

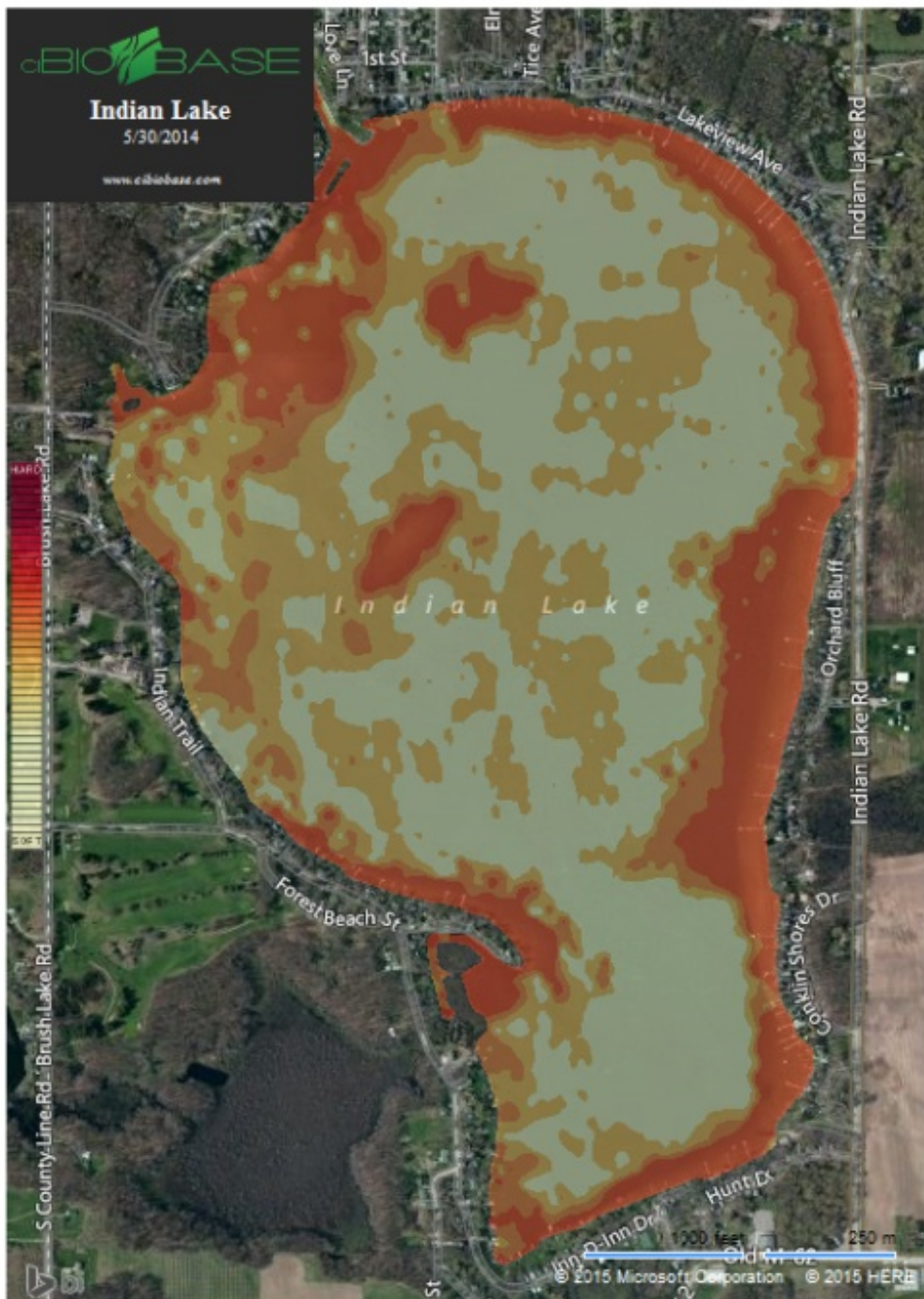
Indian Lake, Cass County, Michigan

 restorativelakesciences.com/success-stories/indian-lake

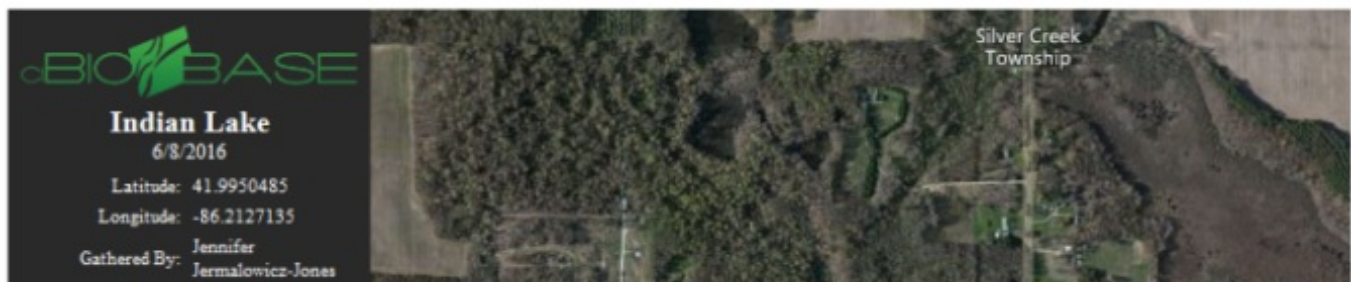
Indian Lake is located in Sections 30 and 31 of Silver Creek Township (T.5S, R.16W) in Cass County, Michigan. The lake surface area is approximately 499 acres (Michigan Department of Natural Resources, 2001) and was recently re-classified as mesotrophic by the Michigan Department of Natural Resources (Report No. 2015-199). This reclassification is likely due to the decline in primary production from a whole-lake laminar flow aeration system. Indian Lake has two deep basins (North and South) and a moderate-sized littoral zone. In 2014, Indian Lake had a maximum depth of 30.0 feet but by 2016, RLS recorded a maximum depth of 31 feet in the deepest basin through depth contour mapping. The lake bottom consists primarily of sandy substrate, along with marl and organic matter deposits. Indian Lake has a lake perimeter of approximately 4.65 miles.

