

# Near Shore Lake Sediments in Miller Bay, Lake Osakis in 2021 and Curlyleaf Pondweed Delineations in 2021 and 2022

*Prepared by Steve McComas, Blue Water Science*

**January 23, 2023**

**Overview:** Miller Bay (Figure 1) was visited on May 7, 2021 to examine existing conditions. On the site visit, the accumulated shoreline material was dominated by vegetative biomass (Figure 2). Under the microscope, the accumulated shoreline material consisted of shredded aquatic plant parts. This type of accumulation can occur in lakes with abundant aquatic vegetation that is blown onto the shoreline (Figure 3). There is abundant vegetation in Miller Bay and this could be source of the organic material found on the shoreline (Figures 2 and 4).



**Figure 1. [left] Lake Osakis. [right] Miller Bay in Lake Osakis.**

## Miller Bay, Lake Osakis



**Figure 2. On May 7, 2021 material along the shoreline is mostly finely-shredded vegetative material. Examination under the microscope indicates there was very little terrestrial material, it appeared to be nearly all aquatic in origin. It was estimated to consist of about 555 cubic yards. The material was most likely blown in from the main lake basin.**

**[Organic matter estimate: 1,000 feet of shoreline with 15 feet band of soft sediment about 1 foot thick = 15,000 cubic feet = 555 cubic yards = about 100 dump truck loads (assuming 6 cubic yards per truck load)]**

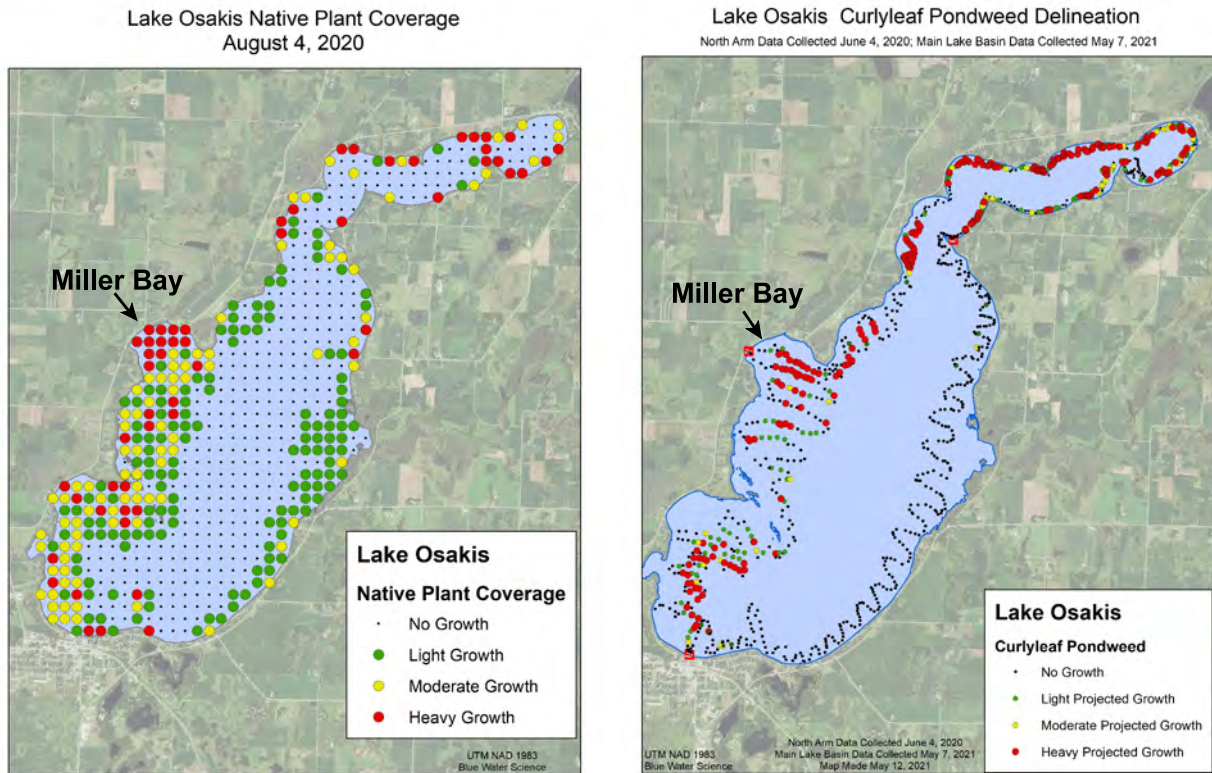
## French Lake, Rice County, Minnesota



**Figure 3. French Lake was visited on May 3, 2021. It had organic matter accumulation on the shoreline similar to what was observed in Miller Bay in Lake Osakis. The French Lake material was blown into the nearshore area and concentrated by wave action.**



**Source of Organic Material in the Nearshore Area of Miller Bay:** Miller Bay is a productive area for both native aquatic plants and curlyleaf pondweed (a non-native plant). The aquatic plants are likely the primary component of the organic material that has accumulated in the nearshore area. Wind and wave action are likely responsible for the concentration of the material on the shore.



