# Door County Aquatic Invasive Species Education, Prevention, and Control Planning Coordination: FINAL REPORT

## Project Period: October 1, 2005 – December 31, 2007

**GOAL:** maintain and enhance the water and habitat quality of Door County near shore waters, shorelines, wetlands, and inland lakes.

## WORKSHOPS

*Aquatic Invasive Species Demonstration Control Workshops*

Sixteen were held. These workshops involved hands-on control work and multiple informational handouts aquatic invasive species and control. Majority of the workshops involved education, prevention and control for Phragmites, but there were several workshops that included training on Reed Canary Gras, and glossy buckthorn in aquatic habitats.

These workshops allowed for the ability for neighborhood groups to organize and implement work parties in their neighborhoods on the control of aquatic invasive species. These work parties increased the control effort county-wide allowing for the contribution of more volunteer hours dedicated to aquatic invasive species control work.

Door County has many shoreline landowners given the large amount of shoreline the county has. With numerous shoreline owners, workshops, and work parties have allowed property owners associations to become much more actively involved in control aquatic invasive species on their owned shorelines. Many of these organizations have contributed much time and dedication at invasive species control work in their own neighborhoods and beyond.

The establishment of an Equipment Loan program allowed for invasive species control equipment to be available for five demonstration control workshops and neighborhood work parties.

*Clean Boats, Clean Water (CBCW) and Rusty Crayfish Workshops*

Four CBCW workshops were held within the duration of the project. In 2006, one CBCW was held for the county's three lake associations. In 2007, one CBCW was held, again, for the county's three lakes associations. Also in 2007, two CBCW educational sessions were held for county marina operators and their staff. One rusty crayfish workshop was held in 2007.

In general, attendance for both types of workshops was quite low. It has been determined that relationships with lake association members, marina operators, and the general public need more attention. It was learned throughout the process of planning that marina and lake associations are quite busy right away in the late and early summer. So, future workshops and educational sessions will be organized and plan to have late winter to allow for the possibility of more attendance. Furthermore, it was brought the attention of the Door County Invasive Species Team Coordinator, via a couple marina operators that not too many years ago there was an organization of marinas throughout Door County that meat annually. This organization and meetings no longer exist. Reconvening this group and facilitating their communication would make great strides towards more comprehensive AIS action in Door County in regards to The Clean Boats, Clean Waters Program.

## PRESENTATIONS

Numerous presentations were given to various offices, organization, and groups throughout the county. In the fall of 2006, a two part invasive species control workshop was held for county landscape contractors. Speakers from the WDNR and DATCP helped clarify standards for required permits and appropriate certifications. Informational presentation has shown to help aid in invasive species control actions. For example, The County Highway Department, The Town of Baileys Harbor, and at least three property owner groups engaged in aquatic invasive species control after a DCIST presentation. Similarly, invasive species control work parties held following information presentations showed a marked increase in attendance and enthusiasm over those held for people who had not had a presentation.

General knowledge about invasive species among all public sectors (public, private, commercial, etc.) is low, therefore; invasive species issues remain a low priority for the citizenry of Door County. It has been shown that people are slow to change, so consistent effort in continuing to educate is a must for the Door County Invasive Species Team.

## AQUATIC INVASIVE INFORMATION AND DISTRIBUTION

The DCIST Coordinator contributed to new WDNR handouts regarding shoreline maintenance and Phragmites control, as well as, adapting other pertinent WDNR handouts for Door County. Handouts, brochures, wildcards, etc. were made available at all meetings, presentations, and workshops. The same information was also distributed to neighborhood contacts.

Updates have been made to the Door County Invasive Species Team website. Members of DCIST, including the coordinator made preliminary plans on what needs attention on the website to make it work more efficiently and be more effective.

Made possible by the Aquatic Invasive Species grant, the Door County Invasive Species Team was able to edit and produce more DCIST brochures. A copy of the new brochure is included with this report.

