Stop Starry Stonewort Program

Minnesota Lakes and Rivers Advocates

Starry Stonewort *(Nitellopsis obtusa)*

Starry stonewort is an **Aquatic Invasive Species** (AIS).

This invasive algae outcompetes native vegetation and wildlife, permanently altering ecosystems and upsetting the aquatic balance of lakes and rivers.

Starry stonewort has a rapid reproduction rate, taking over an ecosystem in a matter of years once has been introduced.

Starry Stonewort Damages Aquatic Ecosystems

Starry Stonewort reaches depths up to 25 feet.
Watercrafts can become entangled in thick matts of starry stonewort, even when it's not visible from the surface.

- Lake and river **recreation** declines,
- **Native species** are choked out by invasive species,
- Starry stonewort multiplies in bass spawning zones, **depleting fish numbers,**
- Lakeshore **property values** decline,
- Taxpayers dollars compensate **management costs of AIS.**

Difficulties of Management

Traditional methods of lake vegetation management are not successful.

Starry Stonewort is a **macro-algae.**

Algaes do not have a vascular plant system - which typically carry chemicals or pesticides throughout the entire the plant.

With starry stonewort, chemical control methods **only destroy the part of the algae it comes into contact** with - leaving traces of starry stonewort left behind to reproduce.

Difficulties of Management

Chemical treatments are largely unsatisfactory. Hand pulling or mechanical harvesting can result in **additional algae patches** if starry stonewort breaks into multiple pieces and disperse. Strategies like Diver Assisted Suction Harvesting (DASH) are being tested. All methods are expensive.

Starry stonewort is an algae - it can reproduce from single cells.

Costs of Management - Lake Koronis

Starry stonewort was first discovered in Minnesota in 2015 at Lake Koronis.

Lake Koronis spends $170,000 annually to control the devastating effects of this invasive species.

Research by **Cornell University, Minnesota Aquatic Invasive Species Research Center** (MAISRC), and the **Minnesota Department of Natural Resources** has discovered:

90%

of boaters know the **risks** of transporting aquatic invasive species, believe it to be a problem and know the **steps** they need to take to fully **Clean, Drain, and Dry**; most do not take all of the steps necessary.

The reason they give is a lack of equipment where/when they need it.

MLR's Plan for Action

Minnesota Lakes and Rivers Advocates, with funding from Environment and Natural Resources Trust Fund, is installing **CD3 Waterless Cleaning Systems** at lake accesses on lakes contaminated with starry stonewort.

CD3 Cleaning Systems are **free to use and available 24/7** to the public to combat the spread of starry stonewort as a part of MLR's program.

In addition to regular inspections, **CD3 Systems benefit lake communities**

CD3 Systems are free-to-use and available 24/7, while regulated services are sometimes unavailable when needed.

Even if there is not an AIS inspector present at a site, individuals can still responsibly Clean, Drain, and Dry their watercraft to prevent the spread of aquatic invasive species like starry stonewort.

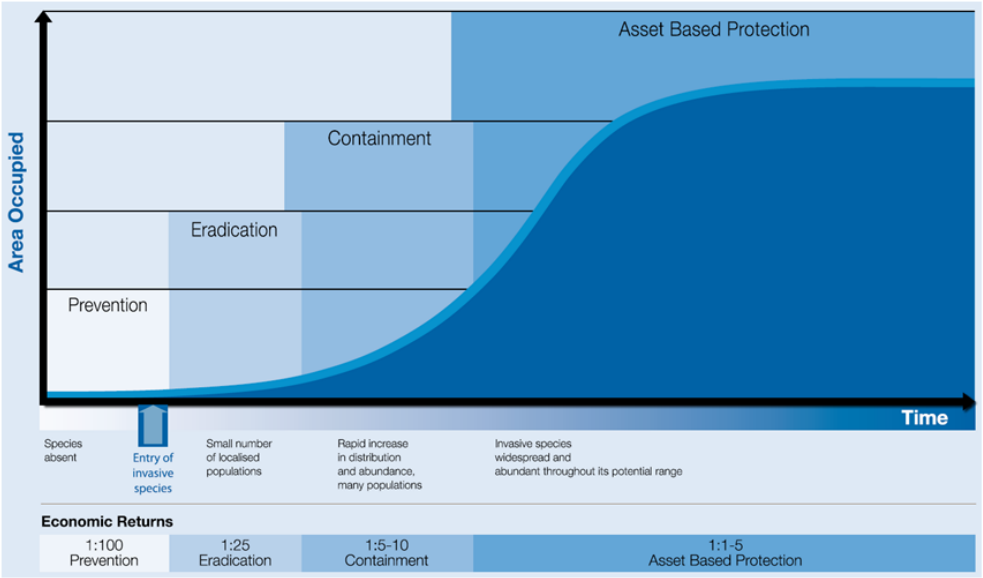
CD3 Systems are Minnesota Lakes and Rivers Advocates gift to the community, and contribution toward preserving water quality and a more sustainable future.

