

**MENOMINEE COUNTY AND MENOMINEE INDIAN  
TRIBE OF WISCONSIN  
INVASIVE SPECIES MANAGEMENT PLAN**



**Spotted knapweed control area that is repopulating with natives in Menominee  
County/Reservation**

**March 2020**



**Signature page**

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## Introduction and Background

Invasive species are plants, animals, fungi and microorganisms that are not native to a location and have a tendency to damage local ecosystems, harm human health, or disrupt human economy. Often having no natural predators or controls, introduced species have the potential to out-compete native species, especially threatened or endangered plants and animals which are sensitive to environmental stress. In addition to local extinctions of native species by direct competition for resources, invasive species may affect other organisms that depend on the displaced species for food or habitat.

Menominee County/Town, Menominee Indian Tribe of Wisconsin (MITW), Timberland Invasives Partnership (TIP), the Connecting Our Waters (COW) program of the Fox-Wolf Watershed Alliance (Fox-Wolf) and the Waterways Association of Menominee and Shawano Counties (WAMSCO), and several tribal departments were consulted to develop this plan; which is consistent with the MITW Strategic Plan and the County/Town of Menominee Comprehensive Plan. Because this plan will be used to prevent the introduction and spread of aquatic and terrestrial invasive species within Menominee Reservation/County, this plan needs to be adaptive to include new threats as they emerge. An effective management plan will require cooperation from local, state and federal government programs, lake districts, lake associations and citizen volunteers.

The Menominee County and MITW invasive species management plan (ISMP) pertains only to Menominee County/Town and MITW Tribal lands. Management of invasive species within forested land zoned for sustained yield will be implemented by Menominee Tribal Enterprises (MTE) as outlined in their Integrated Pest Management Handbook. A mutual aid agreement between Menominee County Conservation, Forestry, and Zoning (CFZ) Department, MITW Environmental Services Department (ESD), and MTE was created to coordinate invasive species management throughout Menominee County/Reservation. The agreement establishes the terms and conditions by which each party may request assistance from the other parties for invasive species management efforts that cross jurisdictional boundaries. The mutual aid agreement states that CFZ, ESD, and MTE will share locations and maps of invasive species infestations and work together on public outreach and education.

Because invasive species are almost exclusively spread via human activities, the areas most susceptible to infestation within Menominee County/Reservation are highly traveled corridors, waterways, and residential areas. State Highway 47, State Highway 55, County Road M, and County Road VV are the most traveled corridors in Menominee County/Reservation and should be given high priority. Invasive animals and plant parts are most often transported from corridor to corridor during landscaping and road maintenance operations. During construction, seeds and roots can be transported on equipment and through the use of imported mulch, soil, gravel, and sod. Some invasive plants may be intentionally planted for erosion control, landscape, or restoration efforts. Mowing while invasive plants are flowering can also spread plants by dispersing seeds farther than natural seed dispersal. Many of these construction and maintenance practices are also employed in residential areas, making the most populated areas of Menominee County/Reservation highly susceptible to invasive species.

In addition to invasive species transportation during infrastructure construction and maintenance, residential areas are subject to several other human activities with the potential to introduce invasive species. Landscaping is very common around private dwellings and can introduce invasive plants through mulch or intentional planting in gardens. Exotic animals kept as pets are often released into the wild when they are no longer wanted. Some plants and animals have been introduced as a source of food and allowed to spread without knowledge of the consequences. Developed areas have less overall biodiversity than natural areas because of infrastructure, so invasive species flourish due to lack of competition. When residential areas occur near bodies of water, the potential for invasive species to colonize increases because lakes and rivers attract recreationists from other parts of Wisconsin and the United States. In Menominee County/Reservation, the residential areas with the most potential to develop populations of invasive species are: Legend Lake, Moshawquit Lake, Southeast Bass Lake, Round Lake, Keshena Lake and LaMotte Lake. In addition to these areas having some of the highest populations in Menominee County/Reservation, they have many seasonal residents and visiting lake users. The more travelers visit a location, the greater the chances of invasive species spreading. Although waterways on Menominee Reservation land do not have public access, they are used by the Menominee People for fishing and waterfowl hunting and are susceptible to invasive species introduction.

Some invasive species are introduced through natural means like seed dispersal, wind, and birds. Gypsy moth, emerald ash borer, oak wilt, and annosum root rot are all capable of advancing through forested areas unaided by humans. Human activity can exacerbate the natural spread of invasive species, so integrated pest management techniques like cutting bans and precautions on oak and pine during highly susceptible periods should be emphasized to reduce the potential for introduction by natural means.

## **Public Awareness and Education**

Education is integral to slowing and stopping the spread of invasive species because they are almost exclusively spread by humans. The public needs to be informed about where invasive species are found, what actions cause the spread of invasive species, and what they should do to prevent the spread. Prevention is most successful when many people are involved, and even the most extensive educational campaigns are less expensive and time-consuming than treatment. Educational efforts should include the continuation and promotion of Clean Boats Clean Waters (CBCW), a program in which citizens help educate water users about the harm of aquatic invasive species (AIS). Legend Lake Protection and Rehabilitation District (LLPRD), Moshawquit Lake Association (MLA), and LaMotte Lake Association (LLA) participate in boater education through the Clean Boats Clean Waters (CBCW) program.

MITW and CFZ will continue working with the entities identified in the “County/Town of Menominee Comprehensive Plan 2030” to implement the education and outreach activities outlined in the Menominee County Land and Water Resource Management Plan (LWRMP) with the goal of increasing public awareness of invasive species concerns. MITW and CFZ will take advantage of the educational programs, funding, and informational materials provided by: Wisconsin Department of Natural Resources (WDNR), Wisconsin Department of Agriculture, Trade, and Consumer Protection (WI-DATCP), University of Wisconsin-Madison Division of

Extension (UWEX), the State and Private Forestry (S&PF) organization of the United States Department of Agriculture (USDA), United States Fish and Wildlife Service (USFWS), Animal and Plant Health Inspection Service (APHIS), Natural Resource Conservation Service (NRCS), United States Department of the Interior (USDOl), Bureau of Indian Affairs (BIA), and other agencies.

There are several education resource centers in Menominee County/Reservation where the public can learn about invasive species: Menominee County CFZ, Extension Menominee County/Reservation, Legend Lake Lodge, College of Menominee Nation (CMN), and MITW Conservation/Environmental Services Departments.

## **Early Detection and Rapid Response**

Prevention is the first defense against invasive species, but even the most comprehensive prevention plan cannot stop all invasive species. Early detection and rapid response is a coordinated effort to identify and remove invasive plants and animals quickly after introduction, before they can spread and cause harm. Early treatment is critical because the longer an invasive species is allowed to establish itself, the less likely eradication efforts will be successful. Even for very stubborn species, smaller populations with young, weak individuals take less time and money to treat than mature monocultures.

Early detection efforts will be conducted by Menominee County CFZ, MITW ESD, and MITW Conservation Department, and will also rely on sightings from the County Highway Department, WDNR, lake associations/districts, citizen volunteers, and the public. Invasive species locations will be shared among the partner agencies identified in this ISMP. To increase the likelihood of spotting new infestations, expansion of trained volunteer monitoring programs should be encouraged.

Rapid response efforts will be led by Menominee County CFZ, which will organize personnel and supplies. Treatment plans will be determined on a case-by-case basis and may involve physical, biological, and/or chemical control as agreed upon by all entities involved. Lake associations/districts and other affected property owners may be involved in control decisions.

## **Presence, Extent, and Management**

### **Invasive Species Present in Menominee County/Reservation**

List of invasive species that have been sighted and/or verified within Menominee County/Reservation as of 2019. Included are short descriptions of each, potential control methods and management strategies.

#### ***Terrestrial Species:***

**Garlic mustard (*Alliaria petiolata*)** - Garlic mustard grows in upland and floodplain forests, savannas, yards, and along roadsides, occasionally in full sun but generally requires some shade. The release of antifungal components by this species into soil disrupts native plant growth, which combined with massive seed set makes this plant especially invasive. In Menominee County/Reservation, it has spread into the forests over the years through several avenues. The plant itself doesn't move seed too quickly, but humans and animals drag the seed down road and path corridors. MTE is formulating plans on how best to manage garlic mustard and the interaction with the forest. The lakes area, Neopit, Keshena, and State Highway 47 and 55 corridors have many scattered locations. These locations are monitored and treated several times annually by CFZ and MITW ESD.

The most effective method of control is multiple treatments with an approved herbicide each year. Starting in early spring, first-year rosettes can be treated with an approved effective herbicide before the leaf-out of native plants. Spot-treatments and hand pulling are effective in removing older plants that were missed during the initial spring treatment, but must be completed before seed-pod maturation in mid-July. If possible, another herbicide treatment on emerging rosettes in the fall may be performed after native plants have gone dormant.

**Spotted knapweed (*Centaurea biebersteinii*)** - Spotted knapweed often attains high densities on sunny wild lands-even ones undisturbed by humans. Knapweed tends to dominate sites at the expense of community diversity, and is negatively impacting wild lupine patches (federally endangered Karner blue butterfly habitat) in several locations within Menominee County/Reservation. Knapweed infestation can also increase surface run-off and sedimentation due to its poorly developed root system.

For newly discovered infestations, the most effective control is early detection and removal of pioneering plants. Small populations can be removed by digging or pulling. This is best done where the soil is moist and the entire root can be removed. For existing areas where populations are too large for mechanical removal, prescribed burns can reduce knapweed numbers. Plants that resprout can be hand pulled or spot treated with an approved herbicide. Reseeding with native species for that habitat type should then be done to help native populations reestablish. As an alternative to burning, mowing just before flowers bud in July will stress plants and make them more susceptible to herbicide treatments.

Spotted knapweed controls have been quite effective over the past decade and populations are much lower than in previous years. Each control method mentioned above has been used except for prescribed burning. Estimates are that spotted knapweed acreage is about 10% of what it was in 2010. This has helped many native forbs reclaim some areas and pollinator habitat is on the increase in these open sandy areas.

**Gypsy moth (*Lymantria dispar*)** - Gypsy moth caterpillars have the ability to defoliate entire stands of trees during outbreaks, and have previously caused issues within Menominee County/Reservation boundaries. The biological control agent, Gypcheck, containing a naturally occurring viral pathogen, was used in Menominee County/Reservation from 2002-2004 and 2008-2011. Following several rounds of control efforts, gypsy moth is now at a point where it has become somewhat naturalized in the area.

Landowners can be made aware of actions to take to lower populations on small tracts of land. These include monitoring for egg masses, which need to be destroyed if found, killing caterpillars, and planting less of the insect's preferred species of trees and shrubs.

MTE limits the effect of gypsy moth and other defoliators on forest lands by emphasizing the management of stands to maximize the health of individual trees (i.e. those not growing under suppressed and stressed conditions). Healthy stands have been proven to be much less susceptible to higher-than-normal levels of mortality than those under suppressed conditions.

**Leafy spurge (*Euphorbia esula*)** - Leafy spurge thrives primarily in non-cropland habitats, including roadsides, prairies, savannas, and woodlands. It is tolerant of a wide range of habitats, from damp to very dry soils. In Wisconsin it is usually found in lighter, dry soils. The milky sap of leafy spurge can cause blistering in the mouth and throat of grazers, deterring any animals from naturally controlling populations.

