Wild Rivers Invasive Species Coalition (WRISC)

Strategic Management Plan

2018 – 2022

Approved June 6th, 2018

MISSION

The Wild Rivers Invasive Species Coalition (WRISC) is a multi-partner organization representing five counties in two states. WRISC is dedicated to the management of invasive species on our lands and waters through cooperation, education, prevention, and control.

INTRODUCTION/BACKGROUND

The Wild Rivers Invasive Species Coalition (WRISC) was formed in 2009 and to this day operates across a five county area in northeastern Wisconsin and the Upper Peninsula of Michigan. The groups consists of formal Partners and informal members from local/state/federal agencies, businesses, individuals, and civic organizations, all committed to battling invasive species in the region. Formal Partners (Appendix A) express their support of WRISC by signing a Memorandum of Understanding (MOU), but participation is strictly voluntary. Partnership with WRISC is open to all local/state/federal/tribal agencies, businesses, civic organizations, and individuals and WRISC welcomes the participation of informal cooperators as well.

Invasive species are recognized as a widespread and increasing problem with serious economic and ecological impacts on public and private lands and waters, as well as hazards to human and animal health. Cooperation provides mutual benefits in managing invasive species across jurisdictional boundaries and improves working relationships between coalition members and the public.

To combat the threat of invasive species, WRISC outlined several goals in previous Strategic Management Plans. In the world of invasive management, various policies, priorities, threats, research, and funding sources are constantly in flux. As such, the best way for WRISC to continue to combat the threat of invasive species is to take a strategic approach to its goals by way of a Strategic Management Plan. This Strategic Management Plan is intended to be dynamic and adjusted as needed to address changing needs and priorities. The plan will be reviewed annually, with adjustments made as needed, and formally revised and updated every five years.

WRISC MANAGEMENT AREA

The WRISC management area is geographically defined as the lands and waters within the geopolitical boundaries of Florence, Forest, and Marinette counties in Wisconsin, and Dickinson and Menominee counties in Michigan. This area encompasses 5,208 sq. miles and a population of 105, 673 (2010 census). Much of the management area is forested, with a large proportion under public ownership as national, state, or county forests. Various Native Americans also call

the WRISC area home, which includes a portion of the ceded territory, and reservations for the Forest County Potawatomi Community, the Sokaogon Chippewa Community, and the Hannahville Indian Community.

