

**2022 Water Quality/ Vegetation Control (WQVC) Report Summary** there is also a [2022 WQVC long report](#) with more data links and graphics available on the WQVC website.

The purpose of the Clark Lake WQVC is to identify and facilitate opportunities to reduce the threats to:

- 1) Surface and ground water quality and
- 2) The wildlife habitat integrity of the Lake and surrounding area.

This report includes a summary of WQVC data and activities for 2022.

Links, charts, maps and data will be supplied upon request.

The **WQVC committee** now has 14 members including 6 CLAA board members. Each spring we review the status of our projects, prioritize new and existing proposals and then set our agenda for the ensuing year. We have live or electronic updates about once a month.

We submit a **budget** to CLAA each July for the following year and review costs and resources at each meeting.

**2022 Budgeted expenses:** \$3930. **Actual 2022 expenses:** \$762.60 **2023 Budgeted expenses:** \$2050.

**19 Volunteers** provided **176.25 hours** of on-site labor and **35.5 hours** of prep and reporting.

**Surface and ground water quality** as measured by lake chemistries, Secchi disk readings, beach E. coli monitoring, Well water testing from the UW-Oshkosh programs and the special pesticide study did not show any new trends or problem.

**Habitat integrity includes** measures of undeveloped and protected acres, , land use in the watershed, new building with increased footprint, impervious surface compliance, bulrush health, number of transient boaters, and status of invasive species and control projects, number of members / properties involved in natural shore stewardship efforts and education.

There are several hundred acres of **undeveloped properties** near Clark Lake.

There was loss of 2.16 Acres from **undeveloped** due to 2 new homes.

Land clearing that suggests upcoming new development is seen on 4 parcels totaling 1.5 Acres

**Permanent protection** from development is about 370 Acres afforded by the state park and the Ridges .

Long term, but **revocable protection** is 143 Acres in the form of *Managed Forest Land (MFL)* which provides partial protection from most development.

One property of 37 A revoked their MFL status in 2022.

**Conservation Easements** allow continued private ownership while ensuring **irrevocable protected** status. We reviewed possible candidates with the Land Trust but none met their criteria. We met with The Ridges but they do not administer conservation easements and do not have current plans to purchase any of the candidate properties. Two WQVC members are investigating options to create and coordinate programs beyond our members into the Clark Lake watershed.

The last update to the land use data from the county was in 2017 when a **shift in agriculture from grazing to row crops** in the watershed was documented. Building and remodeling with an **increase in building footprint** were noted on 4 developed properties. Another 2 developed properties have cleared trees suggesting possible expansion.

The GIS map did not reveal any excess percent **impervious surface** lots around the lake but the map was last updated in 2019.

The DNR has designated 25 shoreline areas around Clark Lake as **critical habitat**. The DNR does not have a process to monitor the health or compliance of these areas. A reminder of this designation including a map and brochure listing their stewardship opportunities was sent to each of the owners. Similar information was also sent to an additional 32 properties adjoining the critical habitat. These near shore critical areas correspond to some of the bulrush beds.

**Bulrush health** is measured by periodic density studies at 5 sentinel sites and an all lake map. 2022 **Bulrush density** is stable or improved overall in three of the 5 sites compared to 2006. Each site includes 3 transects. Transects with a density value of only 5 or less in 2006 have not done well; 3 additional transects are now below 5. The **all lake bulrush map** is due to be repeated in 2023.

**Bulrush protection and rehabilitation** are ongoing projects.

**Protection efforts** include the buoys and large maps indicating mandatory and voluntary slow no wake zones and the mandatory no motor zone. **Ramp Volunteers** provide pocket cards and verbal reminders reinforcing the same information in addition to requesting boaters to avoid bulrush beds during any of their activities. Additional education is done with e-mail and Facebook. Frequent reports of high speed boating in and near the beds, scouring of the bottom and broken stems noted on trailers and props indicate a continued threat.

**Bulrush transplants** failed at the west side demo site but two more sites were established in 2020.

The **number, size and horsepower of boats** can indicate the threat of bottom disruption, aquatic plant damage, wildlife habitat disruption and near shore erosion. Clark Lake surveys have shown **larger motors are more common**. The number of transient boats this year is 1812 which is down a little from the past two years but still almost double the 2018 figures.