## ADDITIONAL GRANTS

A variety of funds were sought during the project timeline. These include:

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| C.D Besadny Conservation Grant Program- | Equipment Loan Program |
| Raibrook Foundation- | Equipment Loan Program |
| BASF Chemical Company- | Phragmites Control Project |
| Lakeshore Natural Resource Partnership- | Summer Aquatic Invasive Species Intern |
| National Fish & Wildlife Foundation - | Invasive Species Education & Demonstration for Local Municipalities. |
| Wisconsin Coastal Management Grant (2) - | Invasive Species Education/ Control |

*$$ DONATIONS and VOLUNTEER HOURS*

A total of $7,000 was donated between the C.D. Besadny Conservation Grant Program and the Raibrook Foundations for the possibility of establishing an Equipment Loan Program. There were also several in-kind donations acquired during the duration of this project through the use of office space at the Soil & Water Conservation Department, Door County Land Trust office, and The Clearing.

A total of 3,234.50 volunteer hours were acquired during this project.

## LOCAL ORGANIZATION CONTROL PROJECTS

There were many organizations that became involved in invasive species control throughout this entire project. Invasive species continues to be a topic many landowners are concerned about. Organizations that were involved in control projects include:

| | |
|---|---|
| South Lake Michigan Drive Owners Assoc. - | Phragmites control |
| Baileys Harbor Adopt-a-Beach Group- | Phragmites Control |
| Washington Island Landowner Assoc. - | Phragmites Control |
| Crossroads at Big Creek- | Phragmites and Buckthorn Control |
| Kangaroo Lake Assoc. - | Clean Boats Clean Waters Programming |
| Lake Forest Park Road Owners Assoc. - | Phragmites Control |
| Bayshore Property Assoc. - | Buckthorn Control |
| Friends of Toft Point- | Phragmites, Reed Canary Grass Control |
| Town of Baileys Harbor and local Landowners- | Phragmites Control |

## COUNTY-WIDE CONTROL PLANS

Due to its prominence in the county and the severity of the threat it poses, the spotlight in this category has been focused on Phragmites. A draft control plan was put together by the DCIST Coordinator prior to the completion of this grant. The DCIST Steering Committee has since come together to edit the draft. Upon completion of the Steering Committee's draft, the control plan was reviewed by others for editing. A final control plan is included with this report.

## INTERN

The Lakeshore Natural Resource Partnership grant program provided funding to support a summer aquatic invasive species intern. This intern proved to be quite beneficial to the project. An intern has now been incorporated into planning for future summers/ grant opportunities. The presence of the intern facilitated a one-on-one interaction with lake associations, marina operators, and rental facility personnel. These efforts assisted in the success of the Clean Boats Clean Waters Programs and associated tasks required for this program.

## PHRAGMITES CONTROL OPPORTUNITY

A grant award from the BASF Chemical Company allowed for the enhanced outreach of the DCIST program in the area of Phragmites Control. It allowed for the development of a program to inspire new and already existing companies to become involved in Phragmites control. There was an incredible turn out of landowners interested in the control of Phragmites located on their property. Through this grant much Phragmites was allowed to be controlled, and in many cases landowners observed first hand how control methods are used in the area of Phragmites.

DCIST hopes that that opportunity has facilitated the availability of contractors throughout the county to become certified and participate in the large demand of Phragmites control in Door County.

## OVERALL EDUCATION & OUTREACH SUMMARY

There is a core of concerned members of the Door County community dedicated to safeguarding biodiversity and combating invasive species. Though this group is converted, they need more attention, information, and leadership skill development. The general public, however, still lacks much basic knowledge about biodiversity and the threats of invasive species. The DCIST program needs more outreach and education and a more thorough media campaign to educate and keep attitudes positive.

The Coordinator needs to be a member of multiple organizations, attending meetings and events where public input is happening. The coordinator needs to attend and present to more town board meetings, organization meetings and events (ex. Wild Ones, fish & game/ whitetails clubs). The Coordinator needs to be a positive face and present reasonable and tangible expectations.

*Work Party Attendance:*

When held for a specific association that requested the work party or when held after an informational presentation, work party attendance was generally good to excellent. When held for general public, marinas and two park Friends Groups that did not have a previous educational presentation, there was poor attendance was observed. Efforts to raise stakeholders' education level will most certainly increase participation in work parties and subsequent volunteer control efforts. Advertising shortcomings should be analyzed as well.