LOCATION

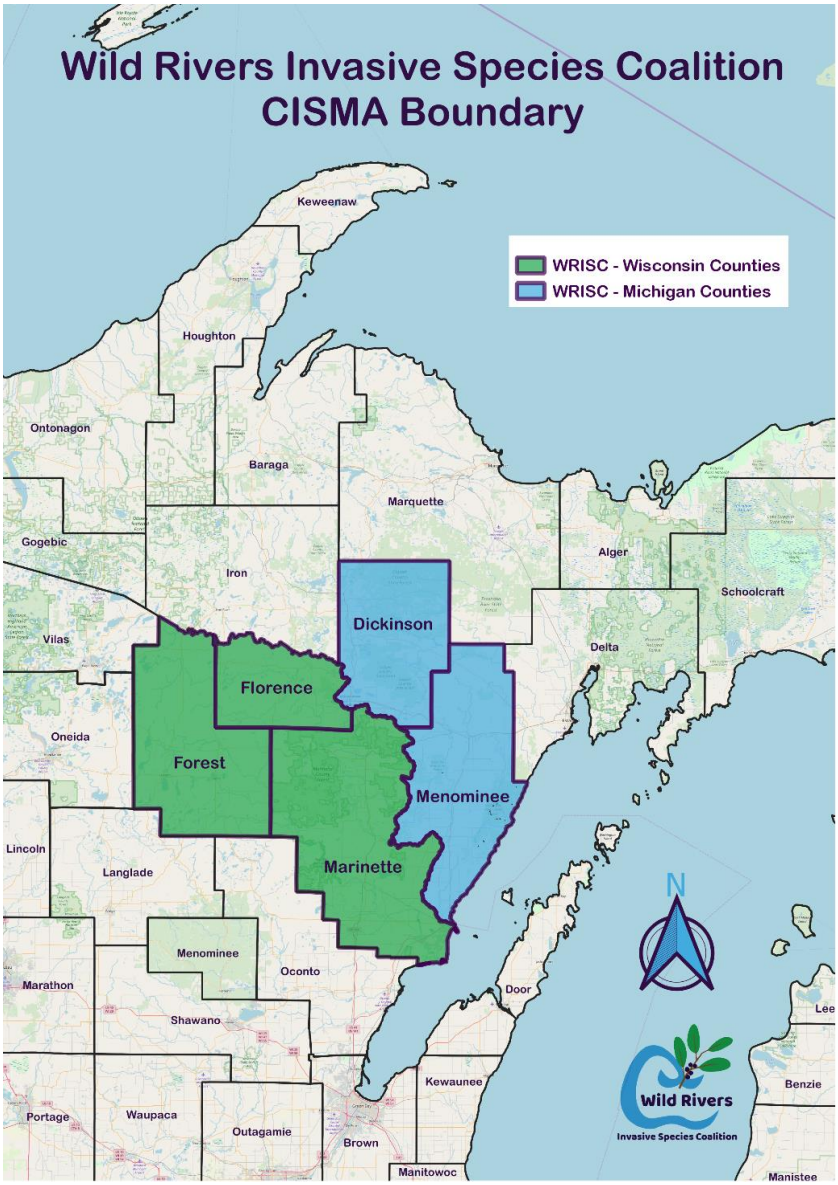

Figure 1. The WRISC Management area

GOALS and OBJECTIVES

The primary goals of WRISC are:

- To raise awareness about invasive species in the WRISC area
- Prevent the introduction and spread of invasive species through monitoring, early detection, and rapid response
- Address known populations of invasive species utilizing Integrated Invasive Species Management methods where appropriate
- Consider restoration during invasive species projects
- And continually work to enhance collaboration among all stakeholders involved with WRISC

Goal 1: Prevention through education

Education is essential to meeting the goals of WRISC and its Partners. WRISC's educational outreach is focused on increasing awareness of the problem of invasive species and the role that humans play in spreading invasive plants and animals, and helping people take action in their own communities. Through education, the public can help to reduce the impact of invasive species in the WRISC management area. Community-based prevention measures can dramatically curtail the expansion of established populations.

Objective 1.1: Conduct education and training programs for Partners and members of the public to increase awareness of prevention and early detection measures.

Strategic Actions:

1. Conduct invasive species educational presentations across the WRISC area.
2. Assess and conduct targeted education and training for WRISC Partners.
3. Conduct outreach and targeted training programs for citizen groups, associations, clubs, and others.
4. Connect with public officials and industry workers to conduct targeted training, including best management practices, for local units of government, municipalities, and businesses.
5. Incorporate the use of regional prevention campaigns and programs into WRISC's education and outreach efforts.

6. Work with area schools to include invasive species education in the curriculum throughout all grade levels. Direct project-based learning through workdays and field trips.
7. Develop cooperative workdays and projects for citizens and Partners across the WRISC area.
8. Provide WRISC representation and invasive species education at area meetings, conferences, and other functions.

Objective 1.2: Provide information via easily accessible means to the public at large.

WRISC will develop and distribute educational information in many forms for the general public and provide specific information to target audiences about the impacts of invasive species and the public's roles and responsibilities.

Strategic Actions

1. Obtain existing educational publications and resources from other agencies and Partners to distribute at functions and events.
2. Develop and maintain an updated WRISC educational brochure and distribute at functions and events
3. Develop additional educational materials for distribution and display as able and as funding allows. Materials should be targeted for various citizen and professional groups, special interest groups, specific invasive species, activities, or pathways of introduction and spread.
4. Reach a vast audience of WRISC Partners and area citizens through the internet in various ways and via several platforms, such as utilizing social media platforms to promote WRISC's mission, events, and more.
5. Manage the WRISC email (wildriverscwma@gmail.com) and the WRISC website (www.wrisc.org) to provide accurate, detailed, and updated information to the public and to serve as a point of contact. Maintain a WRISC email list and encourage sign-ups at events. Use this email to inform the public of WRISC events and invasive species news.
6. Utilize a variety of appropriate media to further reach local residents (press releases, newspapers, radio, and television), with particular focus on the increasing use of signage to reach outdoor recreationists and tourists in high traffic areas such as boat landings, trailheads, and along roadways.
7. Maintain a WRISC newsletter (produce three per year) and distribute online via the WRISC email list, Facebook, website, and make limited paper copies available.

Objective 1.3: Maintain and actively seek up-to-date information on invasive species threats, management, and research.