Pulling or digging will control only very small populations of leafy spurge if the entirety of roots are removed. Chemical controls tend to be more effective for this species using an approved effective herbicide.

Several small infestations have been found along roadsides in the lakes area and along Highway M. Each time a new area is found, it is marked with GPS and treatments are completed. A combination of digging/pulling along with some herbicide controls have been utilized.

An online control manual from USDA can be consulted at <http://www.team.ars.usda.gov/herbicidemanual.pdf>

**Cypress spurge (*Euphorbia cyparissius*)** - Cypress or graveyard spurge is very similar to leafy spurge, but is generally smaller with more narrow leaves. It can form large colonies in open areas and woodland edges that receive adequate sunlight.

Cypress or graveyard spurge has been found in two roadside sites along STH 55, one in Keshena along STH 47/55, and along CTH VV by Long Lake Road. This invader, like leafy spurge, is difficult to control as it is very persistent and hardy. Manual controls by mowing before flowering and chemical treatments with an approved herbicide help reduce the areas at each site. Each infestation requires several years of control work to eradicate the plant from that area.

**Wild parsnip (*Pastinaca sativa*)** - Wild parsnip grows readily in road right-of-ways, but is tolerant of a wide range of conditions. It has been found in small patches around the county over the years, but is mostly eradicated. Attention must be paid to detect any new pop-ups of this plant to prevent re-infestation.

An effective control method is "spading", cutting the root below ground level with a shovel or spade, which should prevent resprouting. Hand-pulling or cutting after peak flowering but before seed set can be effective, however caution must be taken to prevent sap coming in contact with

skin. The sap of wild parsnip reacts when exposed to sunlight, causing blistering and burning of skin. Another potential method is to burn the site, then follow with spot application of rosettes with an approved effective herbicide. Immediately after a burn, wild parsnip is one of the first plants to green. When appropriate, small spot treatments with herbicide alone are effective as well.

**Exotic honeysuckle (*Lonicera spp.*)** - Bush honeysuckle, such as Tatarian honeysuckle (*L. tatarica*); has been discovered in many locations across Menominee County/Reservation. Their vigorous growth inhibits development of native shrub and ground layer species; eventually they may entirely replace native species by shading and depleting soil moisture and nutrients. Honeysuckle populations are most severe around villages and residential areas where they have been planted for decades. The focus has been to control as many of the large seed producing plants for control and to educate owners about the negative effects on the forest. Hopefully landowners will help reduce the populations of honeysuckles over time.

Since honeysuckle roots are fairly shallow, small to medium-sized plants can often be dug or pulled. Plants are particularly easy to remove in spring when the soil is moist. A shovel or grubbing hoe will often loosen the roots enough to allow a fairly large plant to be pulled. Cutting larger plants at the base and treating the stump immediately with an approved effective herbicide has been shown to prevent regrowth.

**Autumn olive (*Elaeagnus umbellata*)** - Autumn olive exhibits prolific fruiting, rapid growth, and can thrive in poor soil. It has the ability to produce up to 80 pounds of fruit in a single season that is quickly dispersed by birds and animals. Due to its nitrogen fixing capabilities, it has the capacity to adversely affect the nitrogen cycle of the native communities that may depend on infertile soils.

Autumn olive was located for the first time in 2013 in the Blue Heron addition to Legend Lake. Controls were completed by cutting all plants found close to the ground and treating the stumps with an approved systemic herbicide to prevent regrowth. Although occurrences of this invasive are generally rare in the county/reservation, it's important all levels of management rapidly respond to any new sites.

**Common and glossy buckthorns (*Rhamnus spp.*)** - Common buckthorn (*R. cathartica*) and glossy buckthorn (*R. frangula*) can invade many habitat types. Common buckthorn invades the understory of oak, oak-beech, maple, and riparian woods, prairies, and savannas. It aggressively competes with local flora, mainly on well-drained soils.

Glossy buckthorn is an aggressive invader of wetter soils, sometimes moving into uplands; and can grow in sun or shade. There have been many buckthorns found around the County/Reservation, but mainly scattered around Keshena, Legend Lake, LaMotte Lake, Wolf River Circle and Max Martin Road. This is most likely due to spread by animals such as birds.

Buckthorns are most effectively controlled by recognizing their appearance early and removing isolated plants before they begin to produce seed. With large infestations, the largest seed-

producing plants should be removed first. Chemical control methods are best done during the fall when most native plants are dormant yet buckthorns are still actively growing and have green leaves. This lessens the risk of affecting non-target plants. Cutting stems off near ground level and treating them with an approved effective herbicide successfully curbs sprouting.

**Japanese knotweed (*Fallopia japonica*)** - Japanese knotweed is an aggressive invader of terrestrial and riparian areas, usually along waterways or ditches. The bamboo-like plant forms dense monocultures that can measure up to 10 feet tall. The stems are reddish in color, jointed and hollow. The large leaves are alternate on the stem, with veins that are often reddish in color. Japanese knotweed can reproduce by seed, but primarily does so by plant fragments or large rhizomes which may reach a length of 18 feet. Flowers bloom in large, distinct clumps late in summer and are small and greenish white.

Only four Japanese knotweed sites have been found to date within county/reservation, and most have been nearly eradicated and are actively treated. A large population just south of Keshena gives management groups good reason to be aware of this invasive and to be prepared for rapid response efforts should new populations arise. MITW ESD found a new infestation off of LaMotte Lake Drive on Tribal land, where they will be handling control. When treating, a combination of mid-summer cuts followed by a foliar treatment of aminopyralid or imazapyr are effective.

**Emerald ash borer (*Agrilus planipennis*)** - Emerald ash borer (EAB) is an exotic insect that causes high mortality rates to ash trees of Michigan, northern Ohio, northern Indiana, and parts of southern Canada, as well as numerous Wisconsin counties. EAB attacks all ash species (*Fraxinus spp.*) regardless of health status, unlike most secondary borers that only attack stressed trees. It is native to Asia and was first discovered in southeastern Michigan in 2002.

The States of Michigan and Wisconsin and the United States Department of Agriculture have been taking Legislative actions to slow the spread of this beetle through firewood movement. Michigan has quarantines and does not allow any firewood to cross the Mackinac Bridge to the Upper Peninsula. Wisconsin has recently passed a rule that does not allow people to bring any firewood into state park or forest campgrounds. The MITW has Code enacted; Chapter 310, Invasive Species Prevention and Forest Health Protection, that specifically disallows movement of firewood onto the Menominee Reservation. The regulation for EAB can be found in the Code under §310-3(B).

Preventing the spread of this harmful invader is our best defense for reducing potential for EAB infestations. This is even more crucial because we have not yet detected this invasive species within county lines. Professionals at various levels are aware of the signs of EAB and will continue to be on the lookout for this invasive.

**Oak wilt (*Ceratocystis fagacearum*)** - Oak wilt is a fungal disease fatal to most oak trees, especially those in the red oak group. It is widespread on the reservation, and while initially found almost exclusively in pin oak stands, it is increasingly being found in higher value

northern red oak stands. Oak wilt infects a tree through a wound, vectored by native sap feeding beetles. Once infected, the tree is quickly killed as the fungus spreads throughout the vascular tissue of the tree, effectively stopping the flow of water and nutrients. Infected trees then pass fungal spores to nearby oak trees through root grafts. If unchecked, the infected pocket may continue to spread outward through the grafted roots and kill dozens of oaks over the course of several years. The infected trees also serve as a source of fungus mats, or inoculum, to be picked up by beetles and further spread infection to new sites in other stands.

A ban on cutting oak by town ordinance from April through October is intended to slow the overland spread of oak wilt in these stands. The MITW has Code enacted; Chapter 310, Invasive Species Prevention and Forest Health Protection, that specifically regulates the cutting of oak on all Tribal Lands within the Menominee Reservation. The cutting ban is identified in Code under §310-3(A) and prohibits cutting of oak from April 1 to August 1 for the purpose of preventing the spread of oak wilt.

Once oak wilt is present, active management is needed to prevent its spread. Trenching with a vibratory plow can be employed to break the root grafts and slow the spread of infection, but this tactic is economically feasible only at small scale (e.g. for a small area near homes). Fungicide can also be used on individual trees to treat and prevent the spread of oak wilt. In larger forest settings, oak wilt is mainly managed by girdling and herbicide treating the oaks near the infestation to stop the spread through the roots. This usually results in many dead oak trees that can potentially be harvested.

**Norway maple (*Acer platanoides*)** - A deciduous tree in the maple family (*Aceraceae*) growing to heights of 100 feet with dense foliage, broad- rounded crown, and stout stems. Norway maple can be confused with many maple species, especially sugar maple (*Acer saccharum*). Milky white sap that oozes out of leaf veins and stalks when broken can help distinguish them from native maples. Bud tips of sugar maple are pointy and sharp to the touch, while those of Norway maple are more rounded. Norway maples have been planted as street and yard trees for decades. There is a possibility of having them added to the State NR40 prohibited list to eventually stop the sale of them. Planting of more Norway maples should be discouraged and landowners should be given decent alternatives to plant.

These trees produce a large quantity of seeds that can germinate rapidly and overcrowd and over shadow native species. Norway maples have been found in woodlands near cities, especially in the northeastern U.S. It has escaped cultivation and invades forests, fields, and other natural habitats. Homeowners should be encouraged to plant native species and not Norway maple. Controls include hand pulling seedlings when soil is moist, digging out larger plants to include the root systems, cutting down large trees and either grinding out the stump or treating the stump with an approved effective herbicide. Large trees can also be girdled to prevent them from producing more seed.

**Japanese barberry (*Berberis thunbergii*)** - Japanese barberry is a low-growing spiny deciduous shrub found most often on well-drained soils, but is also found in wet muck soils in swamps. It is typically found in locations of partial sunlight along woodland edges, but can also thrive under

closed forest canopies. Japanese barberry is commonly planted as an ornamental shrub for landscaping and often escape cultivation. Japanese barberry populations are most severe around villages and residential areas where they have been planted for decades. The focus has been to control as many of the large seed producing plants for control and to educate owners about the negative effects on the forest. Birds eat the berries and disperse the seed widely. Japanese barberry can alter the soil chemistry in areas it inhabits, making it more difficult for native plants to compete with it.

Controlling barberry is most effective when identified in smaller numbers while the individual shrubs are small. Pulling the smaller individual shrubs tends to be effective because the root system is very shallow but can be very tough to remove as the shrub ages. Once the shrub gets larger and well-established, herbicide is a better control option. Cutting and spraying the stump with an approved effective herbicide tends to produce desired results.

**Burning Bush (*Euonymus alatus*)** - Burning bush, also called winged wahoo or winged euonymus, is an ornamental and deep-rooted deciduous shrub with telltale corky ridges along its stems. The foliage of this invasive turns bright red in autumn, making the plant stand out for control efforts.

In recent years burning bush has made an appearance, specifically around the Legend Lake area. The high potential for this invasive to escape cultivation and move into wooded areas makes it a priority for local groups. TIP and CFZ have worked to control burning bush and do consistently monitoring, especially in fall. Burning bush can be controlled by hand-pulling seedlings or spaded, but high potential for regrowth makes cut-stump treatments with an approved effective herbicide the best route for larger plants.