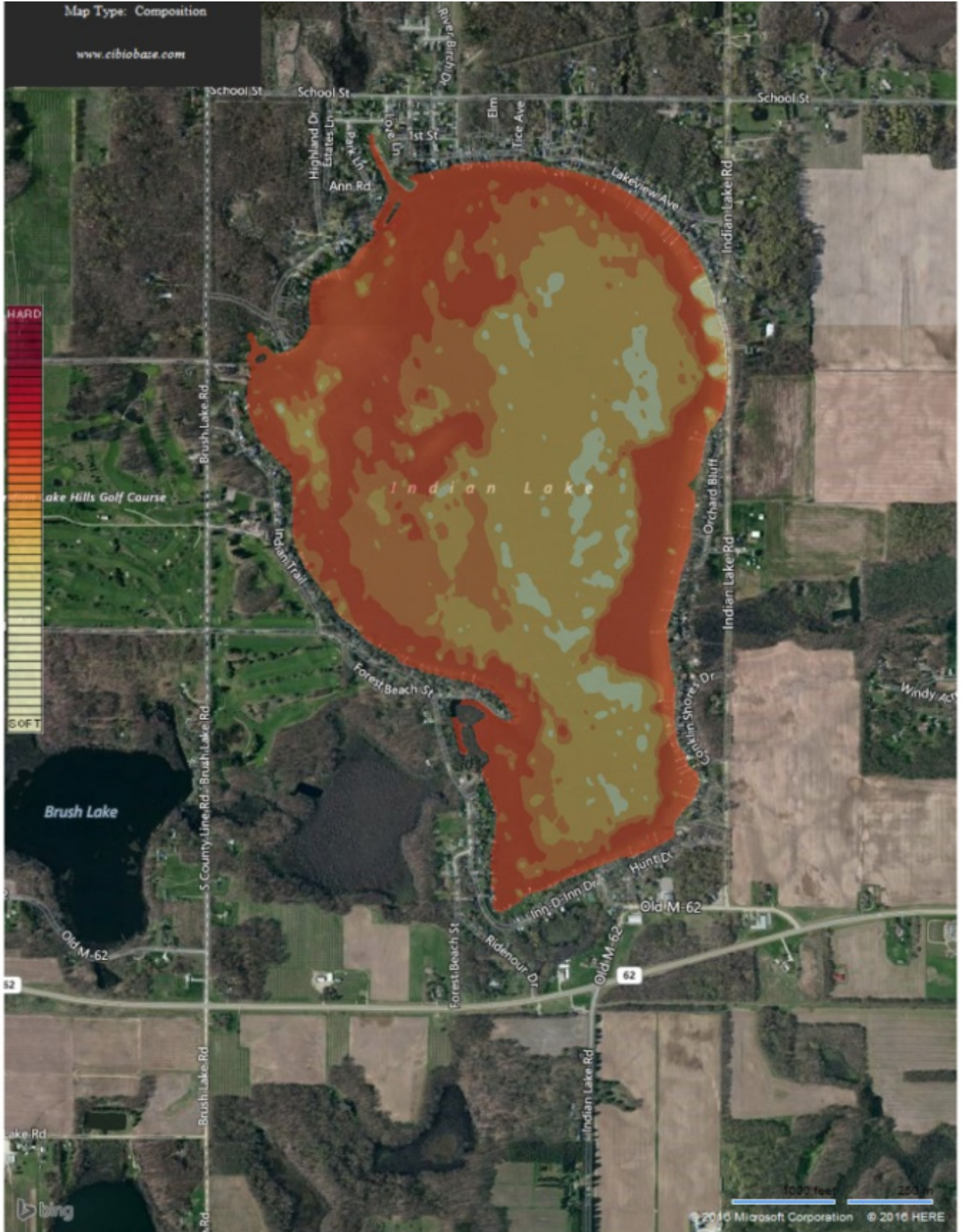
In previous years, the lake was dominated by aggressive hybrid watermilfoil growth and nuisance cyanobacteria algal blooms. In 2015 and again in 2016, the only watermilfoil noted was present in the canals at the south and northwest regions of the lake. The native pondweed community has increased in abundance which is favorable for the lake fishery. The overall water quality of the lake continues to improve through increased water clarity, reduced nutrients in the water column and sediment, reduction of soft bottom throughout the lake basin, and reduction of dense aquatic vegetation biovolume. The barrier at the inlet of the lake has also demonstrated reductions in nutrients and sediments to the lake which has improved water quality. Engineering modifications of the inlet to reduce nutrients and solids before they enter through the filtration barrier are being investigated.