Strategic Actions

1. Use a variety of resources to keep WRISC staff, Partners, and members of the public knowledgeable and up-to-date.
2. Encourage WRISC staff and Partners to attend local and regional invasive species conferences, conventions, and meetings as able.
3. Promote the sharing of information among Partners, members, natural resources professionals, and other interested parties.

Goal 2: Early Detection and Rapid Response

Once an invasive species is established in a new area, it can spread quickly and overwhelm local resources, making eradication costly, if not impossible. WRISC places a high emphasis on detecting new species and populations on invasives early, and rapidly responding with control and eradication efforts. These control efforts are the most cost effective and provide a high return on investment.

Objective 2.1: Prioritize early detection target areas and maintain survey efforts.

Strategic Actions

1. Maintain the WRISC Priority Invasive Species List (Appendix B) to categorize species as Early Detection/Rapid Response, Manageable, or Widespread.
2. Update priority list as needed to reflect the current state of invasive species in the WRISC area as well as new invasives identified by state agencies as early detection threats.
3. Maintain Early Detection/Rapid Response activities throughout the WRISC area, with particular attention to “high risk” areas such as recreation pathways, natural areas, or locations susceptible to spread and introduction.

Objective 2.2: Develop and enhance the capacity to detect priority invasive species populations.

Strategic Actions

1. Maintain standardized invasive species mapping protocols for use by WRISC staff and volunteers, compatible with the requirements of the Midwest Invasive Species Information Network (MISIN).
2. Conduct invasive species surveys, as funding permits, using standard protocols and targeting priority areas and species. Use results to inform management planning.
3. Support invasive species surveys and reporting by WRISC cooperators, volunteers, and the public. Assist in identification of unknown species and facilitate reporting to MISIN.

Objective 2.3: Quickly respond to newly discovered or localized invasive species throughout the WRISC management area, as funding permits.

Strategic Actions

1. Develop and maintain cooperative relationships with regional natural resource managers and landowners to facilitate quick response efforts towards early detection species or populations.
2. Maintain assembly of basic tools and supplies (owned by WRISC) for use by Partners and volunteers to independently control invasive species populations.
3. Use the WRISC Control Prioritization Tool (Appendix C) to rank infestations for action, including monitoring, further research needed, or control. Conduct appropriate activities and improve or update the prioritization tool as needed.

Goal 3: Control and Management

WRISC supports and encourages the control and management of invasive species and participates directly as funding allows. The following objectives will allow management to be addressed strategically using information, prioritization, and integrated techniques, resulting in more effective and efficient results.

Objective 3.1: Collect, manage, and share invasive species location data to make informed control and management decisions.

Strategic Actions

1. Maintain an internal database of invasive species locations within the WRISC area.
2. Regularly update records with WRISC survey results, volunteer observations, shared partner data, and information from data-sharing sources, such as the Midwest Invasive Species Information Network (MISIN) or the Great Lakes Early Detection Network (GLEDN).
3. Record standard details for each observation record.

4. Utilize QGIS mapping software and other programs to manage invasive species location and control data. Maintain up-to-date software and continue to explore alternative, cost-efficient options to supplement data management efforts.
5. Share invasive species location data with WRISC Partners and local/regional/state natural resource managers. Report location and treatment data annually, or as needed, to MISIN.

Objective 3.2: Prioritize species based on the species' potential ecological, economical, and human/animal health impacts, current management objectives of the infested area, available resources, and landowner or land manager support.

Strategic Actions

1. As in Objective 2.1, maintain and update the WRISC Priority Invasive Species list (Appendix B).
2. Consider multiple factors and population characteristics when prioritizing control efforts, including: past control efforts, landowner/manager support, available resources, population size/density, risk of spread, ease of treatment, and ecological, economical, and human/animal health impacts.

Objective 3.3: Use an integrated approach to manage current invasive species populations.