**Oriental Bittersweet (*C. orbiculatus*, *C. loeseneri*)** - Oriental bittersweet, a woody vine with copious seed production, will invade many environments, from fields to forests. Being so tolerant of various habitats, this fast-growing invasive is even more of a threat as has a habit of girdling trees and weighing them down, making damage and shading-out a likely outcome. Introduced through ornamental plantings, it is mistaken for the native American bittersweet more often than not.

TIP and CFZ have been treating the few populations found to try and prevent explosive spread. Controlling can be tedious, as the wide-spreading roots very often grow new stems besides the main vine. Digging out seedlings is effective if caught early, but larger vines require cut-stump treatment using an approved effective herbicide.

**European Marsh Thistle (*Cirsium palustre*)** - European marsh thistle is 4-5' tall, prickly, and thick stemmed. Distinguishable from other thistles by their branched top stems, these spiny plants are covered in sticky hairs and flower purple in mid-summer. They are restricted in the county, but NR-40 prohibited in southern counties. This invasive is capable of creating monocultures aggressively, quickly overtaking areas and decreasing native biodiversity. Due to its rapid spread, it's important to tackle new infestations as they arise.

European marsh thistle is less common in Menominee County/Reservation than in other parts of Wisconsin because of rapid response management. When encountered, European marsh thistle can be controlled by repeated pulling/mowing at a minimum of three times a season. If mowing is not possible, a foliar spray of an approved effective herbicide when plants are only 6-10" tall and prior to seed set, or on rosettes in fall, is also an option.

**Bull Thistle (*Cirsium vulgare*)** - Bull thistle can be confused with European marsh thistle, but poses similar threats. It has prickly winged stems with leaves that have white hairs underneath. They have purple flowers that bloom in June and quickly disperse seed that remains viable up to ten years. This invasive has been known to invade areas that are not only disturbed, but also densely vegetated by native species, making it a threat to even the most resilient ecosystems.

Although this thistle is not yet overrunning the county/reservation, this is due to rapid responses to populations that arise. Close mowing or cutting twice a year will prevent seed production and regrowth. Caution must be taken as mowing during flowering has a high potential for spreading the seeds of bull thistle. Spading the plant is an alternative to mowing for small populations. Chemical controls during rosette stages with an approved effective herbicide have been shown to decrease growth, but will not control populations if the plants have already bolted and are flowering.

All the chemical controls listed above will be completed in accordance with all State, Federal and MITW guidelines, as well as label and MSDS information.

### ***Aquatic Species:***

**Eurasian watermilfoil (*Myriophyllum spicatum*) & hybrid watermilfoil (*M. spicatum* x *M. sibiricum*)** - Eurasian watermilfoil is a submerged invasive aquatic plant that displaces native northern watermilfoil (*M. sibiricum*). Eurasian watermilfoil and northern watermilfoil hybridize to produce a variety of hybrid watermilfoils (*M. spicatum* x *M. sibiricum*), which are considered to be more invasive than Eurasian watermilfoil. Hybrid watermilfoils exhibit considerable genetic variability and often require genetic testing to positively identify because they are difficult to distinguish from their invasive parent. For the sake of ease, all invasive varieties of watermilfoil will be referred to as Eurasian watermilfoil (EWM) in this document.

EWM forms dense underwater populations of tangled stems and in shallow water produces thick, impenetrable mats of vegetation at the surface. These mats interfere with recreational activities like swimming, boating, fishing, and waterfowl hunting. Surface mats can also shade out native plants, inhibit fish passage, and displace waterfowl. EWM is found in still and slow-moving water at depths from two to 20 feet. EWM is in Legend Lake and Moshawquit Lake.

EWM reproduces by seeds and fragmentation: when small branches break off the plant and produce roots which can establish new plants. Any plant fragment that contains a whorl of leaves may form a new plant. EWM typically fragments down to the root crown in fall and

overwinters by surviving on stored carbohydrates, but it may also overwinter as an evergreen; maintaining all of its biomass under the frozen surface of lakes and ponds. EWM is most often spread accidentally by boaters when plant fragments get tangled in propellers, stuck to watercrafts, and lodged in hard-to-reach or inconspicuous areas of boats and trailers. To reduce the spread of EWM to other waters that include undeveloped lakes, it is important to educate water users on preventative measures like watercraft inspection and decontamination.

Once established, EWM is nearly impossible to eradicate. Infested waterbodies should be managed to reduce EWM populations and allow native aquatic plants to reestablish. Physical, biological, and chemical measures exist to help control EWM. For small populations of EWM detected early, hand pulling when it is first observed is the best option to inhibit growth. Raking shallow areas of lake bottom may also inhibit growth in small areas. Mechanical harvesting with an aquatic plant harvester is appropriate for larger areas of established EWM. This method temporarily removes surface mats and increases growth of native plants that get shaded out under milfoil canopies. Another removal option is Diver Assisted Suction Harvesting (DASH). DASH involves the use of a suction device to collect aquatic plants that have been pulled up from their roots by divers. During physical removal, all fragments must be collected so they don't establish new plants. For biological control of EWM, a native weevil that feeds on watermilfoil is being studied to determine its effectiveness as a control agent. Herbicide treatment is a frequently employed option for large infestations of EWM. Because new herbicides are continually developed and the practicality of each chemical varies by body of water, the best herbicide for management purposes will be determined on a case-by-case basis. The best source for EWM control information for Legend Lake can be found in Legend Lake Aquatic Plant Management Plan, available at the Menominee County CFZ office and the Legend Lake Lodge.

**Curly-leaf pondweed (*Potamogeton crispus*)** - Curly-leaf pondweed (CLP) is a submerged invasive aquatic plant that was considered the greatest nuisance aquatic plant in the Midwest until EWM appeared. Although CLP does not cause considerable problems in every body of water where it is established, it is often an issue in lakes with low water clarity. CLP is found in rivers, ponds, and lakes in water up to 20 feet deep. It is present in Legend Lake and Moshawquit Lake.

CLP can form thick, extensive mats of vegetation at the water's surface which interfere with water recreation and shade out native aquatic plants. Unlike most plants, CLP begins to die off in mid-summer. A considerable amount of decaying CLP can cause low oxygen conditions and will release nutrients that may trigger algal blooms. The plant reproduces primarily by overwintering buds called turions that resemble small pine cones, but may also spread via roots and plant fragments. CLP begins sprouting in late fall to early winter and can actively grow during the winter when most plants are dormant. Early growth and the ability to tolerate low light and low water temperatures allow CLP to dominate underwater plant communities. CLP is most often spread from one body of water to another as plant fragments accidentally transported on watercraft and trailers. The promotion of preventative measures through public education is integral to the prevention of its spread to unaffected waters in Menominee County/Reservation.

The total eradication of established CLP is not realistic, but physical and chemical control can help manage its negative impacts. Hand pulling when first observed may inhibit the growth of small CLP populations. For dense surface mats that interfere with recreation, mechanical harvesting or treatment with herbicide can effectively reduce biomass. During physical removal, all plant fragments must be collected to avoid spreading viable plants. DASH can be used between herbicide treatments to reduce the use of chemicals while still reducing biomass, and a combination of control types may be more efficient than just one. Chemical treatment is most effective in spring and early summer, when CLP is growing but native plants are still dormant. The goal of any CLP control is to remove or damage the plant before turion production. Control must be continued for multiple years, as turions can lay dormant for a few growing seasons.

**Common reed (*Phragmites australis* subspe. *australis*)** - Common reed is an aggressive, invasive wetland grass. Invasive common reed is often referred to simply by its genus name, *Phragmites*, because the discovery of several lineages of the species *australis* in North America caused much confusion and debate. A native subspecies of *Phragmites australis* (subspe. *americanus*) does occur in Wisconsin, but it is uncommon. In Menominee County, common reed has been found in a few small stands around Legend Lake and along high traffic roads, specifically highways 47, 55, and VV. Each small area of common reed has been eradicated. The only known infestation in Menominee is within a tribal wetland near Neopit and it is visited annually to keep it contained. The goal is to eradicate that population as well.

The invasive common reed is a very tall grass which can grow nearly 20 feet tall, obscuring views for lakeshore property owners and access to waterways. It also poses a threat of fast-spreading fires each fall when the plant dies back, creating large concentrations of tinder-dry stalks. However, the greatest threat of common reed is to the natural biodiversity of ecologically and recreationally important wetlands, stream banks, and lake shores. Common reed spreads quickly, each plant producing up to thousands of seeds each year and sending out several feet of dense root networks which crowd out all other species. The plant produces impenetrable monocultures that displace native wildlife due to its unsuitability as food or shelter for wetland-dependent fauna. Furthermore, common reed changes wetland hydrology through increased evaporation and by raising surface elevations with decomposing plant matter and by trapping sediments. Higher and drier wetland soil reduces native plant growth, giving common reed more area to spread.

It is extremely important to prevent the spread and introduction of common reed because it is very tolerant and resilient. Common reed is a restricted species in Menominee County/Reservation, and although it is illegal to transport viable plant parts, waterfowl hunters may use dead stems - with no seed heads or roots attached - to construct duck blinds. It is important to promote the education of waterfowl hunters on how common reed can and cannot be used. Few control methods have proven to be successful against common reed. Mechanical control like mowing and hand cutting may slow the spread of common reed, but should be used carefully to avoid stimulating new growth. The effectiveness of prescribed burning is similar to the effectiveness of mechanical control. Some studies suggest the use of fire or mechanical methods alone may only stimulate root growth. Established populations of common reed are most successfully managed using herbicides, particularly when used in combination with prescribed burns. The best treatment of common reed should be determined on a case-by-case

basis. Whatever the method of control, great care should be taken to clean all equipment used at treatment sites prior to transportation from the site.

**Purple loosestrife (*Lythrum salicaria*)** - Purple loosestrife is an extremely aggressive wetland invasive species with showy purple flowers arranged on flower spikes. It is scattered in small populations around Menominee County/Reservation; particularly around Legend and Bass Lakes, in the ditches of some highly trafficked roadways, and along the majority of the Wolf River.

In addition to each plant producing nearly 3 million seeds per year, purple loosestrife can spread via roots and stem fragments. Purple loosestrife takes over wetlands by crowding out native plants which are crucial to waterfowl, birds, insects, and other native fauna. Dense stands of purple loosestrife offer little value to wildlife because the plant is unsuitable for consumption, habitat, and nesting. Being woody and unpalatable, foragers are forced to graze on surrounding vegetation, opening up more space for purple loosestrife to spread. Purple loosestrife has the potential to become so impenetrable it can restrict access to waterbodies and inhibit recreational activities like fishing, hunting, and boating.

Mechanical, chemical and biological methods may be used to control purple loosestrife. It is important to begin managing purple loosestrife populations quickly after discovery. Hand pulling and digging can slow the growth of small pioneer colonies. Herbicides have been found effective against purple loosestrife, but should be used carefully because loosestrife occurs near water and in moist soils. For large populations of purple loosestrife, biological control (biocontrol) using *Galerucella* beetles is considered the most effective and least expensive option. *Galerucella* beetles control purple loosestrife by consuming leaves and new shoots, preventing purple loosestrife from flowering and producing seeds. Weakening and depleting invasive plants allows native plants to reestablish themselves in invaded wetlands. *Galerucella* beetles are the best biocontrol agents for purple loosestrife because they are highly selective and pose no threat to native or ornamental plants. In fact, *Galerucella* beetles are unable to complete their lifecycle on any other plant, so once they have exhausted their supply, they must find another population of loosestrife or perish. Menominee County CFZ and MITW will promote the use of biocontrol to reduce unnecessary herbicide use.

