

***Cladophora*: How is it Handled?**

Rebekah Stauffer

Milwaukee Community Service Corps

Introduction

By now we are all aware of the *Cladophora* problem on our beaches. But what is being done to clean it up and what happens to it after it is taken off the beach? I will attempt to answer these questions by touching on four main points: the factors that affect the amount of *Cladophora* produced, the role of Milwaukee Community Service Corps in the cleanup process, how *Cladophora* is disposed of, and some ideas for beneficial uses for *Cladophora*.

What affects the amount of *Cladophora* produced?

Cladophora growth is promoted by nitrogen and phosphorus. Nitrogen and phosphorus come from two main sources. The first is non-point source pollution. Run-off from roads, pesticides, herbicides, fertilizer from fields and farms, and bird feces are all components of non-point source pollution. The second potential supplier of nitrogen and phosphorus is sewage overflow. Any amount of sewage that makes its way into the waterways provides *Cladophora* with the nitrogen and phosphorus it needs to survive.

Another potential contributor to the amount of *Cladophora* produced is zebra mussels. Zebra mussels are an invasive species that eat nutritious algae but spit out algae that contain toxic compounds. Zebra mussels may contribute to *Cladophora* growth by filtering water, thus improving water clarity. Better water clarity allows light to penetrate to deeper depths, which increases the area available for *Cladophora* growth.

The amount of *Cladophora* washed ashore on a daily basis is affected by two factors. The first of the two determining factors is the weather conditions on any given day. For instance, on rough days when there is an onshore wind, *Cladophora* surface mats can extend more than twenty feet out into the lake. The second factor is the water currents of the lake. In the Milwaukee region, lake water flows from north to south. Therefore, *Cladophora* that grows north of Milwaukee breaks free and can wash up on Milwaukee beaches. What can be done to clean *Cladophora* off the beaches?

The role of Milwaukee Community Service Corps

There is no easy solution to the *Cladophora* problem but sometimes the simplest act can make a difference. Milwaukee Community Service Corps has been cleaning *Cladophora* off the beaches since summer of 2002. Crews are sent out the Milwaukee's lakefront three to five times per week with pitchforks, shovels, and garbage bags to clean the *Cladophora* off Bradford Beach, Picnic Point, and North Point. The project runs from May to October. The work that Milwaukee Community Service Corps does on the lakefront is visible to the community. The importance of this is that other people are encouraged to become educated about *Cladophora* and learn what they can do to help. Approximately twenty five tons of *Cladophora* were picked up in 2004 by the corps. If that much *Cladophora* was cleaned up by Milwaukee Community Service Corps alone, imagine how much more could be cleaned off the beaches if people from the community would donate their time to help.

Milwaukee Community Service Corps also heads up a phytoremediation project. Phytoremediation removes toxic chemicals from the ground and prevents them from running off into lakes and rivers. The corps currently has one phytoremediation test cell at Pier Milwaukee at which zucchini, poplars, and willows are planted. All of the plants are growing very well and appear to be healthy. Hopefully, another test cell will be started at the Lake Michigan ferry site in the near future.

How is *Cladophora* disposed of?

The most important part of *Cladophora* cleanup is what happens to it after it is put into trash bags. The trash bags are dragged up onto the grass and then the Milwaukee County Parks System takes the bags to Orchard Ridge Recycling Center. Yard waste is composted. However, algae is treated as solid waste and dumped into a landfill. There is a need to consider other more beneficial uses for *Cladophora*.

Beneficial uses for *Cladophora*

When *Cladophora* is placed in a landfill, gases released from the decaying waste are used to power homes. Another idea for *Cladophora* disposal would be to sell it to area farmers for fertilizing crops because of the fact that the nitrogenous and phosphoric wastes found in *Cladophora* act as fertilizers. However, before this is considered, the potential effects of other chemicals, and possibly metals, contained in *Cladophora* need to be considered.

Conclusion

Cladophora has become an unpleasant and smelly nuisance to residents of Milwaukee. The best short term solution is to educate people about the potential causes of the problem and current management actions, with the hope of increasing volunteer activities. Long term solutions will require a better understanding of the factors affecting the growth, detachment and beaching of *Cladophora*.