Strategic Actions

1. Advocate Integrated Pest Management (IPM) practices, utilizing a combination of control techniques to effectively manage invasive populations on a case-by-case basis while limiting the economic and environmental impacts of treatment. A general overview of methods that may be employed is given below and in greater detail in Appendix D.
    a. Manual and Mechanical: Manual and mechanical techniques such as pulling, cutting, or otherwise stressing or physically removing invasives, can be used to control some invasive species, particularly if the population is relatively small.
    b. Chemical: In some instances, herbicide application is the only practical way to control an invasive species due to plant physiology or the population extent.
    c. Biocontrol: Biological control (or "biocontrol") is the use of animals, fungi, or other microbes to feed upon, parasitize or otherwise stress a targeted pest species. Successful biocontrol programs significantly reduce the abundance of the pest or prevent the damage caused by the pest (e.g. by preventing it from feeding on valued crops).

   d. Cultural: Cultural control involves methods such as flooding, smothering (covering with light barrier), prescribed burns, of the use of cover vegetation to reduce the impact of invasive species.
2. When conducting control work with staff and volunteers, WRISC will adhere to all legal requirements regarding property ownership, herbicide application, and equipment use. Workers will follow all equipment and herbicide label instructions, and document landowner permission, required certifications, and records of control activities.
3. Provide landowners and land managers standard best management practices (BMPs) for control and updated information/resources regarding management options available for their own invasive species management projects.
4. Monitor and document results of control work and conduct follow-up treatments as needed and able.

Goal 4: Restoration

Restoration of ecosystems and landscapes to their natural and native form is the ultimate long-term goal of any invasive species management campaign. However, this goal can be difficult to achieve, especially considering the expense and length of time these projects often require to be successful. Nonetheless, WRISC is committed to pursuing and encouraging restoration where appropriate and feasible.

Objective 4.1: Provide educational materials and guidance related to restoration activities and act as a local resource to those seeking to pursue restoration projects.

Strategic Actions

1. Maintain updated information and resources on restoration practices.
2. Advise land management agencies, townships, highway departments, landowners and others on best management practices and methods for restoration.
3. Locate and maintain additional resources for restoration efforts, and promote those to granting sources, Partners, and the public.

Objective 4.2: Actively seek to build WRISC's capacity to conduct or oversee restoration activities as appropriate.

Strategic Actions

1. Continue to accumulate the tools and skills to conduct restoration projects by purchasing versatile equipment and participating in trainings or workshops.

2. Genuinely include restoration in control strategies and treatment plans for invasive species management and assess/identify sites for potential or need for restoration.
3. Seek and offer partnership with local agencies, municipalities, and the like for assistance in restoration projects.

Goal 5: Organizational Collaboration and Stability

The long-term success of WRISC is dependent on the structure and strength of the organization and Partnership. One of WRISC's goals is to maintain and strengthen collaboration, which will expand the organization's capacity to accomplish all other goals.

Objective 5.1: Maintain the WRISC organizational structure and Partnership.

Strategic Actions

1. Maintain an annually elected Board of Directors.
2. Maintain and update WRISC's Memorandum of Understanding (MOU) and Bylaws. Develop policies and procedures, and other additional documents, as needed.
3. Continue WRISC Action Team committees and encourage Partner participation.
4. Maintain at least one WRISC staff position to serve as the group coordinator and project manager.

Objective 5.2: Work across jurisdictional and geographical boundaries to strengthen the coordination among current and potential Partners.

Strategic Actions

1. Actively recruit new formal Partners and informal members/cooperators for inclusion in the WRISC organization and WRISC activities.
2. Maintain and expand communication among Partners and members through several diverse platforms.

Objective 5.3: Seek funding opportunities to support WRISC activities.

Strategic Actions

1. Continue to seek funding through competitive grants and gifts, exploring federal, state, and local sources.

2. Explore additional ways to raise undesignated funds.
3. Funding opportunities will be reviewed on a regular basis with proposals being drafted and reviewed as able by WRISC Staff, board/action team members, and financial administrator(s).
4. Funds for WRISC projects will be administered through a designated fiscal agent.
    a. For each grant WRISC is awarded, a copy of the approved grant application along with other necessary documentation will be sent to the current fiscal agent address. Currently:

Dickinson Conservation District
420 N. Hooper St.
Kingsford, MI 49802

    b. WRISC funds shall not be intermingled with funds of the fiscal agent, and will instead be kept in a separate line item account. They shall be independently audited annually.
    c. The fiscal agent shall be required to provide a treasurer's report to the Board of Directors bimonthly.