**Zebra mussel (*Dreissena polymorpha*)** - Zebra mussels are tiny, striped, D-shaped benthic mollusks native to Eurasia. They are the most devastating aquatic invasive species to invade North America. Zebra mussels occur in Legend Lake and Moshawquit Lake.

Zebra mussels are filter feeders, each filtering up to 1 liter per day and removing plankton from lake, pond, and river water. As an important food source for young fish, native mussels, and other aquatic organisms, the large scale removal of plankton devastates food chains. Removal of plankton and suspended particles from the water also increases water clarity, which may lead to increased nuisance plant growth in deeper water. Zebra mussels have byssal threads that allow them to cling to any hard surfaces. They often attach to boats, piers, and water intake pipes for industrial facilities, which can be very expensive to clear. They can also attach to and kill native mussels and snails, further altering biodiversity. The harm of zebra mussels continues after

death, when the extremely sharp shells remain and can cut the feet of swimmers and beach-goers.

Few acceptable treatments for zebra mussels exist, and attempts to kill them in natural waters are considered experimental. Preventing the spread and introduction of zebra mussels is very important. Monitoring should be conducted frequently to identify zebra mussel infestations early.

**Narrow-leaf cattail (*Typha angustifolia*)** - Narrow-leaf cattail is an erect wetland plant with a submersed base. It invades wetlands, marshes, river banks, lake shores, and roadside ditches. In Menominee County/Reservation, it has been found around Legend Lake.

Narrow-leaf cattails form dense monocultures in ecologically important natural areas, reducing native flora that acts as habitat and food for native wildlife. On larger lakes, buoyant mats of narrow-leaf cattail can break off and float great distances, shoved by the wind. Floating mats can be dangerous to lake users and can completely block off designated lake accesses. Narrow-leaf cattails often hybridize with native cattails to produce the more aggressive hybrid cattail (*Typha x glauca*). Narrow-leaf cattails have been sighted around Legend Lake.

Cattails can be controlled using a combination of early cutting and water level manipulation. To perform this type of control, narrow-leaf cattails are cut as low as possible and water level is maintained at least 3” above cut stems during the growing season to deprive them of oxygen. Prescribed burns may replace the cutting portion of this method on some sites. Controlling water level is not possible in all systems, but natural water level fluctuation may be . Foliar herbicide application is another common treatment method for undesirable cattail populations. Chemical control can be very costly. Management of narrow-leaf cattail should be determined on a case-by-case basis.

**Banded mystery snail (*Viviparus georgianus*)** - Banded mystery snails are small, invasive aquatic organisms with spiral shells displaying reddish brown horizontal bands. These snails filter feed and graze on organic matter, directly competing with native snails. These snails are called “mystery snails” because they produce young, fully developed offspring that mysteriously appear. Banded mystery snails prevent the development of largemouth bass embryos by invading largemouth bass nests. Many populations of these snails die off after one breeding period, causing large stinking masses of empty shells and decaying snails on shorelines. There is currently no accepted treatment method for banded mystery snails, so the prevention of their spread is very important. Banded mystery snails are present in Legend Lake and Moshawquit Lake.

**Chinese mystery snail (*Cipangopaludina chinensis*)** - Chinese mystery snails are invasive dark olive green colored snails that were introduced to North American from China. They can be found throughout most of Wisconsin’s rivers and inland lakes and are found in Legend Lake and Moshawquit Lake.

Chinese mystery snails can achieve very large densities within lakes, ponds, and rivers. The snails adversely affect the food web by competing with native snails for food and habitat. Chinese mystery snails also carry and transmit parasites and diseases to other aquatic organisms and can infect humans. Methods to control Chinese mystery snails do not yet exist, so it is important to identify infestations early and prevent the spread to nearby bodies of water.

**Reed canary grass (*Phalaris arundinacea*)** - Reed canary is an invasive grass that can invade wetlands, marshes, wet prairies, sedge meadows, fens, stream banks, lake shores, and seasonally wet areas. Reed canary grass has spread throughout Menominee County/Reservation. It outcompetes and displaces native plants by producing dense monocultures with thick root mats.

Reed canary grass is difficult to eradicate because no single control method is universally applicable. Annual prescribed burns or frequent mowing may reduce reed canary grass seed banks and encourage the growth of native plants. The most promising control of reed canary grass is through foliar application of herbicides. The best herbicide for control of reed canary grass in Menominee County/Reservation should be determined on a case-by-case basis.

**Yellow iris (*Iris pseudacorus*)** - Yellow iris is a showy invasive plant that has escaped flower gardens and taken hold in natural sites throughout Wisconsin. It can grow in a wide range of conditions but is often found around populated areas due to its popularity as a garden flower. Yellow iris is found around Legend Lake, LaMotte Lake, and along the Wolf River in very small colonies.

Once established, yellow iris forms dense clumps of monocultures and can exist as floating mats on bodies of water. Yellow iris alters biodiversity by pushing out native plant species. It can also disperse wildlife in the areas it invades because it cannot be used as a food source, as all parts of the plant are poisonous. This species has the ability to escape intentionally planted gardens and can flourish in many environments. It can even alter wetland hydrology by trapping sediments and reducing inundated areas.

Yellow iris can be successfully removed by hand-pulling and digging. All rhizomes must be removed from the soil during physical removal to ensure the plant does not spread from its roots. Herbicides are the most effective method to control the spread of yellow iris, but care must be taken when applying chemicals, as the plant is often found near water.

**Freshwater jellyfish (*Craspedacusta sowerbii*)** - Freshwater jellyfish are tiny, bell-shaped jellyfish that are native to China. Not much is known about freshwater jellyfish as an invasive species, but they often appear in sudden blooms that seem to be temperature-dependent. Freshwater jellyfish feed on zooplankton, an important food source for young fish and other small aquatic organisms, but their ecological impact is not yet determined. Although the sting of the freshwater jellyfish can paralyze invertebrates and small fish, they are not dangerous to humans. Overall, freshwater jellyfish appear to be an innocuous non-native species, but transportation of this species should still be avoided. Freshwater jellyfish can be found in Legend Lake.

It is extremely important to prevent the transportation of aquatic invasive species from one body of water to another because prevention is less expensive and more feasible than treatment. Prevention of species entering and leaving Menominee waters will be done mainly through public education, specifically the CBCW program and its outreach initiatives. CBCW efforts should continue, and implementation of further AIS education should be pursued as appropriate. Public access to watercraft decontamination will also reduce the spread of aquatic invasive species. The construction of watercraft decontamination stations at points of public lake and river access is highly encouraged.

Prevention and treatment methods in Menominee County/Reservation may vary from lake to lake. Legend Lake and Moshawquit Lake have their own lake management plans (Legend Lake Aquatic Plant Management Plan and Moshawquit Lake Association Integrated Management Plan, respectively) that should be consulted before any aquatic invasive species controls occur on those lakes. The management of lakes and rivers within Menominee Reservation is the responsibility of MITW.

### Invasive Species with High Potential for Introduction\*

List of invasive species that have a high potential to infest Menominee County/Reservation based on presence in adjacent counties and shared water bodies:

#### Terrestrial Species:

Creeping bellflower ( <i>Campanula rapunculoides</i> )	Multiflora rose ( <i>Rosa multiflora</i> )	Celandine ( <i>Chelidonium majus</i> )	Porcelain berry ( <i>Ampelopsis brevipedunculata</i> )
Heterobasidion root disease (HRD) ( <i>Heterobasidion annosum</i> )	Emerald Ash Borer ( <i>Agrilus planipennis</i> )	Mile-a-minute vine ( <i>Polygonum perfoliatum</i> )	Invasive thistles ( <i>Cirsium spp.</i> )
Hemlock woolly adelgid ( <i>Adelges tsugae</i> )	Kudzu ( <i>Pueraria montana</i> )	Hedge-parsleys ( <i>Torilis spp.</i> )	Wineberry ( <i>Rubus phoenicolasius</i> )
Asian longhorned beetle ( <i>Anoplophora glabripennis</i> )	Swallow-worts ( <i>Vincetoxicum rossicum</i> and <i>Vincetoxicum nigrum</i> )	Teasels ( <i>Dipsacus laciniatus</i> and <i>D. fullonum</i> )	Giant hogweed ( <i>Heracleum mantegazzianum</i> )
Japanese stilt grass ( <i>Microstegium vimineum</i> )	Chinese yam ( <i>Dioscorea polystacha</i> )	Tree of heaven ( <i>Ailanthus altissima</i> )	Japanese hops ( <i>Humulus japonicus</i> )
Giant knotweed ( <i>Fallopia sachalinensis</i> )	Wild chervil ( <i>Anthriscus sylvestris</i> )	Hill mustard ( <i>Bunias orientalis</i> )	

#### Aquatic Species:

Flowering rush ( <i>Butomus umbellatus</i> )	Spiny naiad ( <i>Najas marina</i> )	Aquatic forget-me-not ( <i>Myosotis scorpioides</i> )	Quagga mussels ( <i>Dreissena rostriformis</i> )
Viral hemorrhagic septicemia (VHS) ( <i>Piscine novirhabdovirus</i> )	Round goby ( <i>Neogobius melanostomus</i> )	Common carp ( <i>Cyprinus carpio</i> )	Faucet snail ( <i>Bithynia tentaculata</i> )
Alewife ( <i>Alosa pseudoharengus</i> )	Ornamental water lilies (non-native <i>Nymphaea sp.</i> )	Rusty crayfish ( <i>Orconectes rusticus</i> )	Spiny water flea ( <i>Bythotrephes cederstroemi</i> )

\*Neither of the above tables represents an all-inclusive list of potential invaders of Menominee lands or waters.

## Mapping and Monitoring

Mapping is ongoing for invasive insects, diseases, plants, and animals. Surveys and mapping are performed using GPS with the assistance of the Menominee County Geographic Information Systems (GIS)/Land Information Office and the GIS Coordinator in the MITW Community Development Department. GIS maps will be updated regularly and available to all partners in accordance with the CFZ/ESD/MTE mutual aid agreement. This data will be used to plan cooperative control efforts between entities and visualize quantitative progress of invasive species treatments. Physical maps of current invasive species extents and past treatments can be viewed at the offices of Menominee County CFZ and MITW ESD.

Regular monitoring to track the extent and spread of aquatic and terrestrial invasive species will be performed by CFZ and ESD. Additional monitoring will be conducted by TIP, WDNR (non-Trust lands), MTE, and the Menominee County Highway Department during regular operations. Targeted invasive species and monitoring locations are expected to vary, but entities will monitor within their geographical jurisdiction. CFZ will operate within lands that are not owned by MITW or held in Federal Trust for MITW, excluding Legend Lake which will be surveyed annually by a contractor hired by LLPRD. ESD will operate within lands owned by MITW or held in Federal Trust for MITW, excluding lands which are in sustained yield forestry. MTE will operate within lands held in Federal Trust for MITW that are also in sustained yield forest management.

## Partners Involved in ISMP Implementation

CFZ, ESD, TIP, and the MITW Conservation Department will work together to address invasive species concerns in Menominee County/Reservation. CFZ and ESD will collaborate with MTE in accordance with their mutual aid agreement to monitor and manage invasive species. Personnel involved in monitoring and control must be aware of current and high potential invasive species and notify the appropriate agency when new infestations are located. Annual training of field personnel is recommended to ensure staff can identify invasive species and are familiar with general treatment methods.