Attached are 4 maps. The first set of bottom composition maps show the 2014 (beige colored) soft bottom conditions

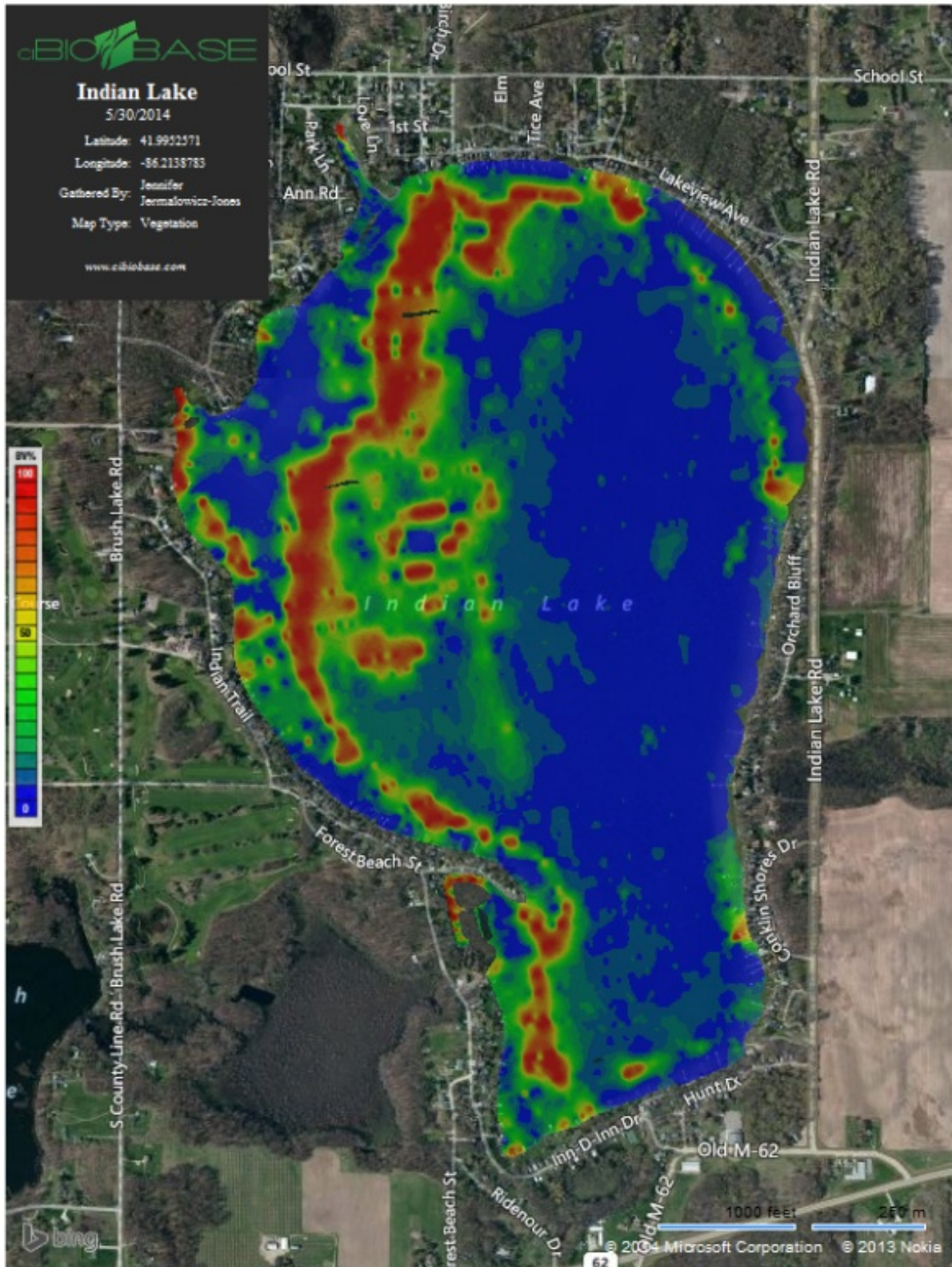


the 2016 map shows the (orange colored) more consolidated bottom conditions.





The 2014 aquatic vegetation biovolume map shows areas in red color of dense, canopied Hybrid Watermilfoil.



The 2016 aquatic vegetation biovolume map shows areas in green which denotes the removal of the milfoil and sustaining of low-growing, favorable native aquatic vegetation.