Appendix A: Wild Rivers Invasive Species Coalition Partners

Alliance of the Northern States Working to Ensure Regional Stability (2015)
Bay-Lake Regional Planning Commission (2015)
Beecher-Dunbar-Pembine School District (2018)
Breen Township (2018)
Breen Township – Parks and Recreation Committee (2018)
Bureau of Land Management Northeastern States District (2015)
Carney Lake Association (2017)
Carney-Nadeau Public School (2018)
Central Upper Peninsula Planning and Development Regional Commission (2015)
Charter Township of Breitung (2018)
Clean Kill Pest Control Inc. (2015)
Crivitz Public Library (2018)
Dickinson Conservation District (2015)
Dickinson County (2016)
Felch Township – Parks and Recreation Committee (2016)
Florence County (2015)
Florence County Lakes and Rivers Association (2015)
Florence County Library (2018)
Forest County Association of Lakes Inc. (2015)
Forest County Land and Water Resources Department (2015)
Fumee Lake Commission (2016)
Hamilton Lake Association (2017)
High Falls Chapter – Wild Turkey Federation (2017)
Lake Noquebay Sportsman's Club (2018)
Lake Antoine Association (2017)
Lake Antoine Park Partners (2018)
Lake Township (Menominee County) (2015)
Lumberjack Resource Conservation and Development Council (2015)
Many Waters LLC (2015)
Marinette County (2015)
Menominee Conservation District (2015)

Menominee County (2015)
Menominee County Library (2018)
Michigan Department of Natural Resources (2015)
Michigan State University Extension – Dickinson County (2016)
Nicolet Sportsman's Club (2015)
NORMENCO Sportsman's Club (2017)
School District of Florence County (2015)
Shakey Lakes Association (2015)
School District of Wausaukee (2018)
Spalding Township (2018)
Spread Eagle Chain of Lakes Association (2018)
Town of Argonne (2018)
Town of Freedom (2018)
Town of Nashville (2018)
Town of Pembine (2018)
Tri County Snowmobile & ORV Club (2018)
University of Wisconsin – Marinette (2015)
Upper Peninsula Resource Conservation and Development Council (2015)
USDA Forest Service, Chequamegon-Nicolet National Forest (2015)
USDA-NRCS Stephenson Field Office (2015)
USDA-NRCS Wisconsin (2015)
Village of Carney (2018)
Village of Powers (2018)
White Water Associates Inc. (2015)
Wisconsin Department of Natural Resources (2015)

Appendix B: Wild Rivers Invasive Species Coalition selected priority list of non-native invasive species.

Last updated: *6/6/2018 with suggestions from all action teams*

Category Definition
This list is intended to serve as a guideline for WRISC staff/partners, as well as others managing invasive species in the WRISC five county area. Species are separated into three categories based on overall distribution across the five counties as well as other ranking considerations such as ecological and health threats. A species may be considered early detection in one area but more widespread in another. As such, when prioritizing control efforts managers should examine the local abundance of a species as well as the population size, density, and negative impacts to gauge its control priority. Please see the WRISC control prioritization tool for one way to assess and rank invasive infestations.

This list will be reviewed annually and adjusted as needed based on species distribution, updated research, and state regulation classifications.

Tier 1 – High Priority: For the most part, species in this category exist only in isolated, scattered populations. Several species on this list have yet to be found in the WRISC area, but may be classified as Restricted or Prohibited by the states, making them a detection priority. As such, species on this list are targets for early detection and rapid response efforts to prevent their introduction/spread, and to eradicate existing populations.

Tier 2 – Mid Priority: This category consists mostly of species that are more widespread than tier 1 species, but at levels still considered manageable. Species in this category can negatively impact natural areas, requiring control and management efforts, but due to their wider distribution eradication of the species may be unlikely.

Tier 3 – Low Priority: These species are considered low priority in the WRISC area. This category includes species considered very widespread in the area, making control efforts extremely difficult and reinfestation likely. Species that are not considered high ecological threats may also be added to this category.

State Legal Classification: P = Prohibited, R = Restricted
Species are chosen for regulation by state agencies based on the harm they pose to the state's environment, economy, and/or public health. In general, species that are more widespread or naturalized are restricted while less widespread species are prohibited. The transport, introduction, and sale of all regulated species is illegal. Possession is also illegal in some instances. (Exemptions are made for purposes of identification and control, permits are required for education/research.) In Michigan, it is illegal to possess any regulated species (this does not include species present on a person's property, which they did not knowingly introduce). In Wisconsin, it is only illegal to possess a prohibited species, and property owners are legally required to control prohibited species present on their property.

Note: For full details on invasive species state regulations, visit http://dnr.wi.gov/topic/Invasives/classification.html for Wisconsin and http://www.michigan.gov/dnr/0,4570,7-153-10370_59996-270798--,00.html for Michigan.