Partner entities will be responsible for ensuring the successful implementation of this plan, which includes regularly applying for available funding to finance the management of invasive species. Federal cost-share programs where no match dollars are available must be more actively pursued, especially where no other program support exists. Adequate funding of cross-jurisdictional efforts along with administrative support and public education are critical to success.

State and federal partners that will help with the invasive species education, prevention, and control include: WDNR, WI-DATCP, UWEX, S&PF, USFWS, APHIS, USDA, NRCS, USDOJ, and BIA. Efforts of the aforementioned agencies will focus on prevention and public education, however, some of these agencies also offer funding that can be applied to invasive species work in Menominee County/Reservation. LaMotte Lake Association, MLA, and LLPRD will help by disseminating educational information to their members and organizing volunteers for prevention and control efforts. CFZ will work with these lake associations to coordinate AIS monitoring programs like CBCW and the Citizen Lake Monitoring Network (CLMN) to increase the likelihood of preventing the spread of AIS and catching infestations early. Lake associations/districts are encouraged to write and update their own lake management plans. Legend Lake and Moshawquit Lake have lake management plans that address invasive species and controls within their respective lake.

To evaluate the success of invasive species education, monitoring, and control as outlined in the ISMP, an ISMP Committee was formed. The ISMP Committee meets quarterly to discuss invasive species which are already present in Menominee County/Reservation or have high introduction potential. The committee will evaluate their findings and discuss possible solutions of control and management of invasive species. Other local committees will be updated annually about ISMP activities.

## **Funding Sources**

Most CFZ, ESD, and MITW Conservation Department staff time will be reimbursed based on the budgets of existing grants. CFZ personnel time spent on terrestrial invasive species control is reimbursed by the Menominee County budget. ESD staff time for invasive species management is funded through various grants that include BIA and GLRI.

Additional funding for invasive species control work may come from any of the following sources: WDNR AIS grants, USDA Environmental Quality Incentives Program, USDA Wildlife Habitat Incentives Program, USDA Wetlands Reserve Program, Environmental Protection Agency grants, BIA Noxious Weed program, Great Lakes Restoration Initiative (GLRI) grants, USFWS Partners for Fish and Wildlife Program, USFWS Landowner Incentives Program, and National Fish and Wildlife Foundation grants through the Pulling Together Initiative. WDNR AIS grants can be applied for in three separate categories: 1) Education, Prevention, and Planning, 2) Early Detection and Rapid Response, and 3) Control of Existing Infestations. All funding opportunities will be explored, and applicable funding will be sought for education, prevention, and controls.

## **Local Ordinance Development**

Ordinance development will continue by both Menominee County and MITW. Invasive species are a problem for all people living in Menominee County/Reservation and it will be beneficial for the County and MITW to work together and have similar laws. The scope and goal of developing regulation should be to deter the transport, planting and growing of noxious invaders.

An MITW ordinance (MITW Code, Chapter 310) names individual invasive species and describes the restrictions to harboring and transporting them. This code will be continually updated to add other invasive species as the need arises. Menominee County/Town should work to create a similar ordinance. All current and future invasive species ordinances should have a strictly enforced “Illegal to Transport” provision to help reduce the spread of invasive species. Such regulations are necessary to protect recreational opportunities, native species, habitat, and natural systems within Menominee County/Reservation and the surrounding counties.

### ***Current Menominee Tribal Ordinances:***

MITW Code Chapter 310, Invasive Species Prevention and Forest Health Protection  
MITW Code Chapter 340, Article I, Forest Management and Development Firewood  
Tribal Ordinance 08-12 Control Spread of Fish Disease & Exotic Species

### ***Current Menominee County Ordinances:***

Applicable State Laws – Chapter NR 40  
Town Laws – Ordinance #46 – Injurious Forest Insects and Diseases

## **Use of Best Management Practices (BMPs)**

When enacted in concert with broader BMPs for invasive species within the Menominee Reservation/County, each of the BMPs listed herein will foster the “on the ground” protocols necessary for helping to contain the spread of invasive species. Engaging user groups and the general public through consensus oriented BMPs is an essential component of a comprehensive approach that also includes strategies based around policy and legislation, financial resources, clarifying the role of various agencies, research needs, regional assessment and coordination, early detection and response, and a strong campaign of information and education. Successful adoption of effective and appropriate BMPs will have the following benefits:

- Increase awareness among recreational forest users of the threats posed by invasive species and appropriate actions to minimize their spread.
- Incorporate invasive species considerations into the routine practices of recreational users whose activities depend on healthy forests.
- Eliminate or minimize the spread of invasive species BETWEEN sites by recreational users.

- Eliminate or limit the spread of early stage invasions WITHIN sites by forest users or recreational equipment.
- Improve the level of cooperation between agencies, recreational stakeholders and neighboring landowners.
- Foster public support for more comprehensive control of invasive species.
- Conserve the health and productivity of Menominee’s forests, and the resources and jobs they support

**BMP TYPES** (see Website <http://council.wisconsinforestry.org/invasives/>)

- Forestry BMPs - Will be utilized for the purpose of forest management activities. The manual includes standards of practice that will aid landowners, land managers, and loggers in limiting the introduction and spread of invasive plants, invertebrates, and diseases.
- Recreational Forest User BMPs - Recreational users should be familiar with BMPs before engaging in any activity that would have the potential to bring risk to introduce invasive species. Through various forest and road-based activities, hikers, hunters, horseback riders, anglers, birders, and motorized vehicle riders among others can unknowingly cause new infestations of harmful invasive species in previously unaffected forest ecosystems. Recreation BMPs will form the foundation of an educational approach that informs and assists recreational users from a diversity of stakeholder groups to control the spread of invasive species and mitigate their negative ecological and economic impacts.
- Urban Forestry BMPs - Urban forestry professionals and homeowners alike can play a role in helping to reduce the impacts of invasive species by following the practices outlined in this manual. The goal is to provide guidance by incorporating invasive species considerations into routine urban forestry activities. Ultimately, everyone involved in the care and management of trees, shrubs and other vegetation shares in the responsibility of preventing and controlling invasives. By taking reasonable and practical precautions today, we can help protect Menominee’s urban forests and other lands into the future.
- Transportation and Utility Rights-of-way BMPs – The overall goal of the Utility and Transportation Rights-of-Way BMP was to develop a broad set of voluntary practices to minimize the further introduction and spread of invasive species within Transportation and Utility Corridors. The MITW envisions the BMPs as the first steps in minimizing the spread of invasive species through outreach and employee education. Anyone utilizing the transportation or utilities right of ways will need to be familiar with this document. All work within the right of ways must adhere to these BMPs.

## Biological Control

Biological control, or “biocontrol,” is the intentional introduction of natural enemies to control pest species of plants and animals. Types of introduced natural enemies - called biocontrol agents - include bacteria, viruses, fungi, or predatory organisms, like insects. Biocontrol is one of few methods effective at controlling large areas of invasive species while reducing herbicide

use and ecosystem disruption. Menominee County CFZ uses biological control to manage purple loosestrife and gypsy moth.

*Galerucella* beetles (*Galerucella californiensis* and *G. pusilla*) feed on the shoots and leaves of purple loosestrife (*Lythrum salicaria*). These beetles, released in loosestrife-infested areas, decrease the size and vigor of the invasive populations, allowing native species to survive and compete more readily. In this situation, control is the goal, not eradication. Beetles were released just north of the Menominee County/Reservation line near the town of Langlade in 2014.

Gypsy moth larvae, which defoliate trees and shrubs at an alarming rate, have several varieties of biocontrol available. Mating disruptors, lepidoptera-specific bacteria *Bacillus thuringiensis*, and a viral pathogen are three options in the current arsenal for gypsy moth control. Menominee County/Reservation has introduced viral pathogens to prevent spread. This pathogen is registered as “Gypcheck” within the United States, and was sprayed in collaboration with the WDNR around Legend Lake in 2002-2004 and 2008-2011. The pathogen called Gypcheck is *Lymantria dispar* nucleopolyhedrovirus (LdNPV), and is a naturally occurring in gypsy moth populations. Harnessing this to control gypsy moth populations has kept their number down within Menominee County/Reservation, and no sprays have been necessitated by resurging populations.

Biological controls for invasive species such as spotted knapweed, garlic mustard, and Japanese knotweed are being tested in other regions of the United States. If these or any additional biological controls are approved for use by the Federal Government, they should be seriously considered for use in Menominee. Any potential biological control in Menominee will need to be approved by MITW

## Contacts

Menominee County Land Conservation, Forestry, and Zoning Department: 715-799-5710  
Menominee Indian Tribe of Wisconsin Conservation Department: 715-799-5116  
Menominee Indian Tribe of Wisconsin Environmental Services Department: 715-799-6154  
Menominee Tribal Enterprises: 715-799-3896 ext. 2246

## Invasive Species Online Resources

### Aquatic

**Eurasian watermilfoil (*Myriophyllum spicatum*) & hybrid watermilfoil (*M. spicatum* x *M. sibiricum*)**

<https://www.maisrc.umn.edu/about-eurasianwatermilfoil>

<https://dnr.wi.gov/topic/Invasives/fact/EurasianWatermilfoil.html>

**Curly-leaf pondweed (*Potamogeton crispus*)**

[https://files.dnr.state.mn.us/natural\\_resources/invasives/aquaticplants/curlyleafpondweed/curlyleaf\\_factsheet.pdf](https://files.dnr.state.mn.us/natural_resources/invasives/aquaticplants/curlyleafpondweed/curlyleaf_factsheet.pdf)

<https://dnr.wi.gov/topic/Invasives/fact/CurlyLeafPondweed.html>

**Common reed (non-native *Phragmites*)**

[https://www.fws.gov/gomcp/pdfs/phragmitesqa\\_factsheet.pdf](https://www.fws.gov/gomcp/pdfs/phragmitesqa_factsheet.pdf)

<https://dnr.wi.gov/topic/invasives/fact/phragmites.html>

**Purple loosestrife (*Lythrum salicaria*)**

<https://www.dnr.state.mn.us/invasives/aquaticplants/purpleloosestrife/index.html>

[http://www.seagrant.umn.edu/ais/purpleloosestrife\\_info](http://www.seagrant.umn.edu/ais/purpleloosestrife_info)

<https://dnr.wi.gov/topic/invasives/loosestrife.html>

**Zebra mussel (*Dreissena polymorpha*)**

<https://www.dnr.state.mn.us/invasives/aquaticanimals/zebramussel/index.html>

<http://stopaquatic hitchhikers.org/hitchhikers/mollusks-zebra-mussel/>

**Narrow-leaf cattail (*Typha angustifolia*)**

<https://extension.umn.edu/identify-invasive-species/narrow-leaf-cattail>

<https://dnr.wi.gov/topic/invasives/fact/cattailhybrid.html>

<https://sewisc.org/invasives/invasive-plants/82-narrow-leaved-cattail>

<https://www.habitatmatters.org/narrow-leaf-cattail.html>

**Banded mystery snail (*Viviparus georgianus*)**

<https://www.dnr.state.mn.us/invasives/aquaticanimals/banded-mystery-snail/index.html>

