Spring 2020 Update on the Pickerel-Crane Lakes Stewardship Program

(by Dean Premo, Ph.D, President, White Water Associates, Inc.)

Winter 2019/20 Progress

Over the course of the 2019-20 fall and winter, White Water Associates has progressed on several fronts with the Pickerel-Crane Lakes Stewardship Program. Principally, this work involved data management, analysis, and some preliminary report preparation. It also included a late winter dissolved oxygen profile of Crane and Pickerel Lakes by Dean Premo with helpful assistance in the field from Gene Ebben. During that trip, Premo took the opportunity to meet with Mike Preul (Director of Mole Lake Fisheries) to discuss Pickerel-Crane fisheries, aquatic plants, and wild rice. In the White Water lab, aquatic plant voucher specimens were processed and submitted to the UW-Stevens Point Herbarium. Aquatic plant data management, analysis, and mapping were completed. The enormous data sets collected during the shoreland and shallow water assessments of both lakes were analyzed and interpreted and reports drafted. Data from the AIS (aquatic invasive species) Early Detection survey were analyzed and mapped and AIS reports drafted for both lakes. Watershed cover type data and maps were reviewed. Since little change in the watershed has occurred in the last decade, it is not necessary to repeat the WILMs (Wisconsin Lake Modeling Suite) analysis conducted in previous lakes study. In February, the WDNR approved 2020 Lake User Survey for distribution to lake users.

Upcoming Work

Although a majority of the required effort for the current Stewardship Program has been accomplished, important tasks will be completed over the course of the next year. If social distancing best practices allow, a "floating workshop" for Crane and Pickerel Lakes will be offered sometime in late July or August. This field trip will be led by a White Water scientist and present information on Crane and Pickerel Lakes riparian and aquatic ecology. Participants will be on pontoon boats or other watercraft. Included among other program tasks are some for which volunteers from the District will take the lead. A case in point is the management and analysis of data collected by the Lake User Survey and preparation of a report. Other information that the District or its volunteers can provide White Water Associates includes a list and brief description of potential and threats to the watershed and lakes. Some of this information might be gleaned from the completed Lake User Surveys. Additional information might be collected from District Board members. Those lake residents who are in the habit of watching wildlife can provide White Water with records of unusual animal and plant sightings in the vicinity of the lakes. It would be especially good if these sightings include specific location data and date. We also request that someone from the District prepare a summary of the mechanical harvesting program for inclusion in the aquatic plant management plan (including history, permits, amounts and areas harvested, timing, and disposal of plants). Finally, during the winter of 2020/21, White Water staff will prepare and integrate deliverables into a comprehensive adaptive management plan (including the aquatic plant management plan). This plan will be delivered to the District for review in early spring 2021 and finally to the WDNR by June 30, 2021.

Preliminary Findings

Because of this winter's data analysis on aquatic plants and winter dissolved oxygen measurement for Pickerel and Crane Lakes, we can provide a few highlights as part of this summary. Both Lakes have diverse and healthy aquatic plant communities and this measure of the lakes shows negligible difference between the 2006 and 2019 plant surveys. The number of species of plants in each lake is robust and stable over time. The Floristic Quality Index (a measure of a plant community's closeness to an undisturbed condition) is quite high and stable over time for both lakes. Looking at the relative percent frequencies of individual plant species, both lakes show typical healthy distributions and good stability between the 2006 and 2019 surveys. The common species in 2006 tend to remain common in 2019. In 2019, Eurasian watermilfoil (EWM) was present in Crane Lake, but its relative percent frequency was low (0.5%). EWM relative percent frequency in Pickerel Lake has increased over the years from 0.2% (2006) to 9% (2019). In Pickerel Lake, EWM is found in most areas where plants are found and is almost always in association with other plants. In other words, although EWM has increased its distribution in

Pickerel Lake, it has not “taken over” the plant community. One outcome of EWM’s more integrated distribution in the lake is that it is a permanent part of the plant community. It cannot be effectively controlled by hand-pulling or herbicide treatments in this situation. No new AIS were documented for Pickerel Lake in 2019 field work. One small patch of purple loosestrife, an invasive wetland plant species, was documented on Crane Lake and could likely be physically removed by digging it up (roots and all). As a final note, the dissolved oxygen profiles taken on February 11, 2020 on both Pickerel and Crane Lakes documented fairly low oxygen levels. Dissolved oxygen concentrations ranged from less than 1 part per million (ppm) in deeper water to 6 ppm near the ice in Crane Lake and less than 1 ppm to 2.4 ppm in Pickerel Lake. The critical level of oxygen is about 2 ppm for most game fish in northern lakes. Levels below 1 ppm for extended time can be lethal. Fish species vary in their sensitivity to low oxygen. Walleye, bass, and bluegill have intermediate sensitivity. Northern pike, yellow perch, and pumpkinseed are relatively tolerant of low dissolved oxygen. Bullheads and certain minnows are very tolerant.

Pickerel Lake Wild Rice Project

(by Mike Preul, Director of Mole Lake Fisheries)

Historically, Pickerel Lake contained natural wild rice beds. In 2019, a cooperative project was initiated between the Mole Lake Tribe and the Pickerel/Crane Lake District to restore wild rice on Pickerel Lake. On September 12th, 500 pounds of green wild rice were seeded into a 3-acre site (see Map). Mike Preul, Director of Mole Lake Fisheries, and several tribal members hand scattered the wild rice from a boat (see Photo). This wild rice was harvested from Rice Lake on the reservation and then seeded into Pickerel Lake within a couple days of harvest. The wild rice site was chosen for many reasons: suitable depth and lake bottom type, believed to be a historic wild rice bed location, and undeveloped shoreline.

During May of this year, wild rice seed will begin to germinate, and the plant will go through several stages of development. This includes the floating leaf stage, where long thin leaves will be seen floating on the water surface, the emergent stage by late-June, and finally the seed head stage by late-August. Wild rice is very sensitive to uprooting from excessive wave action and boat propellers, so please be mindful and avoid boat travel through and around the bed. Thank you! Eventually, several marker buoys will be placed at the outer edge of the bed to help for navigation purposes.

Seeding of the site will continue for two additional years. This will help to establish the bed so that it becomes viable and self-sustaining long term, leading to many benefits to the lake. It is a preferred food for many waterfowl species, and numerous mammals and birds use wild rice beds for nesting and brood cover. Furthermore, wild rice beds can provide nursery areas for fish and amphibians. Both tribal and non-tribal members gather wild rice for food and hunt waterfowl attracted by wild rice.