Common Name	Scientific Name	WI NR40 Classification	MI Classification
Tier 1 High Priority (Early Detection/Rapid Response)			
Plants			
Black swallow-wort	*Cynanchum louiseae*	P/R (P in WRISC area)	
Brazilian waterweed (elodea)	*Egeria densa*	P	P
Celandine	*Chelidonium maju*	P/R	
Chinese yam	*Dioscorea polystachya*	P	
Common periwinkle	*Vinca minor*		
Common teasel	*Dipsacus fullonum subsp. sylvestris*	R	
Curly-leaf pondweed	*Potamogeton crispus*	R	R
Cut Leaved teasel	*Dipsacus laciniatus*	R	
Dame's rocket	*Hesperis matronalis*	R	
European frogbit	*Hydrocharis morsus-ranae*	P	P
Everlasting pea	*Laythrus latifolius; L. sylvestris*		
Flowering rush	*Butomus umbellatus*	R	R
Garlic mustard	*Alliaria petiolata*	R	
Giant hogweed	*Heracleum mantegazzianum*	P	P
Giant knotweed	*Polygonum sachalinensis*	P	
Himalayan balsam	*Impatiens roylei*	P	
Hill mustard	*Bunias orientalis*	P/R (P in WRISC area)	
Hounds tongue	*Cynoglossum officinale*	R	
Hydrilla	*Hydrilla verticillata*	P	P
Japanese barberry	*Berberis thunbergii*	R	
Japanese hedgeparsley	*Torilis arvensis*	P/R (P in WRISC area)	
Japanese hops	*Humulus japonicus*	P/R (P in WRISC area)	
Japanese knotweed	*Polygonum cuspidatum*	R	P
Japanese stiltgrass	*Microstegium vimineum*	P	
Leafy spurge, Cypress spurge	*Euphorbia esula, E. cyparissias*	R	
Lesser celandine	*Ranunculus ficaria*	P	
Multiflora rose	*Rosa multiflora*	R	
Musk thistle	*Carduus nutans*	R	
Oriental bittersweet	*Celastrus orbiculatus*	R	

Pale swallow-wort	*Cynanchum rossicum*	P	
Parrot feather	*Myriophyllum aquaticum*	P	P
Phragmites (Non-native)	*Phragmites australis*	P/R (R in WRISC area)	R
Plumeless thistle	*Carduus acanthoides*	R	
Poison hemlock	*Conium maculatum*	P/R (P in WRISC area)	
Porcelain berry	*Ampelopsis brevipedunculata*	P	
Servicea lespedeza	*Lespedeza cuneata*	P	
Tall manna grass	*Glyceria maxima*	P/R	
Tree of heaven	*Ailanthus altissima*	R	
Watercress	*Nasturtium officinale*	C	
White bedstraw	*Galium mollugo*	R	
Wild chervil	*Anthriscus sylvestris*	P/R (P in WRISC area)	
Winged euonymous	*Euonymus alatus*	R	
Yellow flag iris	*Iris pseudoacorus*	R	P
Yellow floating heart	*Nymphoides peltata*	P	P
Yellow star thistle	*Centaurea solstitialis*	P	
Yellow sweet-clover	*Melilotus officinalis*		
Aquatic invertebrates (except crayfish)			
Asian clam	*Corbicula fluminea*	P	
Faucet snail	*Bithynia tentaculata*	P	
New zealand mudsnail	*Potamopyrgus antipodarum*	P	P
Quagga mussel	*Dreissena bugensis*	P	R
Spiny waterflea	*Bythotrephes cederstroemi*	P	
Zebra mussel	*Dreissena polymorpha*	R	R
Algae and Cyanobacteria			
Starry stonewort	*Nitellopsis obtusa*	P	P
Fish and Crayfish			
Rainbow smelt	*Osmerus mordax*	R	
Red swamp crayfish	*Procambarus clarkii*	P	P
Round goby	*Neogobius melanostomus*	R	P
Ruffe	*Gymnocephalus cernuus*	R	P
Sea lamprey	*Petromyzon marinus*	R	
Three-spine stickleback	*Gasterosteus aculeatus*	R	
Terrestrial Invertebrates and Plant Diseas-Causing Microorganisms			
Asian longhorn beetle	*Anoplophora glabripennis*	P	P
Jumping worm	*Amynthas agrestis*	R	
Emerald ash borer	*Agrilus planipennis*	R	P
Hemlock woolly adelgid	*Adelges tsugae*	P	
Tier 2: Mid Priority			