<https://www.uwsp.edu/cnr->

<ap/UWEXLakes/Documents/programs/CLMN/AISfactsheets/02BandedMysterySnail.pdf>

**Chinese mystery snail (*Cipangopaludina chinensis*)**

<http://www.seagrant.umn.edu/ais/mysterysnail>

<https://www.dnr.state.mn.us/invasives/aquaticanimals/chinese-mystery-snail/index.html>

**Reed canary grass (*Phalaris arundinacea*)**

<https://www.dnr.state.mn.us/invasives/terrestrialplants/grasses/reedcanarygrass.html>

<https://dnr.wi.gov/topic/invasives/fact/reedcanarygrass.html>

**Yellow iris (*Iris pseudacorus*)**

<https://dnr.wi.gov/topic/invasives/fact/yellowflagiris.html>

<https://www.dnr.state.mn.us/invasives/terrestrialplants/herbaceous/yellowiris.html>

**Freshwater jellyfish (*Craspedacusta sowerbii*)**

<https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=1068>

<https://dnr.wi.gov/wrmag/html/stories/2007/jun07/jellyfish.htm>

<https://www.uwsp.edu/cnr-ap/UWEXLakes/Documents/programs/CLMN/AISmanualFULL2-18-16forWEB.pdf>

## Terrestrial

**Garlic mustard (*Alliaria petiolata*)**

<https://dnr.wi.gov/topic/invasives/fact/garlicmustard.html>

**Spotted knapweed (*Centaurea biebersteinii*)**

<https://www.mda.state.mn.us/plants/pestmanagement/weedcontrol/noxiouslist/spottedknapweed>

**Gypsy moth (*Lymantria dispar*)**

<https://dnr.wi.gov/topic/ForestHealth/GypsyMoth.html>

**Leafy spurge (*Euphorbia esula*)**

<https://dnr.wi.gov/topic/Invasives/fact/LeafySpurge.html>

**Cypress spurge (*Euphorbia cyparissius*)**

<https://dnr.wi.gov/topic/Invasives/fact/CypressSpurge.html>

**Wild parsnip (*Pastinaca sativa*)**

<https://dnr.wi.gov/topic/invasives/fact/wildparsnip.html>

**Exotic honeysuckle (*Lonicera spp.*)**

<https://dnr.wi.gov/topic/invasives/fact/tatarianhoneysuckle.html>

<https://dnr.wi.gov/topic/Invasives/fact/JapaneseHoneysuckle.html>

<https://dnr.wi.gov/topic/invasives/fact/amurhoneysuckle.html>

<https://dnr.wi.gov/topic/invasives/fact/morrowshoneysuckle.html>

**Autumn olive (*Elaeagnus umbellata*)**

<https://dnr.wi.gov/topic/invasives/fact/autumnolive.html>

**Common and glossy buckthorns (*Rhamnus spp.*)**

<https://dnr.wi.gov/topic/invasives/fact/commonbuckthorn.html>

<https://dnr.wi.gov/topic/invasives/fact/glossybuckthorn.html>

**Japanese knotweed (*Fallopia japonica*)**

<https://dnr.wi.gov/topic/Invasives/fact/JapaneseKnotweed.html>

**Emerald ash borer (*Agrilus planipennis*)**

<https://dnr.wi.gov/topic/foresthealth/emeraldashborer.html>

**Oak wilt (*Ceratocystis fagacearum*)**

<https://dnr.wi.gov/topic/foresthealth/oakwilt.html>

**Norway maple (*Acer platanoides*)**

<https://www.invasive.org/alien/pubs/midatlantic/acpl.htm>

**Japanese barberry (*Berberis thunbergii*)**

[https://dnr.wi.gov/topic/Invasives/documents/japanese\\_barberry\\_brochure.pdf](https://dnr.wi.gov/topic/Invasives/documents/japanese_barberry_brochure.pdf)

# Appendix A: Wisconsin Ch. NR 40 Invasive Species List

## ALGAE AND CYANOBACTERIA

### PROHIBITED CATEGORY:

1. *Caulerpa taxifolia* (Killer algae)
2. *Cylindrospermopsis raciborskii* (Cylindro, cyanobacteria)
3. *Didymosphenia geminata* (Didymo or rock snot) except in Lake Superior
4. *Nitellopsis obtusa* (Starry stonewort, alga)
5. *Prymnesium parvum* (Golden alga)
6. *Stigonematales* spp. (Novel cyanobacterial epiphyte of the order Stigonematales linked with avian vacuolar)
7. *Ulva* species (including species previously known as Enteromorpha species)

### RESTRICTED CATEGORY:

None.

## PLANTS

### PROHIBITED CATEGORY:

1. *Achyranthes japonica* (Japanese chaff flower)
2. *Akebia quinata* (Fiveleaf akebia or Chocolate vine)
3. *Ampelopsis brevipedunculata* (Porcelain berry) including the variegated cultivar
4. *Arundo donax* (Giant reed)
5. *Azolla pinnata* (Mosquito fern)
6. *Berberis vulgaris* (Common barberry)
7. *Cabomba caroliniana* (Fanwort, Carolina fanwort)
8. *Cardamine impatiens* (Narrow leaf bittercress)
9. *Celastrus loeseneri* (Asian loeseneri bittersweet)
10. *Centaurea diffusa* (Diffuse knapweed)
11. *Centaurea repens* (Russian knapweed)
12. *Centaurea solstitialis* (Yellow star thistle)
13. *Crassula helmsii* (Australian swamp crop or New Zealand pygmyweed)
14. *Cytisus scoparius* (Scotch broom)
15. *Digitalis lanata* (Grecian foxglove)
16. *Dioscorea batatas* or *Dioscorea polystacha* (Chinese yam)

17. *Dioscorea oppositifolia* (Indian yam)
18. *Egeria densa* (Brazilian waterweed or wide-leaf anacharis)
19. *Eichhornia azurea* (Anchored water hyacinth)
20. *Eichhornia crassipes* (Water hyacinth, floating)
21. *Fallopia sachalinensis* or *Polygonum sachalinense* (Giant knotweed)
22. *Fallopia x bohemicum* or *F. x bohémica* or *Polygonum x bohémicum* (Bohemian knotweed)
23. *Glossostigma cleistanthum* (Mudmat)
24. *Heracleum mantegazzianum* (Giant hogweed)
25. *Hydrilla verticillata* (Hydrilla)
26. *Hydrocharis morsus-ranae* (European frogbit)
27. *Hydrocotyle ranunculoides* (Floating marsh pennywort)
28. *Hygrophila polysperma* (Indian Swampweed)
29. *Impatiens glandulifera* (Policeman's helmet)
30. *Ipomoea aquatica* (Water spinach, swamp morning-glory)
31. *Lagarosiphon major* (Oxygen-weed, African elodea or African waterweed)
32. *Lepidium latifolium* (Perennial or broadleaved pepperweed)
33. *Lespedeza cuneata* or *Lespedeza sericea* (Sericea or Chinese lespedeza)
34. *Limnophila sessiliflora* (Asian marshweed)
35. *Lonicera japonica* (Japanese honeysuckle)
36. *Lythrum virgatum* (Wanded loosestrife)
37. *Microstegium vimineum* (Japanese stilt grass)
38. *Myriophyllum aquaticum* (Parrot feather)
39. *Najas minor* (Brittle naiad, or lesser, bushy, slender, spiny or minor naiad or waternymph)
40. *Nelumbo nucifera* (Sacred Lotus)
41. *Nymphoides peltata* (Yellow floating heart)
42. *Oenanthe javanica* (Java waterdropwort or Vietnamese parsley)
43. *Oplismenus hirtellus* ssp. *undulatifolius* (Wavy leaf basket grass)
44. *Ottelia alismoides* (Ducklettuce)
45. *Paulownia tomentosa* (Princess tree)

46. *Petasites hybridus* (Butterfly dock)
47. *Phellodendron amurense* (Amur Cork Tree) except male cultivars and seedling rootstock
48. *Pistia stratiotes* (Water lettuce)
49. *Polygonum perfoliatum* or *Persicaria perfoliata* (Mile-a-minute vine)
50. *Pueraria montana* or *P. lobata* (Kudzu)
51. *Quercus acutissima* (Sawtooth oak)
52. *Ranunculus ficaria* (Lesser celandine)
53. *Rubus armeniacus* (Himalayan blackberry)
54. *Rubus phoenicolasius* (Wineberry or wine raspberry)
55. *Sagittaria sagittifolia* (Hawaii arrowhead)
56. *Salvinia herzogii* (Giant Salvinia)
57. *Salvinia molesta* (Giant salvinia)
58. *Sorghum halepense* (Johnsongrass)
59. *Stratiotes aloides* (Water Soldiers)
60. *Taeniatherum caput-medusae* (Medusahead)
61. *Torilis arvensis* (Spreading hedgeparsley)
62. *Trapa natans* (Water chestnut)
63. *Tussilago farfara* (Colt's foot)
64. *Typha domingensis* (Southern cattail)
65. *Typha laxmannii* (Graceful cattail)
66. *Vincetoxicum rossicum* or *Cynanchum rossicum* (Pale or European swallow-wort)
67. *Wisteria floribunda* (Japanese wisteria)
68. *Wisteria sinensis* (Chinese wisteria)

**PROHIBITED/RESTRICTED CATEGORY:**

1. *Anthriscus sylvestris* (Wild chervil) restricted in Adams, Barron, Chippewa, Crawford, Columbia, Dane, Dodge, Dunn, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Juneau, Kenosha, Lacrosse, Lafayette, Marquette, Milwaukee, Monroe, Ozaukee, Polk, Racine, Richland, Rock, Sauk, Sheboygan, Taylor, Vernon, Walworth, Waukesha, and Washington counties; prohibited elsewhere – Updated county list in 2015
2. *Bunias orientalis* (Hill mustard) restricted in Dane, Grant, Green, Iowa, Lafayette, and Rock counties; prohibited elsewhere – Updated county list in 2015
3. *Cirsium palustre* (European marsh thistle) restricted in Ashland, Bayfield, Chippewa, Clark, Door, Florence, Forest, Iron, Langlade, Lincoln, Marathon, Marinette, Menominee, Oconto, Oneida, Price, Rusk, Sawyer, Shawano, Taylor and Vilas counties; prohibited elsewhere – Updated county list in 2015