## CONCLUSION

Seeds planted over the years have been well tended and with the presence of a coordinator, the DCIST program has experienced tremendous growth in the past 24 months. The Door County Invasive Species Team Steering Committee and Coordinator alike are finding their balance in this evolving effort. Energy put towards strengthening the core of the program will ensure success and efficiency. *Strengthen the core and educate the citizenry.*

2007

# Door County Invasive Species Control Plan—*Phragmites australias*

## Introduction:

Exotic Phragmites australis, or common reed grass, is an invasive perennial grass that is found throughout the Great Lakes region and is a serious threat to wetland and shoreline ecosystems. Exotic phragmites spreads quickly and forms dense monotypic stands that replace high quality wetland and shoreline communities. The rapid expansion of exotic phragmites, hereafter referred to as phragmites, has resulted in adverse ecological, economic and social impacts on the natural resources and people of the Great Lakes.

This control plan is intended to aid landowners, citizen stewards and municipalities of the Door Peninsula in the control of phragmites. The information provided in this document is intended to provide the essential tools and information necessary to begin effective control of phragmites. Complete control may not be feasible with large, established phragmites patches. However, through management, it is possible to maintain phragmites infestations at levels that allow for regeneration of native plant communities and protection of fish and wildlife habitat.

## Understanding Exotic and Native Phragmites:

Phragmites is most prevalent on exposed lake shorelines, along highway and road corridors, and tolerates the semi shade of damp wooded areas. With low lake levels, phragmites is proliferating on the vast expanses of exposed lakebed. Roadside ditches and highway medians are often damp and seeds are spread by mowing equipment or simply blow along with wind and traffic. Once established on the public right-of-way, phragmites can be the vector for infesting forested wetlands just as well as open, treeless wet areas. There is more than one strain of exotic phragmites causing problems in North American marshlands and wet woods. These strains are much more aggressive than the native phragmites and physically out compete as well as interbreed, producing more aggressive offspring.

While abundant in areas, the native variety of phragmites is smaller in stature and much less aggressive than exotic phragmites. Native phragmites is found interspersed with other wetland plants and does not form the monoculture stands indicative of the exotic strains. The native type produces much less seed and root growth and does not show a tolerance to the moderate shade of wooded wetland areas like exotic phragmites does.

## Problem:

Door Peninsula is host to an amazing assemblage of plant and animal species. Exotic phragmites is recognized as a severe threat to shoreland and wetland biodiversity therefore control is key to conserving the biodiversity. The aggressive growth of phragmites along the shoreline diminishes the aesthetic beauty of the shorelines. Property owners are burdened with control costs and property resale values can be impacted.

Phragmites shows more prolific growth in the southern segments of Door County. While Washington Island and surrounding islands are still relatively unaffected by exotic phragmites they are still at risk and care is needed to be taken to control starting populations.

## Identification and Life History:

**Habitat:** Roadside ditches, open wetlands, riverbanks, lake shores, disturbed or undisturbed plant communities; prefers alkaline and brackish waters but will tolerate highly acidic conditions; can grow in water up to 6' deep and in somewhat dry sites.
**Height:** 3 – 20'

**Leaves:** Linear; green or grayish green; 0.5-1.5" wide at base; 10-20" long; smooth; flat; rough on the margins; leaf sheaths stay attached to the stem through the winter.
**Seed heads:** Large, dense, featherlike, grayish purple plumes; 5-16" long; produced in lake July through September; become beige to dark brown at maturity.
**Stems:** Canelike; up to 1" in diameter; non-native strains are tan, dull, rough, and ribbed, ridge and tough; hollow; unbranched; buds form on the rhizomes during the summer and become fast growing stems the following spring.
**Root System:** Rhizomes that can reach up to 6' deep with roots emerging at the nodes.
Reproduction: Large colonies are formed by spreading rhizomes; stolons sometimes contribute to expansion; seeds are often infertile; non-native strains have rapid clonal expansion, while native strains generally do not appear aggressive.

**Planning Invasive Species Control:**
When dealing with any invasive plant infestation, it is important to have a plan and employ successful strategies. Given the tenacious nature of weedy plants, ***a successful plan must be long-term.*** Successful control must involve adjacent landowners due the fact that invasive species are not restricted by property boundaries. At the countywide scale, success requires that cooperation among agencies; not-for-profit organizations and landowner groups become a standard part of operations.