#### **Invasive species identification and control**

DNR list of known **Aquatic Invasive species(AIS)** in Clark Lake include: Eurasian milfoil, zebra mussels, curly leaf pondweed, phragmites and purple loosestrife. No Starry stonewort has been reported.

We are assisted in all of invasive activities by the **Door County Invasive Species team (DCIST)** whose director is employed by the Door County Soils and Water Department.

In support of DCIST, CLAA donated \$200 to the Soil and Water department in 2022 and is scheduled to do so for each of the next ensuing 4 years.

**Ramp Volunteers**, in addition to education about bulrush and near shore protection, did trailer inspections and education to prevent the spread of Aquatic Invasive Species. They inspected 123 boats and had contact with 334 people. 10.5% of the boats reported being in another body of water within the last 5 days which increase the chances of transmission of infested water.

A prohibited invasive, **Johnsongrass**, was identified and treated at one site on the South shore. This was publicized in an article in the Pulse.

Another prohibited species, **Frog Bit**, was found in southern Door County but none have been identified in our area.

**Phragmites** were identified on 12 properties (.71 A) with two new sites off the water but most sites are resolved or improved. The large patch on Clark Lake Court continues to improve in both size and density. Thanks to a grant, the county is treating phragmites through 2027.

#### **Purple Loosestrife**

Purple loosestrife have been documented and treated at one address on Trails End Court. 2022 found the plants had migrated further along the shore but still on the same property. DCIST was notified and the county will treat and monitor.

#### **Invasive Jumping worms**

Invasive jumping worms have been identified around the lake. Educational materials concerning identification and precautions when purchasing or sharing plants or soils was provided to members.

#### **Buckthorn**

Since the county assumed the responsibility for phragmites treatment WQVC added Buckthorn as a new project.

Education including identification and treatment options was provided to members. Our goal is to document locations (8 so far) and assist in non-chemical treatment options. Most of the large plots are on the South and West shores.

Our kickoff on Sep 17<sup>th</sup> included 12 volunteers. We worked on three properties disposing of about 79 gallons of roots and berries. Buckthorn stumps were covered with opaque plastic. A new tool, the pullerbear, was purchased later and used to remove several more buckthorn including the stumps on 2 more properties.

#### **Thistles**

Thistles of various sorts are present on several properties. There are some native thistles but most are invasive. If **European marsh thistle** is identified, DCIST will treat but the more common thistles should be removed manually. We are trialing a tool to more easily remove thistles. The thistles are spreading as we treat inland phragmites, where trees have fallen (especially ash) and other disturbed sites.

### **Stewardship efforts**

WQVC is renaming Natural Shores **SOS: Save Our Shoreland**. We intend the new name and logo will spark more member interest and improve our communication.

[Wisconsin Shoreline evaluation Tool](#) an online survey with educational links is now available for all members to assess their stewardship of their property.

**Buffer Buddies** is our program to support each other in the establishment of small native plantings with the goal of using these baby steps toward more extensive buffers and native plant seed banks. This year we had 5 additional members representing 3 properties which brings the total to 9 participating properties.

We shared some ideas, plants, material, tools and educational files. The **DCIST coordinator led excursions** to 4 properties where she identified plants and made recommendations for management and alternatives. WQVC has compiled all of her findings as a basis for an **inventory of Clark Lake flora**. Our current list includes over 92 natives, 54 non-natives of which 36 are invasive with 15 restricted and another 21 undesirable.

The **Native plant and bioengineering demo site** at the west side boat launch continues to mature. We installed a permanent sign, planted 6 Monkey flowers and 10 Butterfly milkweed. Maintenance included watering the new plants, occasional weeding, trimming, pruning and some transplant, thinning and replacing plant labels. A clean up and more pruning are scheduled for the spring.

We assisted Pat Canney with the **cedar tree sale** again this year with 116 new trees sold to be planted by 12 members around the lake. CLAA received publicity in the Big Plant notice in the Pulse.