**Figure 4.** Miller Bay has some of the heaviest aquatic vegetation growth in Lake Osakis (shown in the above maps). The aquatic vegetation is the likely source of the organic matter accumulation on the Miller Bay shoreline.

# CURLYLEAF PONDWEED SURVEY IN 2022

Lake Osakis - Curlyleaf Pondweed Delineation and Treatment  
May 11 and 21, 2022

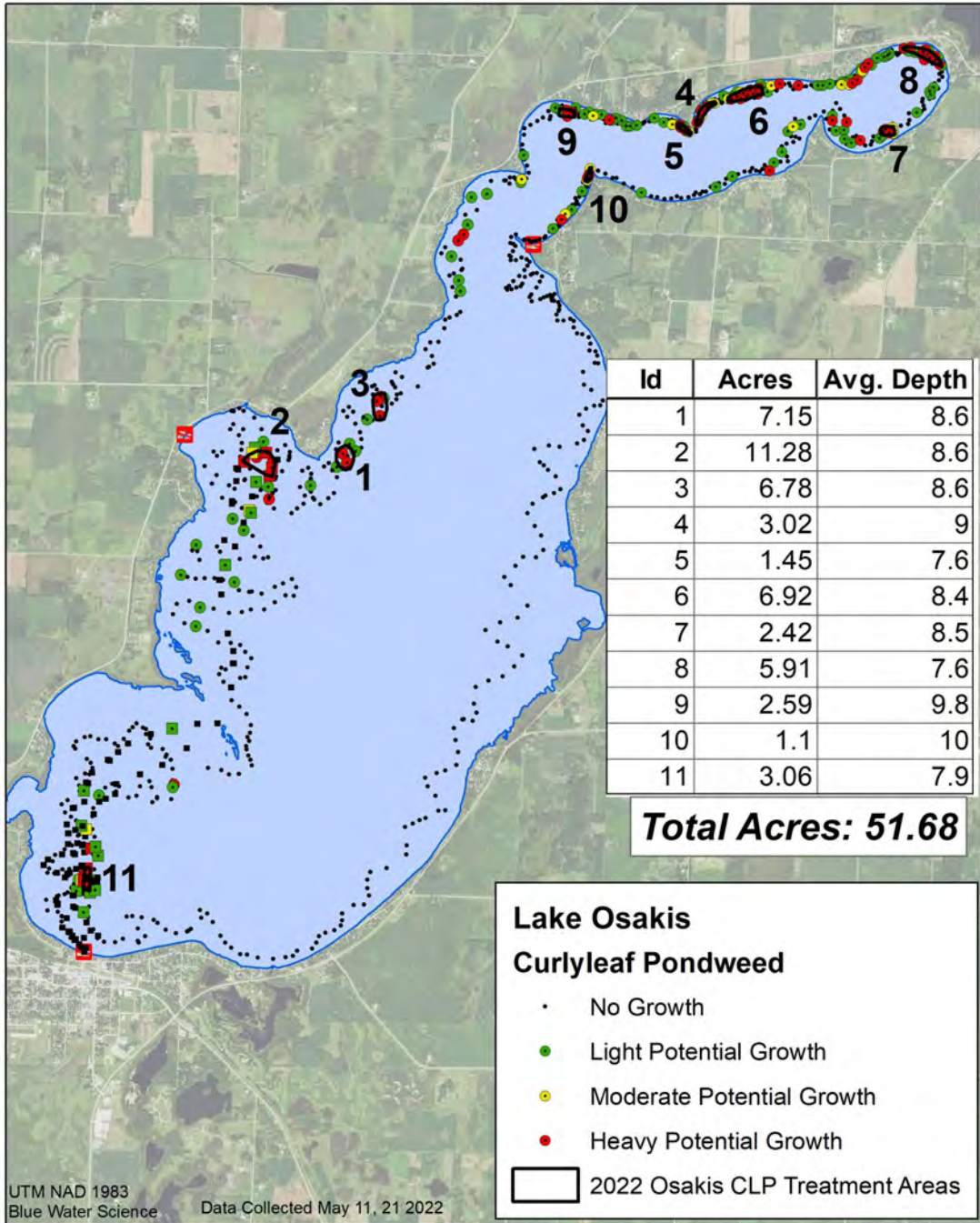


Figure 5. Total CLP treatment areas in 2022.