**General strategies:**
1) **Prevention**
   Recognize phragmites and act to eradicate when new plants are identified. Early detection and control actions will safeguard the resource and save time effort and money.
2) **Inspect**
   Thoroughly inspect the area to be treated. Walk all areas in question and properly identify target and non-target plants. Look especially for outlying populations of the target species that may be 'escaping' the main area of infestation.
3) **Containment**
   When commencing control efforts, the first priority should be containing the spread of the target species. Generally, this is best achieved by focusing efforts first on scattered outlying populations and then working into the center of infestation where growth is most well established. Working to surround, or 'corral' invasive plants helps to streamline efforts, minimize frustration and lead to success.
4) **Follow-Up/Monitor**
   When controlling invasive plants, ***follow-up is always required.*** Virtually no single treatment will totally eliminate invasive plants, including phragmites. Continue follow up until the phragmites is eliminated or contained. Monitor the property yearly for new plants.

**Control Methods**
There are a range of control techniques that can be employed to combat phragmites. The method employed for a given site will vary depending upon the location, stage of infestation, site dynamics, time of year, consideration for other plants at the site and resources available. Combination of methods can be the best method for control. It is strongly recommended to use herbicide to control phragmites due to its ability to resist control efforts.

When tackling phragmites, keep in mind that its strength lies in its robust, extensive root system. Eliminating phragmites means killing its roots. Less attention can be paid to the seeds. Even when the seeds are viable, a phragmites infestation is dominated by vegetative reproduction through root growth. For this reason, a thick stand of phragmites is often referred to as a clone.

## Manual Control without Herbicides

### Digging

Plants can be dug up with a shovel, hoe or other hand tools. Care must be taken to make sure no part of the root remains; it only takes a small root part to resprout into a new plant. Roots should be placed on tarp or plastic to fully dry out. Once dry, they can be composted. (*caution should be taken to make sure roots are fully dried out, do not leave in area where they can get wet) Alternately, roots can be bagged and sent to landfill. Control Recommendation: For small plots (5 feet diameter or less) without nearby colonies.

### Pull up stolons

Pull stolons in mid-summer prior to rooting. Check every 10 inches to make sure to remove the root with the stolon. Remember to remove all parts due to plants ability to resprout with small part of the root system. Place on tarp or plastic to fully dry out. Once dry, compost or bag and landfill. Control Recommendation: For small plots (5 feet diameter or less) without nearby colonies.

### Mowing

Manual cutting via machete, weed whacker or push mower is done to remove standing dead canes or provide shorter canes for fall treatment. Mowing is only done when the site is completely phragmites. This is not an effective treatment by itself. Leave cut stems and seed heads where they lay or bag them completely. Movement of seed heads increases the spread of phragmites if not done property. Control Recommendation: for se with herbicide treatment such as Bundle, Cut and Treat or Foliar method.

## Manual Control with Herbicides

### Herbicides

The best control of phragmites requires the use of herbicide depending on the situation. Two non-selective herbicides, glyphosate and Imazapyr, are commercially available and known to control phragmites effectively when used properly. The following points must be addressed when using herbicide.

- **Use environmentally appropriate herbicides** - Wetlands and shorelines are very sensitive ecosystems and broad spectrum herbicides will kill all green foliage that they come in contact with. The control method and herbicide used should be appropriate for the target area. Always use herbicides appropriately. Improper use of the terrestrial herbicide formulations in aquatic habitats may harm fish, amphibians, and macro-invertebrates and is a violation of federal and state laws.
- **Use commercial herbicide dye** – the dye will help you keep track of the application area and spills will be noticed.
- **Always wear proper personal protective equipment** - as described on the product label.
- **Federal law requires the person applying a given herbicide to follow all label instructions and only apply herbicide where and when the label dictates.**
- **Leave treated canes standing after treatment** - Herbicide takes several weeks to move through the plants into the roots. Do not trample or cut the canes until at least 2 weeks after treatment.
- **Consider wind speeds when applying herbicide** – apply herbicide during low to no wind situations to prevent over spray
- **Avoid herbicide waste** – Apply appropriate amounts to avoid excess dripping to the ground.
- **Use appropriate herbicide surfactant** - This is the ingredient that helps the herbicide stick to the plant and penetrate the leaves.