Prevention is Powerful

Studies show that every $1 spent in Aquatic Invasive Species (AIS) prevention saves $100 in management costs.

If starry stonewort presence in Lake Koronis could have been anticipated, AIS management costs would have been **reduced from $200,000 to $2,000 annually.**

Minnesota Lakes and Rivers Advocates and research partners can **anticipate and prevent** future management costs with the use of CD3 Waterless Cleaning Systems.

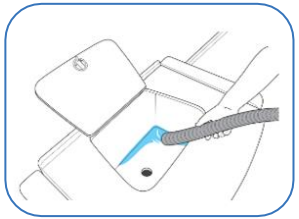


CD3 Systems protect and preserve water quality in Minnesota

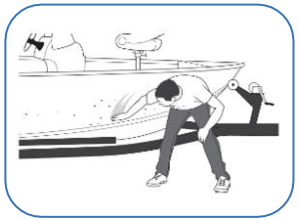
Cleaning a watercraft with a CD3 System takes **3-5 minutes**, with low operational and maintenance costs to the owners of the unit.

Boaters use CD3 Systems even when AIS inspectors are not present - thank you for doing your part to protect Minnesota's lakes and rivers.

CLEAN



DRAIN



DRY

CD3 Systems facilitate a

70%

DECREASE IN AIS VIOLATIONS

Studies show that CD3 Systems tools and users are as **effective** in removing macrophytes [aquatic plants] as trained inspectors.

Communities can trust CD3 Systems to safely and effectively remove starry stonewort from watercrafts, with individual efforts having a **lasting effect on water quality.**

Minnesota Lakes and Rivers Advocates aims to reduce the barriers to *CLEAN, DRAIN, DRY,* through creating a **civic pride** around **preserving water quality.**

CLEAN, DRAIN, DRY

Minnesota law makes it illegal to transport Aquatic Invasive Species on state roads.

While many boaters are conscious and aware of the **dangers with aquatic invasive species**, others may not be thoroughly self-inspecting their boats, trailers, and other equipment after leaving a lake or river infected with starry stonewort.

How Can You Help?

If leaving an access with a CD3 System:

share your knowledge

- CD3 Systems are equipped with lighting to assist in viewing under boats and trailers, and are accessible with the use of a grabber tool for individuals who struggle to inspect hard-to-reach places.

share your pride

- Remind others to inspect often forgotten areas, like catch holding areas, and to dispose of their bait properly.

Minnesota Lakes & Rivers

CD3

motivate your community

- Always stop to **clean, drain, and dry** your own boat and equipment, and offer assistance to others using the CD3 System if needed.

MLR builds communication system among key stakeholder in water quality, **welcoming discussion surrounding sustainable practices** and addressing individuals who are impacted by environmental policy decisions.

Building a Civic Pride around Preserving Water Quality

Minnesota Lakes and Rivers Advocates is hosting discussions around Aquatic Invasive Species (AIS) prevention and the Stop Starry Stonewort Program.

We encourage boaters to use CD3 Waterless Boat Cleaning Systems where they are present and available to use 24/7.

Let's join forces in inviting friends, neighbors, and community members by responsibly choosing to **clean, drain, and dry.**

MLR Wants to Know -

Minnesota Lakes and Rivers Advocates civic engagement program involves contacting water quality stakeholders directly to alleviate concerns and reach ***unified solutions to complex problems.***

How can MLR help you reach your goals to Stop Starry Stonewort?

What do you think might prevent someone from cleaning, draining, and drying their watercraft?

Where are you most concerned about the presence of starry stonewort?

Who do you know that might want to get involved with the Stop Starry Program?