Manageable			
Plants			
Autumn olive	*Elaeagnus umbellata*	R	R
Black locust	*Robinia pseudoacacia*	R	
Bristly locust	*Robinia hispida*	R	
Bull thistle	*Cirsium vulgare*		
Canada thistle	*Cirsium arvense*	R	
Chinese silvergrass	Miscanthus sinensis		
Common buckthorn	*Rhamnus cathartica*	R	
Common tansy	*Tanacetum vulgare*	R	
Creeping bellflower	*Campanula rapunculoides*	R	
Crown vetch	*Coronilla varia*	R	
Eurasian honeysuckles	*Lonicera tatarica, L. morrowii and L. x bella*	R (all)	
Eurasian watermilfoil	*Myriophyllum spicatum*	R	R
European marsh thistle	*Cirsium palustre*	P/R (R in WRISC area)	
Forget-me-not	*Myosotis arvensis, M. scorpioides, M. sylvatica*		
Garden valerian	*Valeriana officinalis*		
Glossy buckthorn	*Frangula alnus*	R	
Purple loosestrife	*Lythrum salicaria*	R	R
Russian olive	*Elaeagnus angustifolia*	R	
Siberian elm	*Ulmus pumila*	R	
Siberian pea	*Caragana arborescens*	proposed R	
Spotted knapweed (and other invasive knapweeds)	*Centaurea biebersteinii (and Centaurea spp.)*	R for Spotted, other species R or P	
White sweet clover	*Melilotus alba*		
Wild parsnip	*Pastinaca sativa*	R	
Winged euonymous	*Euonymus alatus*	R	
Tier 3: Low Priority Widespread			
Plants			
Birds-foot trefoil	Lotus corniculatus		
Bishop's gout-weed	*Aegopodium podagraria*	R	
Brittle-stem hemp-nettle	*Galeopsis tetrahit*	R	
Butter-and-eggs	*Linaria vulgaris*		
Common burdock	*Arctium minus*		

Common mullein	*Verbascum thapsus*		
Cattail hybrid	*Typha x glauca*	R	
Hairy vetch	*Vicia villosa*		
Narrow-leaved cattail	*Typha angustifolia*	R	
Phragmites (Non-native): Lake MI shoreline	*Phragmites australis*	R	R
Reed canary grass	*Phalaris arundinacea*		
St. John's-wort	*Hypericum perforatum*		
Sweet william	*Dianthus barbatus*		
White poplar	*Populus alba*	R	
Aquatic Inverebrates Except Crayfish			
Banded mystery snail	*Viviparus georgianus*		
Chinese mystery snail	*Cipangopaludina chinensis*	R	
Fish and Crayfish			
Rusty crayfish	*Orconectes rusticus*	R	R
Terrestrial Invertebrates and Plant Diseas-Causing Microorganisms			
Gypsy moth	*Lymantria dispar*	R	

Appendix C. Control Prioritization Tool

WRISC Treatment/ Management Prioritization Tool

Due to the geographic size of the WRISC management area, fighting invasive species must be prioritized based on ecological site value, human site value, feasibility, and available resources. The points system of this prioritization tool will allow WRISC and its partners to prioritize their treatment efforts to more effectively manage invasive species populations.

Directions: For each sub-category, select the option that BEST describes each site.

Species:

Please refer to the WRISC Management Plan Appendix B for the non-native invasive species priorities for the WRISC management area.

- Species is listed as Early Detection/Rapid Response — 5 points
- Species is listed as Manageable — 3 points
- Species is listed as Widespread — 1 points

Total: ___

Infestation Characteristics:

- Infestation is less than 1,000 square feet — 9 points
- Infestation is 1,000 square feet – 1 acre — 7 points
- Infestation is 1 acre – 20 acres — 5 points
- Infestation is greater than 20 acres — 3 points
- Invasive is very abundant at site (>50% infested) — -5 points
- Invasive is moderate to low abundance at site (10-50% infested) — 0 points
- Invasive abundance is low at site (<10% infested) — 5 points

Is infestation is along a linear feature (roadside ditch, drain, utility corridor) or other travel corridor (river, stream, etc.)?

- Yes — 5 points
- No — 0 points

What is the habitat quality and structure development (relative to similar natural communities)?

- Excellent- the area is an excellent example of a natural community — 5 points
- Good- not excellent, but still a good example of a natural community — 3 points
- Poor- degraded habitat, poor example of a natural community — 1 points

Is the invasive species negatively impacting recreational opportunities at the site?