### Timing

Phragmites responds best to herbicide treatment later in the growing season. Starting in late summer (beginning in August), the plant pulls nutrients down into its roots providing the optimal time to send a lethal

dose of herbicide to the root system. As long as the plant is still more than 50% green, most herbicides are effective until hard frost (26 degrees F/-3 degrees C). Application of herbicides should not be done when rain is imminent.

**Bundle, Cut and Treat Method**

Gather a handful of green canes (dead canes will not carry the herbicide down to the roots) of phragmites and tie those firmly with a 14"-16" long piece of sisal twine. Tie the bundles firmly at waist height. Cut the bundle with a sharp hedge shears just above the twine, and immediately spray or paint the "stumps" with herbicide. Use a spray bottle or sponge applicator that is labeled and apply just enough herbicide to moisten the fresh cut edge of each stem. In areas where the stem densities are low and they cannot be bundled, just cut and treat individual stems. Leave cut canes and seed heads on the ground where they were cut.

**Foliar Treatment Methods**

Applying herbicide directly to the green growth is a very effective way to deliver herbicide to the roots. Plants should be sprayed just enough to wet most of its foliage. There are two methods:

**Wicking**

Wicking, or wiping herbicide directly onto foliage is a very precise way to deliver herbicide to the target plant. Wicking can avoid the collateral damage of overspray and drift from spray applications.

**Two different methods**:

Glove Application: The applicator wears a long, chemical resistant rubber glove with a cotton glove over the top of it. The herbicide mixture is then sprayed onto the cotton glove and the applicator grabs the plant low and runs the gloved hand up the canes, wicking herbicide onto the plant.

Wick Wand Application: commercially sold wands with a spongy surface that allows the applicator to wipe, or wick the herbicide mixture directly onto the foliage. Wick wands are also available for attachment to backpack sprayers. For extremely large areas, machine powered wicking applicators can be used. A boom wick is attached to a tractor, ATV, etc. The boom has a spongy surface that allows the applicator to wipe, or wick the herbicide mixture directly onto the foliage as the vehicle passes. This is commonly used in area desirable native vegetation is present beneath phragmites.

**Spraying**

Depending on the size of the clone will dictate the spray method. When spraying the plant should be moisten most of its foliage for the herbicide to take effect.

**Hand sprayer**: used for small (less than 5 feet diameter) plots.

**Backpack Sprayer:** used for midsized plots. Using team effort can increase the size of the plots. A limiting factor for use can be the weight of a fully loaded sprayer, reaching upwards to 50lbs.

**Powered Spray Units:** (used for large monoculture stands) Power sprayers utilize a bulk tank and pump to reach larges areas. Power units can have 100's of feet of hose line, allowing the applicator to reach far out onto the exposed lakebed without having to drive on it.

**Aerial Treatment:** used for large monoculture stands not accessible by foot. Helicopters can be a very accurate aerial delivery system and can cover large areas in a short time. GPS tracking is used to aid in accurate application. Limiting factor is distance from launch pad to treatment site will affect cost.

**Machine Powered Control with Herbicides**

Controlling large acres of phragmites can be made easier by the use of machine driven equipment. **At no time is tilling or disking a recommended control technique**. The use of machine provides removal of

standing dead canes to expose new growth for treatment or cut exiting stands down to a workable level. Consideration must be taken with using equipment on exposed lakebeds. As the exposed lakebed is ultimately public property, the WDNR requires permits to safeguard the shoreline ecosystem. A permit is required to use of machine driven equipment (brush hog, tractor, ATV, etc.) below the Ordinary High Water Mark. Equipment designed for wet, boggy conditions is appropriate. Disturbing the lakebed (including tire ruts) must be avoided. Winter cutting prior to snowfall but after freeze to remove standing canes is recommended.

