

Pickereel/Crane Lakes Protection & Rehabilitation District Conducts Lake Study and Planning Project

April 2019

By Dean Premo, Ph.D., White Water Associates, Inc.

The Pickereel/Crane Lakes Protection & Rehabilitation District (hereafter, the District) and consulting scientists from White Water Associates are implementing the Pickereel/Crane Lakes Stewardship Program. In this multi-year lake study and planning project, professional scientists, resource managers, and lake volunteers will actively investigate the lakes and surrounding watershed. Their efforts will help accomplish the objectives outlined in a 2019 Lake Planning Grant awarded to the District from the Wisconsin Department of Natural Resources (WDNR). The major product of this effort will be an Adaptive Management Plan – a document that will integrate the historical and newly gathered information about the lakes and include updated Aquatic Plant Management Plans. White Water lake biologists and the District will develop these plans. In this article we describe a few of the project's activities. Results and outcomes of the studies on the lakes and associated watershed will be reported in the Pickereel/Crane Lakes Adaptive Management Plan at the completion of the project.

In summer 2019, a White Water team led by aquatic biologist Angie Stine will conduct point-intercept aquatic plant surveys on Pickereel and Crane Lakes. The multi-day effort will involve using White Water's boat to visit hundreds of sample points evenly distributed across the lakes. A global positioning system (GPS) unit will be used to navigate to each predetermined point where Stine will collect aquatic plants with a rake. All aquatic plant species collected in this way will be identified and ranked in terms of abundance. In addition to the point-intercept aquatic plant survey, a survey dedicated to mapping the distribution of the aquatic invasive Eurasian watermilfoil will also be carried out.

In August 2019, White Water staff will collect water samples from the lakes for analysis at the Wisconsin State Laboratory of Hygiene. Results from these analyses will give information about the trophic status of the lakes and indicate how productive each is for organisms such as algae, plants, and fish. The data also serve as indicators of unexpected changes in the lake environment. At the same time, dissolved oxygen and water temperature readings will be obtained at depth intervals from the surface to the bottom in a deep area of each lake. These so called DO/Temp profiles will reveal how these habitat factors behave in the lakes.

White Water biologists will also conduct shoreland and shallow water habitat assessments on Pickereel and Crane Lakes. This work will follow the rigorous protocol established by the WDNR and will provide insights into the character and quality of these critical near-shore habitats. A parcel by parcel evaluation of the riparian area (the land near the lake) and the littoral zone (shallow water habitat) will be used to inform future shoreland protection and restoration strategies. The littoral zone quality will be evaluated based on

human structures, aquatic plants, and other habitat features. Part of that investigation will locate and enumerate the large woody habitat in the lakes. The riparian zone will be evaluated based on criteria such as plant cover type, human structures, and evidence of water runoff and erosion.

Another summer 2019 investigation on Pickerel and Crane Lakes will focus on aquatic invasive species (AIS). White Water staff will use the WDNR Aquatic Invasive Species Early Detection Monitoring standard operating procedures to specifically look for non-native invasive plants and animals in the lakes. The technique involves observations made while boating, snorkeling, and walking the shoreline. A zooplankton tow net or sediment sample will also be used to look for spiny water fleas.

Another undertaking of the Pickerel/Crane Lakes Stewardship Program will be a Lake User Survey. The survey will be developed and submitted to the WDNR for final approval before distribution to stakeholders. Topics that will be addressed include how stakeholders use the lakes, information on aquatic plants, knowledge of aquatic invasive species, perceived threats to the watershed, and interest in participating in lake stewardship activities.

Education of lake stewards is an important part of the project. In summer of 2020, White Water scientists will present a “floating workshop” for anyone interested in learning about the health and biology of Pickerel and Crane Lakes. Findings from the lake studies will be presented and discussed among participants and consultants while pontoon boats transport the group from one point of interest to another.

Over the course of the next two years, additional information will be gathered about Pickerel and Crane Lakes. All of the data gathered will be presented and interpreted in the Adaptive Management Plan.

#