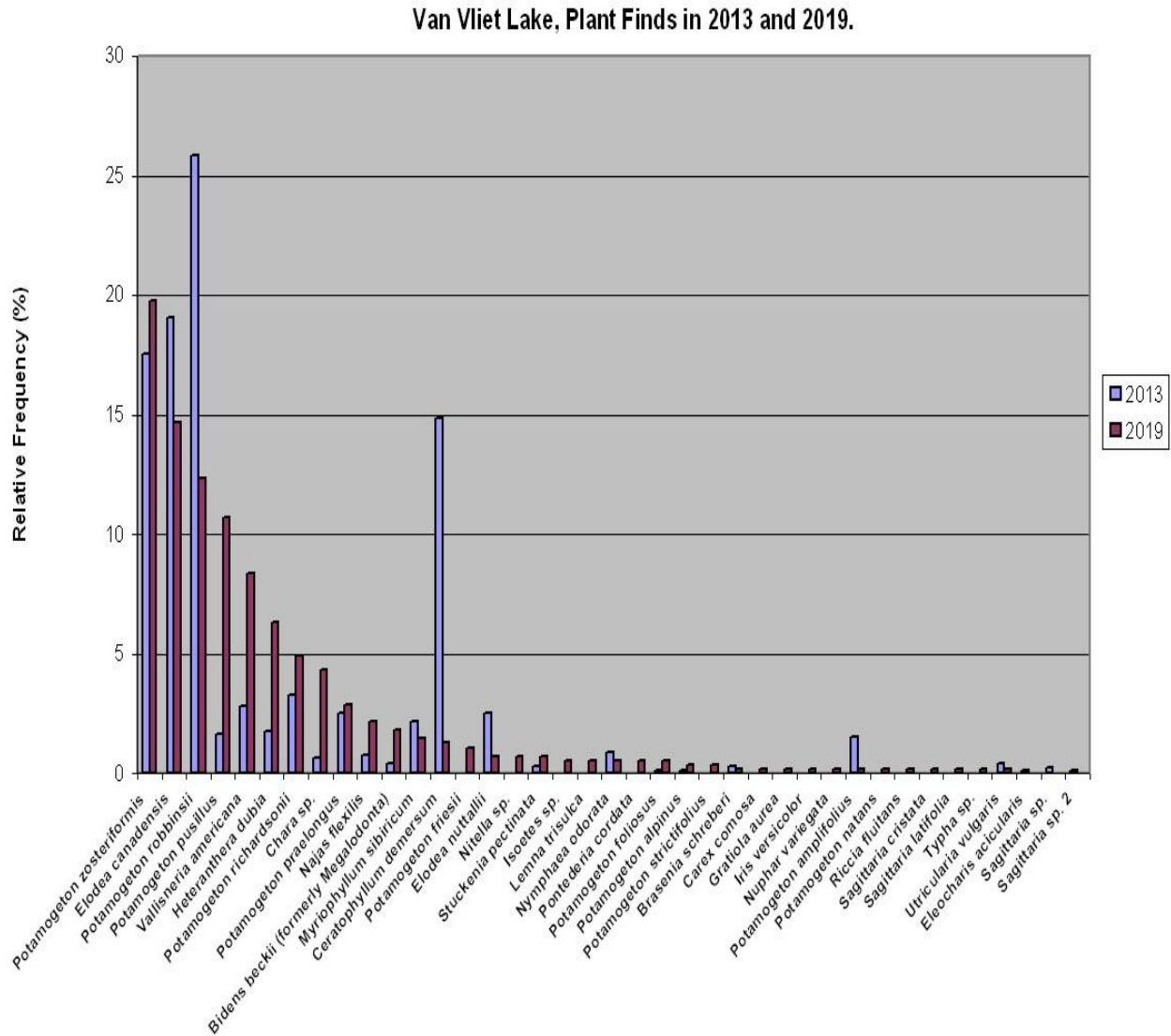
Van Vliet Lake 2019 Aquatic Invasive Species Survey

- Rusty crayfish were previously documented in the Van Vliet Lake.
- Aquatic Forget-me-not (*Myosotis scorpioides*) was documented in the 2019 AIS survey at Van Vliet Lake by White Water Associates. Aquatic Forget-me-not can crowd out native plant species and is able to form large monocultures. This plant is restricted in Wisconsin.

Van Vliet Lake 2019 Point-Intercept Aquatic Plant Survey

Comparison of summary statistics for 2008, 2013, and 2019 aquatic plant surveys in Van Vliet Lake.				
Summary Statistic	2008	2013	2019	Comments
Total number of sites on grid	432	432	432	This is the number of points on the sampling grid (each located about 30 yards apart). We sampled each point with a rake to collect & identify any aquatic plants found.
Total number of sites with vegetation		299	216	These are the number of sites at which we found rooted aquatic plants (all native plants)
Maximum depth of plants (ft.)	18.0	16.0	13.0	Plants were found in the lake to this depth. No rooted plants existed in depths greater than this value.
Total number of sites shallower than maximum depth of plants		376	284	This was the total number of sites where the depth was shallow enough for there to be rooted aquatic plants.
Frequency of occurrence at sites shallower than maximum depth of plants	88.6	79.5	76.1	This is the percentage of those sites where it was shallow enough for there to be plants that actually had aquatic plants present.
Simpson Diversity Index	0.85	0.84	0.89	A measure of diversity of the aquatic plant community. Van Vliet has a highly diverse plant community and one that has stayed diverse over the 11 year period of study.
Average number of species per site (vegetated sites only)	3.1	3.1	2.5	A fairly high number reflecting the diversity of the plants in the lake.
Species Richness at point-intercept sample points	23	24	36	This is the number of species documented in the lake by sampling the grid points.
Floristic Quality Index (FQI)	30.2	28.8	35.7	This index reflects the floristic quality of the plant community. Van Vliet numbers are high indicating a high quality plant community. Lower numbers would reflect a plant community comprised of species that prosper in more disturbed habitats.

The figure below shows the distribution (relative frequency) of plants in the plant surveys conducted in 2013 and 2019. Both years show a good ecological distribution (some plants are relatively common in the lake and many plants are not encountered very often). Although there were some changes between the years, both years reflect a healthy situation.



Van Vliet Lake 2019 Shoreland and Shallow Water Survey

The following table page summarizes observations made during the shoreland and shallow water habitat assessment on Van Vliet Lake in 2019.

Summary of shoreland and shallow water habitat for Van Vliet Lake.		
Date of Survey: May 23 and June 18, 2019	Miles of shoreline: 5.42	
Number of ownership parcels: 78	Mean parcel frontage feet: 367	
Riparian Buffer Zone	# of parcels	% of parcels
Impervious surfaces	63	81
Manicured lawn	17	22
Agriculture	0	0
Other (duff, soil, mulch)	49	63
Human structures (buildings, boats on shore, fire pit, other)	47	60
Runoff concerns on the parcel (e.g., point source; channelized water flow; stair, trail, or road to lake; lawn or soil sloping to lake; bare soil; sand/silt deposits)	63	81
Bank Zone	# of parcels	% of parcels
Concerns in the bank zone (e.g., vertical sea wall, rip rap, other erosion control structures, artificial beach, active erosion)	6	8
Littoral Zone	# of parcels	% of parcels
Human structures in littoral zone (e.g., piers, boat lifts, swim rafts, water trampolines, boat houses over water, marinas, other)	59	76
Emergent and/or floating aquatic plants	43	55
Evidence of aquatic plant removal	0	0
Large Wood Habitat		
Total Number of large wood pieces	275	
Number of large wood pieces per mile of shoreline	50.7	