

TOPIC: Introduced Non-native Invasive Plant Treatment

White Paper Group 2

BACKGROUND

In 2009, DNR promulgated Wis. Adm. Code Ch. NR 40: Invasive Species Identification, Classification and Control which classifies non-native invasive species as either prohibited or restricted with the intention to assist in the management of these species. The goal of non-native invasive species management varies. In some cases, it may include eradication. In other cases, the goal may be long-term population suppression and containment. The appropriate management goals for non-native species are dependent upon changes to waterbody conditions and beneficial native aquatic habitat, the life cycle and habitat preferences of the non-native species itself, and user expectations.

Native species displacement by non-native species has the potential to cause harm to a waterbody; it can alter community composition, reduce habitat availability, and create water use obstructions. The growing concern about aquatic invasive species (AIS) has dramatically altered how APM is conducted in Wisconsin. Non-native and invasive plant management has become a substantial component of APM practice. Stakeholders are generally well-aware of potential AIS impacts, and the majority of APM permits list invasive plants as one or more of the target species.

The introduction and spread of aquatic invasive plants over recent decades have led to the desire to aggressively manage them, often using whole lake treatments. In some cases, this aggressive management approach may have had larger non-target impacts on native plant communities than would have resulted from the invader itself. In fact, simply because a plant population is non-native may not necessarily make it a threat. Some non-native populations may remain low without active control effort. Therefore, careful assessment of detrimental ecological or social impacts of past and present introductions can assist with determining the appropriate management response to future introductions by non-native aquatic plants. Evaluations of scenarios in which non-native plants have had highly detrimental social or environmental effects may allow predictions of which sites are likely to be most vulnerable and for which control may be necessary.

When a new non-native species is detected in a waterbody, early management response often is an attempt to eradicate the new population before it has a chance to spread and establish in the waterbody. Successful eradication can lead to cost savings by removing the need for further management, however, attempts at non-native invasive species eradication are often unsuccessful. If eradication is not achieved, the ecological benefits of an early response are less clear. While logic suggests control efforts that reduce invasive plant abundance within a waterbody would lead to fewer plants being moved from one waterbody to another, there are no studies examining whether control efforts that reduce AIS abundance reduce AIS spread between waterbodies. Having an integrated management plan that identifies how management strategies should evolve following multiple unsuccessful eradication attempts can avoid excess spending and employing the same strategy repeatedly without achieving desired outcomes. Shifting management goals to keeping the plant population below a certain threshold density or percentage of lake acreage, that is defined by measurable ecological harm or water use obstructions, may be more attainable and cost-effective.

Management strategies differ according to environmental factors. In the southern half of the state, watershed development, increased recreational use, nutrient loading, and alkalinity are generally higher

than in the northern half of the state. These factors contribute to higher introduction rates by non-native plant species and altered, low diversity plant communities made up of more tolerant species. Aquatic plant abundance is oftentimes either much higher or much lower than would be present in the absence of human activity. In the north, where watershed development, nutrient loading, and alkalinity are generally lower and plant communities are more diverse, APM strategies are more frequently protective in nature. However, because non-native species populations are present in fewer waters, stakeholders may choose management strategies to try and eliminate or contain non-native species from further spread.

RULE PROPOSAL – SUBMERGED AQUATIC PLANTS

To continue advancing management activities of non-native invasive species over time with innovative techniques and research, the department proposes Integrated Pest Management (IPM) decision-making processes be followed during the planning process.

Integrated Pest Management (IPM) is an ecosystem-based decision-making strategy that focuses on long-term prevention or control of species of concern or their damage. It is a science-based decision-making process that combines diverse treatment approaches, consistent monitoring, and adaptive strategies. IPM is intended to ensure the efficacy of management over the long-term while ensuring the lowest-possible risk to beneficial ecological functions.

Please see the planning white paper for more details.