

TOPIC: Emergent Species Management – Wetlands, stormwater ponds, stream banks, rights-of-way permittingWhite Paper Group 3

BACKGROUND

In addition to lakes and ponds, aquatic plant management (APM) also occurs in wetlands, along riparian¹ corridors, lake shorelines, in roadside and utilities rights-of-way, and other semi-aquatic or 'wet' environments. While these systems are not navigable, some APM activities within them still fall under the jurisdiction of Ch. NR 107 and 109. Aquatic plant management in wetlands and other semi-aquatic environments is typically aimed at controlling brush and invasive species and restoring habitat, as opposed to improving recreational or navigational access.

APM in wetland environments also presents some unique challenges. While navigable waters are a public resource, most wetlands and stream banks and shorelines in Wisconsin are privately owned. In most of these cases, managers must work with private landowners to organize and conduct plant control activities. Wetland invasive plants, such as Japanese hops (*Humulus japonicus*), non-native narrow-leaf and hybrid cattails (*Typha angustifolia*; *Typha × glauca*), reed canary grass (*Phalaris arundinacea*), phragmites (*Phragmites australis* subsp. *australis*), Japanese knotweed (*Fallopia japonica*), lesser celandine (*Ranunculus ficaria*), and java water dropwort (*Oenanthe javanica*) have variable means of propagation and dispersal that are difficult to address. Wind and water dispersal can make controlling the population and preventing the spread of emergent plant species particularly difficult.

The department relies heavily on collaboration with partners, such as non-profit organizations and Cooperative Invasive Species Management Areas (CISMAS), for the management of emergent species. Contractors can also be hired to conduct mitigation work. APM activities initiated by the department, conservation groups, and other partners for AIS control or restoration work must be approved through the appropriate permit process before implementing.

Because of the unique challenges associated with emergent plant management, the department has organized statewide strategic department control efforts for some of these non-native invasive plant species. In the past few years, the department applied for and utilized federal grant funding to coordinate control of many non-native phragmites and reed manna grass (*Glyceria maxima*) populations on public and private properties throughout the state. In the coming years, the department will continue with strategic, federally funded control work on the invasive species lesser celandine (*Ranunculus ficaria*), giant hogweed (*Heracleum mantegazzianum*), and hairy willow herb (*Epilobium hirsutum*). Application methods include spraying by helicopter, ATV, backpack spraying, or application by cut-stem dabbing, wicking, injection, or basal bark application. Non-chemical methods of emergent species control include burning, cutting, and mowing.

There are many locations where emergent species management occurs, with varying goals of management and target species:

Stormwater ponds

- Potential goals of management: mitigate use obstructions, aesthetics, control of non-native AIS

¹ areas along the banks of a river or stream

- Potential target species: non-native AIS, tall vegetation

Wetlands: Lacustrine, palustrine, riverine

- Potential goals of management: mitigate significant adverse impacts non-native AIS, navigation relief, habitat improvements
- Potential target species: Woody vegetation, non-native AIS

Right-of-ways

- Potential goals of management: mitigate use obstructions
- Target species: non-native AIS, tall vegetation

Stream bank

- Goals of management: flood mitigation, erosion control, control of non-native AIS
- Potential target species: woody vegetation, non-native AIS

Shoreline

- Goals of management: mitigate use obstructions, control of non-native AIS
- Common Areas: Great lakes shoreline, rip rap

Currently, NR 107 and NR 109 do not directly address the differences between these management scenarios. Emergent species management is permitted in the same processes as submerged aquatic plant management, or in water management.

RULE PROPOSAL – EMERGENT AQUATIC PLANT MANAGEMENT

The purpose of the APM program is to regulate the management of aquatic plants in order to protect diverse and stable aquatic habitats. Aquatic plant communities are a vital and necessary foundation of healthy aquatic ecosystems. All management actions within and surrounding Wisconsin waterbodies to address impacts caused by aquatic plants have varying levels of risk to human health and the environment.

The current administrative rules do not adequately address the unique locations and timing of emergent species management. The department proposes drafting a section of the rule pertaining to emergent species management: permit application requirements, permit expiration and renewal, planning, monitoring, public notice and treatment reporting may all vary from submerged aquatic plant control criteria.

