

Duck Lake & Creek Environmental Surveys

Executive Summary

2017

The Duck Lake Riparian Owners Assn. (DLROA) and the Duck Creek Watershed Assembly (DCWA) continue to collaborate on studies of environmental quality in Duck Creek and Duck Lake. The DCWA received a \$15K grant from Freshwater Futures for sedimentation studies.

Indicator organisms (mostly larval insects) collected at six sites in Duck Creek showed that healthy conditions prevail, as they have for the nearly 10 years over which surveys have been conducted. See the Data Exchange at micorps.net for details.

Investigations of **sediment transport** in the watershed by personnel from the Anis Water Resources Institute indicated that 1) both suspended and bed-load sediment yields are normal for a mostly forested small watershed, with larger quantities observed following storm events as expected; and 2) sediments accumulating at the mouth of Duck Creek do not point conclusively to excessive anthropogenic inputs. Fluctuations of several feet in water levels may have caused confusion on the latter point. Copies of the AWRI report are available from Lynn Knopf (minnow_bait@yahoo.com).

DLROA and DCWA volunteers again measured several parameters related to Duck Lake's **biological productivity**¹. A comprehensive report prepared by Dr. Paul Steen of the Cooperative Lakes Monitoring Program should have arrived in your email earlier. The CLMP report concludes that Duck Lake remains on the boundary between meso- and oligo-trophic conditions. In other words, it exhibits a desirable level of biological productivity while maintaining good water clarity and little nuisance algal growth. This happy state of affairs goes back at least to the beginning of measurements in the 1980s.

Aquatic invasive species (AIS) are deserving of special vigilance because of their potential for disrupting enjoyable use of our water resources and for requiring expensive remedies. Frequently, AIS eventually come into equilibrium with the indigenous biological community, as has been the case in Duck Lake with both Eurasian water milfoil and zebra mussels. Work last year by Muskegon Community College (MCC) faculty and students revealed the presence of heavy growth of the invasive **curly leaf pondweed** upstream from the mouth of Duck Creek, a previously undocumented occurrence. The extent to which the plant has spread into the lake is currently under investigation.

2018

DLROA and DCWA volunteers are again monitoring Duck Lake's **trophic status/productivity**, continuing an effort that began in the 1980s.

Thanks to generous support from members of the DLROA, an MCC student intern is pursuing an independent study project focused on 1) lake-wide characterization of the aquatic plant community; and 2) early detection and monitoring of invasive species. Previous MCC interns have gone on to pursue baccalaureate degrees at UM, MSU, WMU, and Ball State.

¹ Special thanks to Chuck Miller, the Eatons, and the Bednareks.