



Wisconsin

Invasive Species

Report

INTERIM PERFORMANCE REPORT

FISCAL YEAR 2012-2013

WISCONSIN INVASIVE SPECIES REPORT

INTERIM PERFORMANCE REPORT - FISCAL YEAR 2012-2013

EXECUTIVE SUMMARY

The Department of Natural Resources (department) is pleased to submit this report to the legislature, governor, and the Wisconsin Invasive Species Council (Council) detailing the invasive species program, the state's progress in controlling invasive species, current expenditures, and future needs of the program. This performance report covers work completed between July 1, 2012 and June 30, 2013; a full biennial report will be presented in 2014. The invasive species program is woven throughout the department and not housed in a single division or bureau. Thus, this report is designed to provide both an overview of the department's efforts and the details of the individual programs.

The first several sections of this report discuss the program administration, needs, and expenditures of the department's statewide invasive species efforts. The remainder of the report highlights each individual program, grouped by department division. This format provides a clear over-arching picture of the state's invasive species efforts, while also providing the opportunity to dig deeper into projects and programs of specific interest.

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PROGRAM ADMINISTRATION

PROGRAM STRUCTURE AND PARTNERSHIPS

Invasive species management has been growing as a state priority over the past decade. The department has been engaged in prevention, containment, and control efforts in our woods, waters, and wetlands since the beginning. Over the past year we have seen great progress across the state.

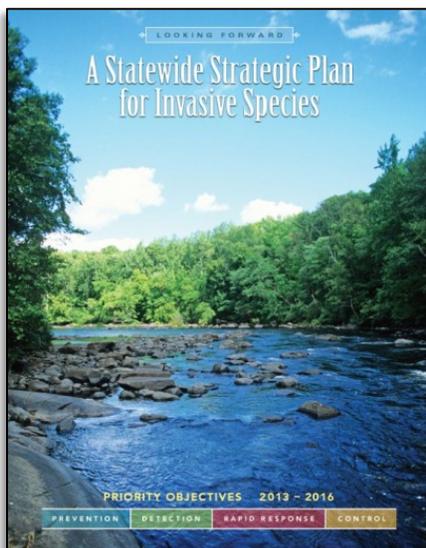
DEPARTMENT INVASIVE SPECIES TEAM

Invasive species impact Wisconsin citizens and habitats of every type – from power companies to holiday boaters, from state parks to citizen back-yards. The department has unique programs to address terrestrial, aquatic, and wetland invasive species. The *Program Highlights* section of this report (p. 5-22) describes some of the core accomplishments from the past year and current needs of invasive species programs within the department. While each program has individual goals and objectives, collectively the department’s programs work to **prevent** the arrival of new invasive species, **detect** new infestations, **respond** to invasions, and **control** invasive species populations.

***We have seen
great progress
across the state.***

The Department Invasive Species Team (DIST) functions to ensure a cohesive department response by bringing together programs from the Divisions of Land, Forestry, Water, and Enforcement and Science. This team works to identify common priorities, establish consistent policies, coordinate the department’s outreach on invasive species, and ensure uniform enforcement of the Invasive Species Rule (ch. NR 40, Wis. Adm. Code). The team is coordinated by the Statewide Invasive Species Coordinator and sponsored by four Division Administrators. Over the past year, this team has focused

on developing a statewide strategic plan with the Council, implementing the Invasive Species Rule, engaging partners in revising the Invasive Species Rule, and providing training and outreach for businesses and other stakeholders. This work supports and supplements the ongoing on-the-ground or in-the-water work in the department. Partnerships with other agencies and citizen groups throughout the state keep us all moving forward.



WORKING WITH THE WISCONSIN INVASIVE SPECIES COUNCIL

2012-2013 saw increased coordination with the Wisconsin Invasive Species Council (Council) which provides guidance and recommendations to the department regarding invasive species

regulations and awareness. The Council includes governor-appointed representatives from state agencies, industry, the university system, and nongovernmental organizations. The department's Statewide Invasive Species Coordinator provides agency staff support to the Council, and the Director of the Bureau of Science Services serves as the department's agency representative as one of the [twelve members of the Council](#). In the spring of 2013, the department published [Looking Forward: A Statewide Strategic Plan for Invasive Species](#) to guide Wisconsin state agencies and partners in responding to the threat of invasive species. The strategic plan was developed by the Council in cooperation with the department and numerous stakeholders across the state. The full plan, an executive summary, and supporting appendices can all be found on the Council's website at <http://invasivespecies.wi.gov>.



