

## **Dr. Lars Anderson: TKPOA CMT Year 2 Preliminary Summary**

The focus in Year 2 of the CMT was on targeted, small-scale follow-up treatment to inform on effectiveness and logistic potential for large scale treatment. Building on Year 1 results (based on 75% Reduction in Biovolume” and “Vessel Hull Clearance” criteria), springtime plant surveys and biweekly hydroacoustic scans provided the basis for the timing and location for Bottom Barriers (BB), Diver Assisted Suction Harvesting (DASH) and UV-Spot treatments. These treatments have been repeated at 3-to-4-week intervals.

The Water Quality Team and CMT contractors have gathered an enormous amount of data. Year 2 of the test has already shown some noteworthy results that will help to shape the large-scale plan. Our lead scientist Dr. Lars Anderson has drawn some preliminary conclusions:

- Sites treated with herbicides in 2022 have remained essentially free of the target invasive weeds. Note: Endothall treats all 3 invasive species, while Triclopyr only targets Eurasian watermilfoil.
- As water levels increased dramatically this year, shorelines that were above water level last year and thus not treated, are now submersed creating conditions that allow invasive weeds to grow.
- The beneficial native species plants, not impacted by the selective herbicides, are showing an abundance in treated areas giving indications that restoration to the ecosystem is possible with these selected methods.
- In the DASH areas, divers effectively removed nearly all target aquatic weeds and turbidity remained within acceptable levels. The main advantage is removal of curlyleaf pondweed along with thousands of turions that would have formed new plants in the fall of 2023.
- Bottom barriers remained in place until late September 2023. They have kept the covered areas free of plants, but long-term effectiveness will not be known until areas are surveyed in spring, 2024.
- Nutrient levels were highly variable in 2023, and several sites had about the same pattern as in 2022 while other sites were somewhat lower. There was also a trend in some sites (both treatment sites and untreated sites) toward increasing phosphate levels beginning in July. The mid-summer nutrient increases may have been released by the extensive shorelines soils that were newly exposed by the much higher water levels in 2023. Water quality (DO, Turbidity and pH) was similar in control sites to 2022 and was generally improved in the sites that had been treated with herbicides last year. The improvement in water quality probably resulted from both influx of snow melt and reduced plant biomass.
- The CMT team achieved an overall completion of 80-90% of planned area treatments while remaining true to the fixed Year 2 Budget.

In summary, we are meeting the goals and expectations of the CMT project. Year 3 is essential because we need to understand the lasting effects from both the herbicide and the non-chemical follow-up treatment. The premise for the CMT permit to test herbicides was to determine what combination of treatments would control invasive weeds long-term, while avoiding the risks associated with long-term herbicide dependence. Year 3 will inform these future decisions, and lead us to definition of an environmentally sound, economically viable, permittable formula for controlling invasive weeds.

**Please refer to the most recent Town Hall Forum on [keysweedsmanagement.org](https://keysweedsmanagement.org) at the time of 18:30 minutes to hear the lead CMT Scientist, Dr. Lars Anderson, speak more on this topic.**