**Burning**

Burning phragmites, like cutting, is only recommended to remove the standing dead canes. Being a grass it will thrive after a fire and experience a growth due to a flush of nutrients. Burning should only be used to clear monoculture stands in preparation for herbicide treatment. Burning below the Ordinary High Water Mark is not a recommended continuous practice as the ash residue from burning is a nutrient that can fertilize algae in the lake. Standing phragmites will burn quickly with impressive bright orange flame and thick black smoke. Burning requires permits from local fire authorities.

**Management Strategies**

For **large-dense stands** of phragmites on a wet or dry site (consider the use of aerial application, boom sprayers, wick applicators, or high pressure sprayers.)

1. Treat phragmites stands with herbicide in early summer or late summer, depending upon the type of herbicide used. Wait at least two weeks to allow plant exposure to the herbicide.
2. Conduct winter removal of standing dead canes; follow up with spot herbicide treatment in late summer (late August- through early October).
3. Check site the following growing season for phragmites regrowth and spot-treat with herbicide if needed. On dry sites, mechanically cut treated plants once after an herbicide treatment beginning in late summer or fall until prior to spring green-up. Herbicide spot treatment will be needed during the next growing season.

For **low-density stands** of phragmites on a wet or dry site (consider the use of bundle and cut, wick applicators, or spot foliar treatments.)

1. Treat phragmites stands with herbicide in late summer or early fall, depending upon the type of herbicide used. Wait at least 2 weeks to allow plant exposure to the herbicide.
2. Mechanically cut plants beginning in late summer or fall until prior to spring green-up, or when the ground is frozen for wet sites with hand tools, weed whips or small mowers where dense stands of phragmites are present.
3. Check site the following growing season for phragmites regrowth and spot-treat with herbicide if needed. (Adapted from A Guide to the Control and Management of Invasive Phragmites; Michigan DNR)

**Long-term Management and Follow-up**

Management of a site to control phragmites does not end with the successful implementation of one or more of the control methods described above, but rather begins with these initial steps. Because of the pervasiveness of this species and its ability to aggressively recolonize through seed or rhizomes, long-term management and monitoring are necessary. The control methods described above are likely to be successful in controlling phragmites for one to two years without additional action. However, phragmites typically begins to recover three years after treatment and will become reestablished if follow-up management is not implemented. After removal from a site, phragmites will continue to recolonize from remnant and neighboring populations and the existing seed bank in the soil. Annual maintenance is essential to the success of any habitat restoration plan and should focus on selectively removing pioneer colonies of phragmites. Once areas of phragmites have been controlled (e.g., greater than 85-percent reduction), it is recommended that an annual maintenance control program be implemented. Successful long-term management plans should incorporate one or more of the control methods, including spot treatment with herbicide, mowing during the recommended time and/or use of prescribed fire. For example, annual spot

treatments of pioneer colonies of phragmites with herbicides can provide up to 100-percent control of phragmites and discourage its spread, while enhancing the recovery and growth of native plants.
To reach the goal of reestablishing and restoring native wetland plant communities, controlling invasive species is a necessary step. Implementing selective control, as needed, will not only keep phragmites from reestablishing dominance, but also will pave the way for the recovery of beneficial native species of wetland vegetation. Seeding an area after phragmites control to restore native wetland communities typically is not necessary since native seeds normally are present in the soil. It is recommended that native vegetation be allowed to reestablish naturally. However, if monitoring determines that native plants are not responding, some sites may require seeding or planting using native genotypes to reach restoration goals. Monitoring and adaptive management are integral components of a successful phragmites control plan. A detailed monitoring plan should be developed prior to implementation of control measures. Monitoring provides the data needed to determine the effectiveness of initial control efforts and the types of follow-up control methods that are necessary. Monitoring may be as simple as establishing and using fixed photo points on the site to record changes over time, or more involved, such as comparison of aerial photographs taken over time or the use of quantitative measurements and inventories of vegetation using sampling grids or transects. At a minimum, each treated site should be inspected annually during the growing season. In the future there may be an effective biological control for phragmites, just as beetles can now be used to control purple loosestrife in certain situations. Currently there are no commercially available biological methods for the control of phragmites; however, several insects and microorganisms native to Europe are known to attack phragmites. Ongoing research at Cornell University is exploring the possibility of using these species as a means of biological control (**http://invasiveplants.net**). *(Taken from A Guide to the Control and Management of Invasive Phragmites; Michigan DNR)*