***“Collaboration with partners and volunteers
is at the heart of our work.”***

- Jill Hapner, Southeastern Wisconsin Invasive Species Consortium

WISCONSIN'S INVASIVE SPECIES RULE

In 2009 Wisconsin established a comprehensive invasive species rule, ch. NR 40, Wis. Adm. Code, to regulate some of the most threatening invasive species. The DIST has worked with businesses and other partners to ensure [voluntary compliance](#) with the rule when feasible and stepped up enforcement when

The team provided ways for each Wisconsin citizen to understand what they can do on their own land, lake, or park.

appropriate. The team has provided numerous trainings and outreach to stakeholders and the public to ensure that each citizen in Wisconsin knows what they can do on their own land, lake, or park. In early 2012 Species Assessment Groups (SAGs) began meeting at the Council's request to assess new invasive species threats. Over the past year the DIST has worked closely with the SAGs and the Council move through the first steps of revising the existing rule to add new species and provide some clarifications. As of June 30, 2013 a revised

invasive species list has been recommended by the Council, the department has engaged multiple stakeholders through public listening sessions and the department is now poised to solicit input on the economic impact of the revisions. Next year's biennial report will highlight the revisions.

PARTNERSHIPS

The department's work on invasive species would not be nearly as successful without the collaborative work of our many partners. In the world of aquatic invasive species (AIS) the Wisconsin Lakes Partnership, Wisconsin River Alliance, and County Aquatic Invasive Species Coordinators provide a foundation of cooperation across the state. As of 2013, there are 47 counties, hundreds of lake organizations, and thousands of volunteers actively participating in AIS prevention, containment and control efforts. For terrestrial species, regional invasive plant groups provide local focal points for invasive species work. As of 2013 there are 13 of these regional groups operating in Wisconsin, encompassing 38 counties and thousands of volunteers. The department provides technical support to all of these partnerships. The department also works in close coordination with other state agencies on invasive species issues to ensure a coordinated statewide approach without overlapping regulatory pressure. Over the past year we have collaborated extensively with the Department of Transportation and the Department of Agriculture, Trade and Consumer Protection on invasive species control and prevention efforts.

Thousands of volunteers actively participate in invasive prevention, containment and control efforts.

The department has collaborated extensively with the Department of Transportation and the Department of Agriculture, Trade and Consumer Protection on invasive species control and prevention efforts.

PROGRAM NEEDS

STATEWIDE NEEDS AND CHALLENGES

The department has identified several areas needing improvement to ensure Wisconsin's ability to **prevent** the arrival of new invasive species, **detect** new infestations, **respond** to invasions, and **control** the impact of invasive species in the state. The following needs are based upon the five top priorities identified in the Statewide Strategic Plan.

1. Increase awareness about invasive species impacts and best management practices.
Proposed Solution: Improve education and outreach about the impacts of invasive species and what citizens and lawmakers can do to make a difference.
2. Decrease the number of invasive species introduced to and spread through Wisconsin.
Proposed Solution: Prevent the introduction and spread of invasive species through new and existing pathways.
3. Improve the detection of invasive species in Wisconsin.
Proposed Solution: Grow networks of partners, support the use of information technology, and leverage current research.
4. Improve Wisconsin's ability to respond rapidly to new infestations.
Proposed Solution: Create a dedicated fund for rapid response to new invasive species in Wisconsin.
5. Improve Wisconsin's ability to control the impacts of invasive species.
Proposed Solution: Secure adequate long-term funding to control established invasive species including coordinated, competitive aid to support local actions and partnerships.

There is a strong base of invasive species efforts to grow from in Wisconsin. By focusing on the agreed-upon priorities and building upon existing successes we ensure the state's ability to respond effectively to invasive species.

PREVENT
DETECT
RESPOND
CONTROL

PROGRAM FINANCES

STATE AND FEDERAL EXPENDITURES

2013 spending on invasive species totaled approximately \$11 million, spread across five divisions in the department. Over 20 percent of these funds came from federal agencies through funding opportunities such as the Great Lakes Restoration Initiative. For any questions regarding invasives expenditures or for additional details, contact the Invasive Species Coordinator at Invasive.Species@wisconsin.gov or 608.264.8590.

	State funds			Federal funds	2013 Total Expenditures
	Segregated Revenue	Program Revenue	General Purpose Revenue		
Water*	5,381,257	248,254	154,874	1,519,569	7,303,954
Forestry	1,517,184	---	---	211,662	1,728,846
Enforcement and Science	745,539	69,130	9,487	164,750	988,906
Lands	381,988	112,753	94,120	375,933	964,794
Customer and Employee Services	144,553	---	---	---	144,553
Department Total	8,170,521	430,137	258,481	2,271,914	11,131,053

*More than half of the invasive species Water expenditures went to local assistance and aids for aquatic invasive species management (\$3,839,258 from state segregated funds and \$270,968 from federal funds). To learn more or to search for aquatic projects in your district, visit <http://dnr.wi.gov/lakes/invasives/Grants.aspx>.