4. *Conium maculatum* (Poison hemlock) restricted in Buffalo, Crawford, Dane, Grant, Green, Iowa, Jefferson, Kenosha, La Crosse, Lafayette, Milwaukee, Monroe, Ozaukee, Racine, Richland, Rock, Sauk, Sheboygan, Trempealeau, Vernon, Walworth, and Waukesha counties; prohibited elsewhere – Updated county list in 2015
5. *Epilobium hirsutum* (Hairy willow herb) restricted in Brown, Calumet, Door, Kenosha, Kewaunee, and Manitowoc counties; prohibited elsewhere – Updated county list in 2015
6. *Glyceria maxima* (Tall or reed mannagrass) restricted in Brown, Calumet, Columbia, Dane, Dodge, Door, Fond du Lac, Green, Jefferson, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha and Winnebago counties; prohibited elsewhere – Updated county list in 2015
7. *Humulus japonicus* (Japanese hops) restricted in Buffalo, Crawford, Dane, Grant, Green, Iowa, Jackson, La Crosse, Lafayette, Monroe, Pepin, Richland, Sauk, Trempealeau, and Vernon counties; prohibited elsewhere – Updated county list in 2015
8. *Leymus arenarius* or *Elymus arenarius* (Lyme grass or sand ryegrass) restricted in Door, Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, and Sheboygan counties; prohibited elsewhere – Updated county list in 2015
9. *Linaria dalmatica* (Dalmatian toadflax) restricted in Juneau and Bayfield counties; prohibited elsewhere
10. *Lonicera maackii* (Amur honeysuckle) restricted in Adams, Brown, Buffalo, Calumet, Columbia, Crawford, Dane, Dodge, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Juneau, Kenosha, Kewaunee, La Crosse, Lafayette, Manitowoc, Marquette, Milwaukee, Monroe, Outagamie, Ozaukee, Racine, Richland, Rock, Sauk, Sheboygan, Vernon, Walworth, Washington, Waukesha, Waupaca, Waushara and Winnebago counties; prohibited elsewhere – Updated county list in 2015
11. *Phragmites australis* non-native ecotype (Phragmites or Common reed non-native ecotype) restricted in Brown, Calumet, Columbia, Dane, Dodge, Door, Florence, Fond du Lac, Forest, Green Lake, Jefferson, Kenosha,

Kewaunee, Langlade, Manitowoc, Marathon, Marinette, Marquette, Menominee, Milwaukee, Oconto, Outagamie, Ozaukee, Portage, Racine, Rock, Shawano, Sheboygan, Walworth, Washington, Waukesha, Waupaca, Waushara, and Winnebago counties; prohibited elsewhere - Moved to Prohibited/Restricted from Restricted in 2015

12. *Solidago sempervirens* (Seaside goldenrod) restricted in Kenosha, Milwaukee and Racine counties; prohibited elsewhere

13. *Torilis japonica* (Japanese hedgeparsley or erect hedgeparsley) restricted in Adams, Brown, Calumet, Columbia, Crawford, Dane, Dodge, Door, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Juneau, Kenosha, Kewaunee, La Crosse, Lafayette, Langlade, Manitowoc, Marathon, Marinette, Marquette, Menominee, Milwaukee, Monroe, Oconto, Outagamie, Ozaukee, Portage, Racine, Richland, Rock, Sauk, Shawano, Sheboygan, Vernon, Walworth, Washington, Waukesha, Waupaca, Waushara, and Winnebago counties; prohibited elsewhere – Updated county list in 2015

14. *Vincetoxicum nigrum* or *Cynanchum louiseae* (Black or Louise’s swallow-wort) restricted in Columbia, Crawford, Dane, Grant, Green, Iowa, Jefferson, Juneau, Kenosha, La Crosse, Lafayette, Milwaukee, Monroe, Racine, Richland, Rock, Sauk, Vernon, Walworth and Waukesha counties; prohibited elsewhere

#### RESTRICTED CATEGORY:

1. *Acer tataricum* subsp. *ginnala* (Amur maple) \*except all cultivars

2. *Aegopodium podagraria* (Bishop's goutweed)

3. *Ailanthus altissima* (Tree of heaven)

4. *Alliaria petiolata* (Garlic mustard)

5. *Alnus glutinosa* (Black alder) \*except all cultivars and hybrids

6. *Artemisia absinthium* (Wormwood)

7. *Berberis thunbergii* (Japanese barberry) \*This restriction only applies to the parent type, the variety *atropurpurea*, the hybrid of *B. thunbergii* x *B. Koreana*, and the following cultivars.

*Berberis thunbergii* cultivars: Sparkle, ‘Anderson’ Lustre Green™, Erecta, ‘Bailgreen’ Jade Carousel®, Angel Wings, Painter’s Palette, Inermis (‘Thornless’), Pow Wow, Golden Ring, Kelleriis, Kobold, ‘JN Variegated’ Stardust™ and Antares. Variety *atropurpurea* cultivars:

Marshall Upright (‘Erecta’), Crimson Velvet, ‘Bailtwo’ Burgundy Carousel®, Red Rocket, ‘Monomb’ Cherry Bomb™, ‘Bailone’ Ruby Carousel®, JN Redleaf, Rose Glow and Silver Mile. Hybrid of *B. thunbergii* x *B. koreana*

cultivars: Tara and ‘Bailsel’ Golden Carousel®

8. *Butomus umbellatus* (Flowering rush)

9. *Campanula rapunculoides* (Creeping bellflower)

10. *Caragana arborescens* (Siberian peashrub) \*except the cultivars Lorbergii, Pendula, and Walkerii

11. *Carduus acanthoides* (Plumeless thistle)

12. *Carduus nutans* (Musk thistle or Nodding thistle)

13. *Celastrus orbiculatus* (Oriental bittersweet)

14. *Centaurea biebersteinii*, *Centaurea maculosa* or *Centaurea stoebe* (Spotted knapweed)

15. *Centaurea jacea* (Brown knapweed)

16. *Centaurea nigra* (Black knapweed)

17. *Centaurea nigrescens* (Tyrol knapweed)

18. *Chelidonium majus* (Celandine) - Moved to Restricted from Prohibited/Restricted in 2015

19. *Cirsium arvense* (Canada thistle)

20. *Coronilla varia* (Crown vetch)

21. *Cynoglossum officinale* (Hound’s tongue)

22. *Dipsacus laciniatus* (Cut-leaved teasel)

23. *Dipsacus sylvestris* or *Dipsacus fullonum* (Common teasel)

24. *Elaeagnus angustifolia* (Russian olive)

25. *Elaeagnus umbellata* (Autumn olive)

26. *Epipactis helleborine* (Helleborine orchid)

27. *Euonymus alatus* (Burning bush) \*including the cultivar ‘Nordine’ and excluding all other cultivars

28. *Euphorbia cyparissias* (Cypress spurge)

29. *Euphorbia esula* (Leafy spurge)

30. *Fallopia japonica* or *Polygonum cuspidatum* (Japanese knotweed)

31. *Filipendula ulmaria* (Queen of the meadow)

32. *Galeopsis tetrahit* (Hemp nettle, brittlestem hemp nettle)

33. *Galium mollugo* (White bedstraw)

34. *Hesperis matronalis* (Dame’s rocket)

35. *Impatiens balfourii* (Balfour's touch-me-not)

36. *Iris pseudacorus* (Yellow iris)

37. *Knautia arvensis* (Field scabiosa)

38. *Lonicera morrowii* (Morrow’s honeysuckle)

39. *Lonicera tatarica* (Tartarian honeysuckle)

40. *Lonicera x bella* (Bell's or showy bush honeysuckle)
41. *Lysimachia nummularia* or *L. nummelaria* (Moneywort) \*except the cultivar Aurea and yellow and gold leaf forms
42. *Lysimachia vulgaris* (Garden yellow loosestrife)
43. *Lythrum salicaria* (Purple loosestrife)
44. *Morus alba* (White mulberry) \*except male cultivars
45. *Myosotis scorpioides* (Aquatic forget-me-not)
46. *Myosotis sylvatica* or *M. sylvaticum* (Woodland forget-me-not)
47. *Myriophyllum spicatum* (Eurasian watermilfoil)
48. *Najas marina* (Spiny naiad)
49. *Pastinaca sativa* (Wild parsnip) \*except for the garden vegetable form
50. *Phalaris arundinacea* var. *picta* (ribbon grass or gardener's garters and other ornamental variegated varieties and cultivars) \*this restriction does not include the parent type - reed canary grass.
51. *Pimpinella saxifraga* (Scarlet pimpernel or Burnet saxifrage)
52. *Populus alba* (White poplar)
53. *Potamogeton crispus* (Curly-leaf pondweed)
54. *Rhamnus cathartica* (Common buckthorn)
55. *Rhamnus frangula* or *Frangula alnus* (Glossy buckthorn) \*including the Columnaris (tall hedge) cultivar but excluding the cultivars Asplenifolia and Fineline (Ron Williams)
56. *Robinia hispida* (Rose acacia or Bristly locust)
57. *Robinia pseudoacacia* (Black locust) \*except all cultivars
58. *Rosa multiflora* (Multiflora rose)
59. *Tanacetum vulgare* (Tansy) \*except the cultivars Aureum and Crispum
60. *Typha angustifolia* (Narrow-leaf cattail)
61. *Typha x glauca* (Hybrid cattail)
62. *Ulmus pumila* (Siberian elm) \*except hybrids and individuals used as rootstock
63. *Valeriana officinalis* (Garden heliotrope or Valerian)

Phase-out: Restricted only plants located in Wisconsin prior to their effective listing date may be transported, transferred, and introduced

without a permit for a period not to exceed 3 years for herbaceous plants and woody vines, or 5 years for trees and shrubs, from their effective listing date.

## FISH AND CRAYFISH

### PROHIBITED CATEGORY:

1. *Channidae* (Snakehead family) including *Channa argus* (Northern snakehead), *Channa bleheri* (Rainbow snakehead), *Channa gachua* (Dwarf snakehead), *Channa maculata* (Blotched snakehead), *Channa marulius* (Bullseye snakehead), *Channa punctata* (Spotted snakehead), and *Channa striata* (Chevron snakehead)
2. *Ctenopharyngodon idella* (Grass carp)
3. *Cyprinella lutrensis* (Red shiner)
4. *Hypophthalmichthys molitrix* (Silver carp)
5. *Hypophthalmichthys nobilis* (Bighead carp)
6. *Mylopharyngodon piceus* (Black carp)
7. *Sander lucioperca* (Zander)
8. *Scardinius erythrophthalmus* (Rudd)
9. *Tinca tinca* (Tench)
10. All other nonnative fish and nonnative crayfish except:
  - a. Established nonnative fish species and established nonnative crayfish species
  - b. Nonnative viable fish species in the aquarium trade
  - c. Nonnative fish species in the aquaculture industry
  - d. Nonviable fish species
  - e. Genetically modified fish species

### RESTRICTED CATEGORY:

1. Established nonnative fish species and established nonnative crayfish species
  - a. *Alosa pseudoharengus* (Alewife)
  - b. *Cyprinus carpio* (Common carp)
  - c. *Gambusia affinis* (Western mosquitofish) - Moved to Restricted from Prohibited in 2015
  - d. *Gambusia holbrooki* (Eastern mosquitofish) - Moved to Restricted from Prohibited in 2015
  - e. *Gasterosteus aculeatus* (Three-spine stickleback)
  - f. *Gymnocephalus cernuus* (Ruffe)
  - g. *Morone americana* (White perch)

- h. *Neogobius melanostomus* (Round goby)
  - i. *Orconectes rusticus* (Rusty crayfish)
  - j. *Osmerus mordax* (Rainbow smelt)
  - k. *Petromyzon marinus* (Sea lamprey)
  - l. *Proterorhinus marmoratus* (Tubenose Goby)
2. Nonnative viable fish species in the aquarium trade
- a. *Acipenser ruthenus* (Sterlet)
  - b. *Carassius auratus* (Goldfish)
  - c. *Cyprinus carpio* (Koi carp)
  - d. *Leuciscus idus* (Ide)
  - e. *Misgurnus anguillicaudatus* (Weather loach)
  - f. *Myxocyprinus asiaticus* (Chinese hi-fin banded shark)
  - g. *Rhodeus* spp. (Bitterling)
3. Nonnative fish species in the aquaculture industry
- a. *Lepomis microlophus* (Redear sunfish)
  - b. *Oncorhynchus gorbuscha* (Pink salmon)
  - c. *Oncorhynchus kisutch* (Coho salmon)
  - d. *Oncorhynchus mykiss* (Rainbow trout)
  - e. *Oncorhynchus tshawytscha* (Chinook salmon)
  - f. *Salmo salar* (Atlantic salmon)
  - g. *Salmo trutta* (Brown trout)
  - h. *Salvelinus alpinus* (Arctic char)
  - i. *Salvelinus fontinalis* x *Salmo trutta* (Tiger trout)
  - j. *Tilapia* spp. (Tilapia)
4. Nonviable fish species
5. Viable genetically modified native and nonnative fish species.

