

Silver Lake: Wild Rice Abundance 2016 Hennepin County, MN (#27-0136)

Surveyed September 29, 2016



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Survey & Analysis Methods

Wild Rice Survey

Freshwater Scientific Services conducted a lake-wide stem-density survey for wild rice (*Zizania aquatica*) in Silver Lake (Hennepin Co., #27-0136) on September 29, 2016 to estimate the abundance of wild rice (stems/m²) and provide a baseline for comparing to future rice surveys. During the 2016 survey, we marked the location of each wild rice cluster (generally very small patches of wild rice; <30 cm in diameter) using a handheld GPS unit. In addition, we counted the number of stems at 10% of the marked clusters to determine the mean and variability of stem counts and then applied this mean stem density to the clusters where stems were not counted. We then used GIS to generate maps of stem density by interpolating the point stem densities across a 2x2 m grid of cells.

Results

The wild rice that we observed in Silver Lake in 2016 was very sparse and localized (Fig 1). Nearly all of the wild rice was confined to a 3.3-acre area along the southern half of the eastern shore. However we did find a few rice plants growing along the western shore of the lake (Fig 2). Rice growth within the 3.3-acre rice bed was very patchy and light, consisting of small tufts of rice (generally <30 cm in diameter) separated by areas of open water. We did find a few small areas of slightly denser rice growth immediately along the eastern shore, but even these patches were only ~1 m in diameter. Although we calculated an average of 7.8 rice stems per patch, there was a lot of open water between these patches. Consequently, the interpolated stem density map estimated that the mean stem density in the identified rice bed was only 0.12 stems/m², with a maximum of 3.2 stems/m². In past wild rice studies, I have found that healthy dense rice beds typically have stem densities of >50 stems/m². We did not find any areas of rice growth in Silver Lake that was anywhere near this density. Based upon our 2016 survey, the wild rice in Silver Lake was too sparse to provide a substantial benefit for wildlife.

Figure 1. Patchy wild rice growth along the eastern shoreline of Silver Lake; Sep 29, 2016

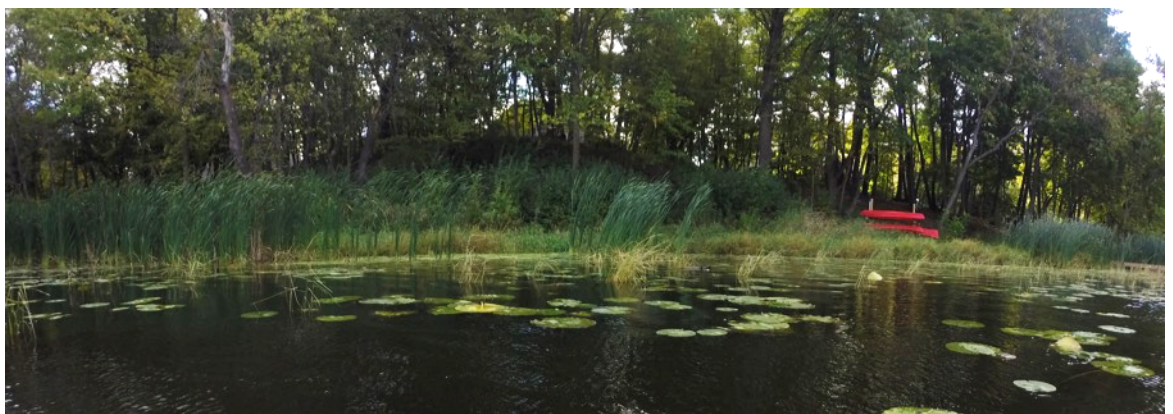


Figure 2. Interpolated map of wild rice stem density in Silver Lake. Total area of rice bed was 3.3 acres; Sep 29, 2016.