Table 1. Proposed Permit Procedures and Requirements Under Repealed and Replaced NR 107

	Chemical management of emergent species on *non-riparian wetlands	Non-chemical management of emergent species on *non-riparian wetlands
Application Fee	TBD – will be designed to adequately fund the program's operations	TBD – will be designed to adequately fund the program's operations
Application requirements (Please see other white papers for more description)	<ul style="list-style-type: none"> • Acknowledge permit complies with department approved management plan. (See planning white paper) • Map of treatment area • Description uses being impaired • Description of the plant community causing obstruction 	<ul style="list-style-type: none"> • Acknowledge permit complies with department approved management plan. (See planning white paper) • Map of treatment area • Description uses being impaired • Description of the plant community causing obstruction • Target species verification

	<ul style="list-style-type: none"> • Target Species verification • Chemical product name • Mode of application • Chemical applicator name and license number <p>For large-scale treatments*</p> <ul style="list-style-type: none"> • Evidence of Public Notice 	<ul style="list-style-type: none"> • Area used for plant disposal, if changed from management plan • Anyone performing services
Issuance	<p>-Within 15 working days small-scale management</p> <p>- Within 30 days large-scale management</p>	
Expiration	-Expire 12/31 of each year or to end of renewal year	
Holds	<p>-The permit application is incomplete</p> <p>-An environmental impact report or statement required under s. 1.11</p> <p>-A public hearing has been granted under s. 227.42</p> <p>- Wild Rice is located within the management area</p>	<p>- The permit application is incomplete</p> <p>-A public hearing has been granted under s. 227.42</p> <p>- Wild rice is located within the management area</p>
Amendments	<p>-Company conducting activity</p> <p>-Applicator conducting treatment</p> <p>-Treatment area adjustments, if within scope of approved plan</p> <p>-Change trade name of herbicide</p>	<p>- Company conducting activity</p> <p>- Area where managing, if within scope of approved plan</p>
Renewal	Annually	Renewal with plan (see below)
	<ul style="list-style-type: none"> • The department may issue a 5-year permit if the treatment annually aligns with planned management in the current, department approved management plan. • The department may revoke the renewal if at any time waterbody conditions, treatment areas or water use obstructions change. 	

* Non-riparian wetlands refer to emergent aquatic plant communities not directly adjacent to waterbodies.

Treatment Scale

Discussions with department field staff have helped determine treatments over ½ an acre can be considered “large,” as a result of the needed resources to conduct treatments over that acreage. The department proposes further discussions to determine how scale is used to determine permit application requirements for emergent species management. The department intends to reach out to several partners in the state with subject matter expertise to continue the conversation.

The department proposes permit issuance criteria be the same for all management activities conducted in the state. Please refer to the permit processing white paper or refer to Table 2 below.

Table 2. Proposed Permit Issuance Criteria Under Repealed and Replaced NR 107

	Chemical and non-chemical management
The department will approve the permit if these criteria are met.	<ul style="list-style-type: none"> • There is a department approved APM plan for the waterbody • The proposed activity is consistent with a department approved APM plan for the waterbody • The proposed activity will remedy the water use impairments caused by aquatic plants • The proposed activity will not result in a hazard to humans • The proposed activity will not interfere with the rights of riparian owners • The proposed activity will not cause significant adverse impacts to threatened or endangered resources. • The proposed activity will not cause significant adverse impacts to fish, fish eggs, fish larvae, essential fish food organisms or wildlife, either directly or through habitat destruction • The proposed activity will not result in a significant adverse effect on the water quality, aquatic habitat or the aquatic community including the native aquatic plant community • The proposed activity is not in locations identified by the department as approved or proposed Critical Habitat - Sensitive Areas (subset of critical habitat), Public Rights Features (NR 1.06), ASNRI, Priority Navigable Waterway (NR 1.07(4)), Outstanding and Exceptional Resource Waters, if the proposal is in these areas, the applicant shall demonstrate to the satisfaction of the department that treatments can be conducted in a manner that will not alter the ecological character or reduce the ecological value of the area. • The cumulative impacts of previously approved applications on the waterbody have not caused significant adverse impacts over time to water quality, aquatic habitat or the aquatic community including the native aquatic plant community or the proposed activity incorporates or mitigates those impacts. • If wild rice is involved, the stipulations incorporated by <i>Lac Courte Oreilles v. Wisconsin</i>, 775 F. Supp. 321 (W.D. Wis. 1991) are complied with.
The department may set conditions to satisfy the criteria of issuance	<ul style="list-style-type: none"> • The quantity of aquatic plants that may be introduced or controlled • The species of aquatic plants that may be introduced or controlled • The areas in which aquatic plants may be introduced or controlled • The methods that may be used to introduce or control aquatic plants • The times during which the aquatic plants may be introduced or controlled