## **AQUATIC INVERTEBRATES EXCEPT CRAYFISH**

### PROHIBITED CATEGORY:

1. *Bithynia tentaculata* (Faucet snail)
2. *Bythotrephes cederstroemi* (Spiny water flea)
3. *Cercopagis pengoi* (Fishhook water flea)
4. *Corbicula fluminea* (Asian clam)
5. *Daphnia lumholtzi* (Water flea)
6. *Dikerogammarus villosus* (Killer Shrimp)
7. *Dreissena rostriformis* (Quagga mussel)
8. *Eriocheir sinensi* (Chinese mitten crabs)
9. *Hemimysis anomala* (Bloody shrimp)
10. *Limnoperna fortunei* (Golden mussel)

11. *Melanooides tuberculata* (Malaysian trumpet snail)
12. *Potamopyrgus antipodarum* (New Zealand mud snail)

### RESTRICTED CATEGORY:

1. *Cipangopaludina chinensis* (Chinese mystery snail)
2. *Cipangopaludina japonica* (Japanese trapdoor snail or Japanese mystery snail)
3. *Dreissena polymorpha* (Zebra mussel)
4. *Valvata piscinalis* (European valve snail)
5. *Viviparus georgianus* (Banded mystery snail)

## **TERRESTRIAL INVERTEBRATES AND PLANT DISEASE-CAUSING MICROORGANISMS**

### PROHIBITED CATEGORY:

1. *Adelges tsugae* (Hemlock woolly adelgid)
2. *Anoplophora glabripennis* (Asian longhorned beetle)
3. *Dendroctonus ponderosae* (Mountain Pine Beetle)
4. *Geosmithia morbida* (Thousand cankers disease of walnut)
5. *Lymantria dispar* (Asian race) (Asian Gypsy moth)
6. *Phytophthora ramorum* (Sudden oak death pathogen)
7. *Pityophthorus juglandis* (Walnut twig beetle)

### RESTRICTED CATEGORY:

1. *Agrilus planipennis* (Emerald ash borer) - Moved to Restricted from Prohibited in 2015
2. *Amyntas* or *Amyntus* species (Jumping worm) - Moved to Restricted from Prohibited in 2015
3. *Lymantria dispar* (European Gypsy moth)

*Cryptococcus fagisuga* (Scale associated with beech bark disease) - removed from ch. NR 40 on May 1, 2015

## **TERRESTRIAL AND AQUATIC VERTEBRATES EXCEPT FISH**

### PROHIBITED CATEGORY:

1. *Myiopsitta monachus* (Monk or Quaker parakeet or parrot)
2. *Myocastor coypus* (Nutria)
3. *Sus domestica* (Feral domestic swine)
4. *Sus scrofa* (Russian boar & other wild swine)

RESTRICTED CATEGORY:

None.

*Trachemys scripta elegans* (Red-eared slider with a carapace (top shell) length of less than 4

inches) - removed from ch. NR 40 on May 1, 2015

**FUNGUS**

PROHIBITED CATEGORY:

1. *Pseudogymnoascus destructans* (White-nose syndrome fungal pathogen)

RESTRICTED CATEGORY:

None.

## Appendix B: List of MITW-Approved Pesticides

### PESTICIDES REVIEWED AND APPROVED FOR USE ON THE MENOMINEE INDIAN RESERVATION

ACCORD XRT II <a href="https://www.dbiservices.com/sites/default/files/SDS/Accord%20XRT%20II%20SDS_0.pdf">https://www.dbiservices.com/sites/default/files/SDS/Accord%20XRT%20II%20SDS_0.pdf</a>	Aug. 2017
ACEPHATE (Special emergency use insecticide) <a href="http://www.t3db.ca/system/msds/attachments/000/001/061/original/T3D3788.pdf?1413587619">http://www.t3db.ca/system/msds/attachments/000/001/061/original/T3D3788.pdf?1413587619</a>	Feb. 20, 1997
ALLIGARE IMAZAPYR 4 SL <a href="https://alligare.com/wp-content/uploads/2018/08/imazapyr-4-sl-sds-v3.0-080618.pdf">https://alligare.com/wp-content/uploads/2018/08/imazapyr-4-sl-sds-v3.0-080618.pdf</a>	July 2018
AQUASTRIKE <a href="https://www.lakeandpondsolutions.com/sds/aquastrike%20sds%202015.pdf">https://www.lakeandpondsolutions.com/sds/aquastrike%20sds%202015.pdf</a>	May 2015
AQUATHOLSUPER K <a href="https://aquadocinc.com/wp-content/uploads/2019/01/Aquathol-Super-K-SDS_2019.pdf">https://aquadocinc.com/wp-content/uploads/2019/01/Aquathol-Super-K-SDS_2019.pdf</a>	Feb. 2009
CELLU-TREAT <a href="http://www.hoodindustries.com/wp-content/uploads/2015/10/Cellutreat.pdf">http://www.hoodindustries.com/wp-content/uploads/2015/10/Cellutreat.pdf</a>	Oct. 2011
ENTRY II (Surfactant for Glyphosate products)	Mar. 15, 1996
GLYPHOSATE (in the ACCORD formulation)	Apr. 15, 1992
GLYPHOSATE (in the ROUNDUP formulation)	Mar. 15, 1996
MILESTONE <a href="http://www.cdms.net/LDat/mp77N002.pdf">http://www.cdms.net/LDat/mp77N002.pdf</a>	July 2015
NAVIGATE DM <a href="http://www.cygnetenterprises.com/labels/Navigate%20SDS.pdf">http://www.cygnetenterprises.com/labels/Navigate%20SDS.pdf</a>	Mar. 2020
OUST (SULFOMETURON METHYL) <a href="https://www.rosepestsolutions.com/docs/msds/Oust-XP-Bayer-SDS-2018.pdf">https://www.rosepestsolutions.com/docs/msds/Oust-XP-Bayer-SDS-2018.pdf</a>	Mar. 7, 1996

<p>OUST XP  <a href="http://www.cdms.net/ldat/mpCG4003.pdf">http://www.cdms.net/ldat/mpCG4003.pdf</a></p>	May 2013
<p>PROCELLACOR EC  <a href="https://www.sepro.com/Documents/ProcellaCOR_EC--SDS.pdf">https://www.sepro.com/Documents/ProcellaCOR_EC--SDS.pdf</a></p>	Feb. 2020
<p>RODEO - Aquatic  <a href="https://www.fws.gov/midwest/documents/AppendixE_MaterialSafetyDataSheetforRodeoHerbicide.pdf">https://www.fws.gov/midwest/documents/AppendixE_MaterialSafetyDataSheetforRodeoHerbicide.pdf</a></p>	July 2010
<p>ROTSTOP C  <a href="http://www.bioforest.ca/UploadedFiles/files/Rotstop%20C%20SDS%20-%20v2_1%20-%20Sept%201%202016(1).pdf">http://www.bioforest.ca/UploadedFiles/files/Rotstop%20C%20SDS%20-%20v2_1%20-%20Sept%201%202016(1).pdf</a></p>	June 2017
<p>SPORAX  <a href="http://fs1.agrian.com/pdfs/SPORAX_MSDS.pdf">http://fs1.agrian.com/pdfs/SPORAX_MSDS.pdf</a></p>	Mar. 2007
<p>TREEAZIN  <a href="http://bioforest.ca/UploadedFiles/files/TreeAzin%20SDS%20-%20EN%20-%20Revision%204_2-%20May%206%202019.pdf">http://bioforest.ca/UploadedFiles/files/TreeAzin%20SDS%20-%20EN%20-%20Revision%204_2-%20May%206%202019.pdf</a></p>	July 2015
<p>TRICLOPYR (in the GARLON 4 formulation)</p>	Apr. 15, 1992
<p>TRICLOPYR (in the GARLON 3A formulation)</p>	Dec. 29, 1995
<p>VALENT X-77 (Surfactant)  Minimal use requested because of potential nonylphenols after decomposition of ethoxides.  Use Entry II if label allows.</p>	Feb. 13, 1996

**The above pesticides have been reviewed and approved by the Tribal Environmental Scientist for MITW of the Environmental Services Department.**

## Appendix C: Public Notice Protocol

### PART I Procedure for Public Notice

1. ISMP workgroup informed of field plans in the winter quarterly meeting.
2. Lead Department will layout timeline for treatment according to ISMP workplan.
3. Determine what information will be provided to the public from ISMP workplan that will adequately describe the treatment activity to the public
4. Lead department will develop draft public notice & circulate to other ISMP departments for review and comments.
5. Provide public notice through local media, internet, postings of notice and signs.
6. Any signs posted will be removed after adequate length of time (end of season) or the notices should be removed after it is judged safe to re-enter the area.

### PART II Emergency Treatment

1. Special circumstances will apply to an emergency treatment to control invasive species outbreak.
2. If any treatment occurs, the public will be notified through postings on the day of treatment.
3. Tribal departments that conduct or coordinate treatments will provide additional notice through the internet on the day of treatment.

## **Appendix Amendment Statement**

All appendices may be amended or updated as needed by the Menominee Indian Tribe of Wisconsin Environmental Services Department and the Menominee County Conservation, Forestry, and Zoning Department. Changes to appendices can be made by these departments without formal approval by The Menominee Indian Tribe of Wisconsin or Menominee Town/County. This will allow the entities to apply necessary updates to appendices as new invasive species information becomes available.

## Glossary of Acronyms

AIS	Aquatic Invasive Species
APHIS	Animal Plant Health Inspection Service
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
CBCW	Clean Boats Clean Waters
CFZ	Menominee County Conservation, Forestry, and Zoning Department
CLP	Curly-leaf Pondweed
CMN	College of Menominee Nation
COW	Connecting Our Waters
ESD	Environmental Service Department
EWM	Eurasian Watermilfoil (Refers to all invasive watermilfoil varieties)
Fox-Wolf	Fox-Wolf Watershed Alliance
GIS	Geographic Information Systems
GLRI	Great Lakes Restoration Initiative
ISMP	Invasive Species Management Plan
LLA	LaMotte Lake Association
LLPRD	Legend Lake Protection and Rehabilitation District
MITW	Menominee Indian Tribe of Wisconsin
MTE	Menominee Tribal Enterprises
NRCS	Natural Resource Conservation Service
S&PF	State and Private Forestry
TIP	Timberland Invasives Partnership
USDA	United States Department of Agriculture
USDOJ	United States Department of the Interior

USFWS United States Fish and Wildlife Service  
UWEX University of Wisconsin-Madison Division of Extension  
WAMSCO Waterways Association of Menominee & Shawano Counties  
WDNR Wisconsin Department of Natural Resources  
WI-DATCP Wisconsin Department of Agriculture, Trade, and Consumer Protection