- Severely impacting recreation — 5 points
- Moderately impacting recreation — 3 points
- Not impacting recreation — 1 points

Total: ___

Feasibility/Coordination of Treatment:

Are there other treatment sites nearby?

- Yes- this site is near (within 1 mile radius) and will be conducted in synchronization with pooled resources, etc. 5 points
- Maybe- unsure, at this point, if nearby treatment is planned 3 points
- No- the site is not near any other planned treatments 1 points

How difficult would treatment be at this location?

- Very Easy- easy access to entire infestation, already have access to the proper equipment. Minimal natural resource impacts from treatment with the proper use of BMPs. 5 points
- Moderate- easy to moderate accessibility to the infestation, may have the proper equipment. Using BMPs will minimize negative impacts to native vegetation/habitat. 1 points
- Difficult- difficult or impossible to access the entire infestation, may not have the proper equipment. Treatment may cause excess damage to natural resources. -5 points

Is funding available to treat the infestation?

- Yes- funding is available for site treatment, all required permits, certifications, and landowner permissions have been obtained 5 points
- Maybe- funding maybe available, required permits, certifications, and landowner permissions are being processed 3 points
- No- no funding is available for the site, required permits, certifications, or landowner permissions have not been obtained -5 points

Total: ____

TOTAL SCORE: _____

Appendix D. Integrated pest management techniques that may be utilized by WRISC.

Manual and Mechanical: Manual and mechanical techniques such as pulling, cutting, or otherwise stressing plants can be used to control some invasive plants, particularly if the population is relatively small. In some cases, this may be the only effective control technique. These techniques can be extremely specific, minimizing damage to desirable plants and animals, but they are generally very laborious and time intensive. Manual treatments must typically be administered several times to prevent a weed from re-establishing. During the course of treatment, laborers and equipment may severely trample vegetation and disturb the soil, providing suitable conditions for re-invasion of the same or other invasive species. Manual and mechanical techniques are generally favored if the population is small or if a large pool of volunteer labor is available. Manual control is also frequently used in combination with other techniques. For example, shrubs may be pulled and cut (manual treatment) and re-sprouts and seedlings may be treated with herbicides (chemical treatment) or fire (cultural alternative) several weeks or months later.

Chemical: In some instances, herbicide application is the only practical way to control an invasive species due to the physiology of the plant or the extent of population. Although chemical controls (i.e., herbicides) are an effective means of controlling unwanted vegetation, they may also have the most adverse consequences. The risk of using an herbicide must be weighed against the negative impact of the invasive species on the area of concern, and the effectiveness of chemical control should be compared to other control methods. Many herbicides contain the same active ingredients but are designed for either terrestrial or aquatic applications. Prior to using an herbicide, it is critical to research product effectiveness against the target plant, product guidelines and legal constrains for its use. An herbicide must be registered for use in the state where plant control will take place. It is also important to read the entire label prior to mixing and application. Information on the proper use of an herbicide, including procedures related to the rate and timing of application, transportation, storage, cleanup, and emergency situations, must be followed at all times. Only a state-certified pesticide applicator with the appropriate licensing for the given habitat will apply chemical treatments on site.

Biocontrol: Biological control ("biocontrol" for short) is the use of animals, fungi, or other microbes to feed upon, parasitize or otherwise stress a targeted pest species. Successful biocontrol programs significantly reduce the abundance of the pest or prevent the damage caused by the pest (e.g. by preventing it from feeding on valued crops). Biocontrol is often seen as a progressive and environmentally friendly way to control pest organisms. Biocontrol leaves no chemical residues that might harm humans or other organisms and, when successful, can provide essentially permanent, widespread control with a very favorable cost-benefit ratio. Any pest control method has the potential to harm non-target native species, therefore, before releasing a biocontrol agent (or using other methods) it is important to balance its potential benefit to conservation targets and management goals against its potential to cause harm. Only state approved and accepted bio-control methods will be utilized.

Cultural: Cultural control involves the use of methods such as flooding, smothering (covering with light barrier), controlled by wild land fires, or the use of cover vegetation to reduce the impact of invasive species. The feasibility of such methods is related to the size of the population, the location and the regulatory and permitting processes for flooding and burning. The use of cultural methods is best suited to small scale applications, such as local homeowners or small businesses through the use of noninvasive plantings and mulch.