**Summary of 2020 CLP and EWM Management on Lake Sarah by Eric Fieldseth, AIS Consulting**

2020 was another good year of progress managing Curlyleaf Pondweed (CLP) and Eurasian Watermilfoil (EWM) in Lake Sarah. This last year we treated 122.1 acres of CLP (44.8 acres on East Basin and 77.3 acres on West Basin). That is down from our original treatment acreage in 2013 of 260 acres (95.5 acres on East Basin and 164.5 acres on West Basin). Each fall, new Curlyleaf Pondweed plants sprout from turions. The goal is to treat the CLP in the spring before the plants form new turions and deposit those turions in the sediment. Turions buried in the sediment can remain dormant for up to 10 years before conditions prompt them to sprout. Through our treatment strategy, we’ve dramatically reduced the number of turions in Lake Sarah from pre-treatment levels (figure 1). In 2012, there was an estimated 1,381 turions/m2 in the East Basin and 1,207/m2 in the West Basin. The 2020 turion survey estimated 95 turions/m2 in the East Basin and 41/m2 in the West Basin.

* **Figure 1. Lake Sarah Curlyleaf Pondweed Turion Density**



Eurasian Watermilfoil management continues to provide good seasonal control where we treat. In 2020, 34.25 acres were treated across the lake (12.25 acres on West Basin and 22 acres on East Basin). This last year we also sent milfoil samples to a lab at Montana State University to determine if hybrid milfoil is present in Lake Sarah. Hybrid milfoil is a cross between the native Northern Watermilfoil and the invasive Eurasian Watermilfoil. Hybrid milfoil is an area receiving a lot of research lately, with a project between the University of Minnesota and Montana State University ongoing. The concern is that some genotypes of hybrid milfoil can be more invasive or more resistant to management. This has not been observed in Minnesota yet, but with more lakes being sampled researchers will be able to have a better understanding of the impact’s hybrid milfoil may present and hopefully better inform management. All samples sent to the lab came back as either Eurasian Watermilfoil or hybrid, no native Northern Watermilfoil was present. Northern Watermilfoil was present at some point in Lake Sarah, but all milfoil in Lake Sarah right now is likely invasive, either Eurasian or hybrid. This will directly inform management in 2021, in the past some plants had very similar characteristics to the native Northern watermilfoil and were thus not treated. Those plants were likely hybrid milfoil and will be targeted for management in the future.