**Ordinary High Water Mark**

The Ordinary High Water Mark (OHWM) is the line that separates public property from private property. Under Wisconsin's Constitution, lakes and rivers are public resources, owned in common by all Wisconsin citizens under the state's Public Trust Doctrine. On Lake Michigan, the OHWM is the line of highest water level in historic times. Land above the OHWM is private property and all land below the OHWM, even if exposed, is part of the Public Trust. On Lake Michigan today, the OHWM is currently dry and can be hundreds of feet from the current water's edge. While the exposed lakebed is public property, the adjacent landowner maintains exclusive access to the dry lakebed. Public access is still limited to the immediate water's edge.

**Rules and Regulations/ Laws and Statutes**

Rules and regulations are in place to help protect the public's interest in and the long-term health of the waterways of Wisconsin. Therefore, permits and/or certification may be required to carry out certain activities.

- permit may be required disturb or remove vegetation.
- permit **IS** required to drive on or mechanically disturb the lakebed.
- permit and certification **ARE BOTH** required to apply herbicide to Waters of the State.
- permit **IS** required for open burning.

**Agencies and their respective areas of responsibility regarding Phragmites control activities**

WDNR Water Division defines OHWM and regulates disturbance of the exposed lakebed, vegetation removal below the OHWM and of pesticide use over water and wet areas. Door County Planning Department has oversight of land disturbance and tree removal on private property above OHWM. Wisconsin Department of Agriculture, Trade, and Consumer Protection (WDATCP) Agricultural Resource Management Division has oversight of pesticide/ herbicide usage and the certification and licensing of pesticide/ herbicide applicators.

**Vegetation Removal below OHWM**

Mechanical and manual removal of vegetation below the OHWM is governed by Wisconsin Administrative Code NR 109. With the exception of rare, endangered or threatened species, a property owner is allowed to **manually** remove some vegetation below the OHWM on the exposed lakebed without a permit as follows: ***Regardless of total frontage for a given parcel***, the property owner is allowed to manually (without powered driving or riding equipment) remove vegetation to clear a path not to exceed 30 feet in width from the OHWM down to the water's edge without a permit. Manual removal of recognized non-native or Invasive Plants*** beyond the 30-foot limitation is allowed without a permit providing that native plants are not harmed. *See WDNR Invasive Species webpage: http://dnr.wi.gov/invasives/plants.htm

**When conducting phragmites control**

Both **Certification** and a **permit** are required to:

Apply herbicide to any Waters of the State, including : open water, ponds, wet areas adjacent to water, wet soil and swales as well as dry areas adjacent to water where there is ***NO*** soil to intercept overspray or spilled herbicide (example: cobble beach or bedrock shore)**. Wisconsin Administrative Code NR 107, Wisconsin State Statutes Ch. 94.703-705

**A permit is required**

- Drive motorized machinery below the OHWM, including, but not limited to: riding lawnmowers, tractors, skid steers, all-terrain vehicles. Wisconsin State Statutes Ch. 30.29
- Mechanically disturb the lakebed below the OHWM. This includes tilling, digging, dredging and adding fill. Wisconsin State Statutes Ch. 30.20
- Apply herbicides to any Waters of the State, including: open water, ponds, wet areas adjacent to water, wet soil**. Wisconsin Administrative Code NR 107
- Openly Burn vegetative material. Check with the Fire Department of local jurisdiction. In order to minimize nutrient runoff from ash, burning should be done away from the water's edge on private land above the OHWM. Wisconsin Administrative Code NR 109
- Herbicide certification is needed if the area you wish to treat is damp enough to get socks wet or damp if you were standing in the treatment area with only socks on your feet.

**Reference**

Wisconsin Department of Natural Resources website
WDNR NE Region Water Resource Department and Regional Ecologist
*"Invasive Plants of the Upper Midwest"* by Elizabeth Czarapata, University of Wisconsin Press, 2005
"*A Guide to the Control and Management of Invasive Phragmites*" By Michigan Department of Environmental Quality
Door County Invasive Species Steering Committee