	<ul style="list-style-type: none"> • The allowable methods used for disposing of or using aquatic plants that are removed or controlled • Annual or other reporting requirements to the department that may include information related to the above
Conditional approval pending pre-treatment surveys and or supervisions	The department may stop or limit an activity if at any time it determines the activity will be ineffective, or will result in unreasonable restrictions on current water uses, or will produce unnecessary adverse side effects on non-target organisms or the targeted aquatic plants are not causing an obstruction of beneficial water use activities.

* Non-riparian wetlands refer to emergent aquatic plant communities not directly adjacent to waterbodies.

Planning

The department proposes a specific planning template for wetland management, in order to address the specific factors needed for management decisions in a wetland scenario. Particularly, mapping invasive species populations over time to assess efficacy and non-target impacts. Please see planning white paper for more information.

Monitoring

Monitoring can provide data to understand the natural patterns and trends in a plant community and help set more realistic and ecologically valid management goals. Monitoring designed to assess control actions is also an important aspect of APM. The target and non-target populations can be monitored before, during, and after management to evaluate the efficacy and selectivity of the control action. It is important that data are collected in a standardized and repeatable way. The use of a standardized method for monitoring plant communities, allows managers to track populations over time and make cross-system comparisons, allowing the better understanding of management outcomes to plan future actions.

Monitoring methods in wetland environments include time-meander surveys, transect surveys, drone surveys, simple presence absence of target and non-target species, and other semi-quantitative methods. However, there are thresholds where certain monitoring methods are no longer cost effective depending on the scale of proposed management. The department has information on differing assessment methods and tools [here](#). The department proposes further discussions to determine how scale is used to determine monitoring requirements for emergent species management under repealed and replaced NR 107, and how scale impacts the specific monitoring method used to assess effort, efficacy and impacts. The department intends to reach out to several partners in the state with subject matter expertise to continue the conversation.

Public Notice and Posting

The department plans to have a separate public meeting discussing public notification and posting requirements for all management activities in the state. Please refer to meeting schedules posted on [APM web pages](#) for more information.

Reporting

The department proposes reporting be done on a monthly basis, within 30 days of the final treatment within the month. An updated reporting form may combine chemical and non-chemical management so only one form must be submitted, with information required by DATCP and DNR:

- What and how much chemical are you using? How much vegetation was removed?
- How much land was covered?
- Species targeted?
- For aquatic treatments, what surfactants were used?
- NHI areas

Table 3. Proposed Application waivers for permits issued under repealed and replaced NR 107.

	Chemical management of emergent species	Non-chemical management of emergent species
Waiver: The department may waive permit requirements if *certain conditions are met.	<ul style="list-style-type: none"> -Right of Way management - Stormwater ponds -Frozen conditions (winter treatments) 	<ul style="list-style-type: none"> -Right of way management -DOT wetland mitigation sites - Stormwater ponds - Burning activities -Woody vegetation removal below Ordinary High-Water Mark on outlying waters.
Exemptions: The department exempts these activities from the permit process.		<ul style="list-style-type: none"> - All DNR Activities -Mechanical/Manual removal of woody vegetation above OHWM in Lacustrine, palustrine and riverine wetlands

* If the department determines there is not significant resource value present on proposed control site or directly adjacent.

FUNCTIONAL IMPROVEMENTS

Scale is an important consideration in emergent species management, the department intends to create forms that adequately address the varying scales of management. The department proposes county-wide non-native AIS treatments require more information than localized emergent species management. In addition, forms may be created by location of management, as described in the background section. Forms may also combine chemical and non-chemical management together for emergent species management, so separate permit forms do not need to be submitted.