PROGRAM HIGHLIGHTS

SCIENCE &
ENFORCEMENT

FORESTRY



LAND

WATER

SCIENCE & RESEARCH

GOALS AND HIGHLIGHTS

WORKING WITH BUSINESSES:

Through funding from the EPA's Great Lakes Restoration Initiative (GLRI), the Bureau of Science Services has conducted a research and outreach project to address the risk of aquatic plants in trade in Wisconsin by working with retailers in the horticulture, pet, and aquarium industries. The ultimate goal is to decrease the number of invasive aquatic plants for sale in the state. This project involved four components:

- 1) A survey of publicly-available plant stock in aquatic plant and pet stores
- 2) A social survey on retailers' awareness and behaviors related to invasives
- 3) A survey of Wisconsin water bodies for presence and abundance of invasives
- 4) Outreach and education to aquatic plant retailers and consumers in Wisconsin

This research provided valuable data on a major pathway of invasive species spread. Most importantly, it has enabled us to work together with businesses to figure out viable solutions. The success of our educational efforts with businesses has helped us establish a strong model for continued outreach and education with other businesses impacted by invasive species. As one retailer noted:

“I want to compliment you and your team on the way you are approaching this whole topic. You are definitely a breath of fresh air relative to the ‘old’ DNR’s way of handling things. Soliciting input and working with the public vs. dictating to us is a much more productive and effective method, in my opinion. Thanks again for your hard work and your cooperative approach.”

Whenever the department works with businesses we coordinate closely with other regulatory agencies. With the nursery industry, we have worked cooperatively with the Department of Agriculture, Trade and Consumer Protection to educate growers and retailers and to ensure fair enforcement of the Invasive Species Rule. Thus far, pet stores and plant retailers have come into compliance voluntarily.

COORDINATION:

Since 2011, the Bureau of Science Services has been the coordination center for statewide invasive species efforts with 2 staff dedicated to invasive species work – a statewide coordinator (project position) and an outreach specialist (LTE position). This year, the Invasive Species Coordinator led the Council and the DIST through the final steps of strategic planning. The result is Wisconsin’s first *Statewide Strategic Plan for Invasive Species*. The coordinator worked to integrate many stakeholders and capped the process off with an implementation summit on May 23, 2013. The full plan and an executive summary can be found on the Council’s website: <http://invasivespecies.wi.gov>

RULE REVISION:

With the five-year anniversary of Wisconsin’s Invasive Species Rule (ch. NR 40, Wisc. Adm. Code) looming in 2014, this past year has been a time of transition for this foundational regulation. In October, 2012 the Council recommended that the department revise ch. NR 40, Wisc. Adm. Code based upon the findings of SAGs. Through the winter the department held several informal public meetings to gain more insight into stakeholder concerns and to ensure a fair and effective rule. By the summer the staff had drafted proposed rule language changes. Revisions should go out for public comment this year.

EDUCATION AND OUTREACH:

Education is a primary goal of invasive species regulation and a vital aspect of regulation enforcement. Over the past year the department has dedicated time and resources to ensure that stakeholders understand their roles in preventing the spread of invasive species. Science Services’ Invasive Species Education and Outreach Specialist has provided over twenty trainings and informational displays around the state. Audiences ranged from landowners in Sturgeon Bay, to Forest Rangers at Fort McCoy, to landscape architects in Oconomowoc, to water engineers in Madison. The capstone of educational efforts this year was the second annual Invasive Species Education Summit held in Eagle River as part of *Invasive Species Awareness Month* in June. While posters from fourth- and fifth-grade students lined the rotunda at the capitol, outreach professionals from around the state gathered at Trees for Tomorrow to share resources, develop project ideas and network.

Education is a primary goal of invasive species regulation and a vital aspect of regulation enforcement.



Photo by Ann Murray, University of Florida/
Center for Aquatic and Invasive Plants

RESEARCH:

Science services research staff provide scientific support for many department programs and for the invasive species rule revision process. Aquatic invasive plants scientists worked on methods and provided detailed assessments on invasive aquatic plants. A number of these researchers were recognized by the Wisconsin Lakes Partnership at the annual Wisconsin Lakes Convention with a Lake Stewardship Award for Public Service.

For more project information, visit: <http://dnr.wi.gov> keyword: **NR 40**



Photo by Derek Kavanaugh

DNR researchers Kelly Wagner, Michelle Nault, Ali Mikulyuk and Martha Barton received the highly esteemed 2013 Wisconsin Lake Stewardship Award in the Public Service category.

FUTURE NEEDS

- *Establish FTE position to coordinate statewide agency invasive species efforts, especially related to permits, enforcement and interagency policy considerations. (currently limited project position)*
- *Establish FTE position to coordinate statewide education and outreach efforts to ensure citizens and businesses have the tools they need to prevent the spread of invasive species. (currently LTE position)*
- *Increased support for research for prevention, early detection, rapid response and control.*

ENFORCEMENT

GOALS AND HIGHLIGHTS

Law Enforcement Staff support invasive species prevention and control efforts through a variety of education, outreach and enforcement efforts. Wisconsin's natural resources are the foundation for many industrial, agricultural and tourism-based businesses and the varied recreational pursuits that make Wisconsin a special place to live. While voluntary compliance is preferred, enforcement is a necessary part of efforts to prevent or control invasive species and provide a level playing field for citizens and businesses who comply with the law.

WATER GUARD: INCREASE OUTREACH AND INSPECTIONS

The Water Guard Program started its sixth season this June and has grown to become a key partner in the state's overall AIS prevention efforts. This past year the Water Guard educated thousands of outdoor recreationists on the importance of AIS prevention through participation at high-traffic events such as county fairs, fishing tournaments, and lake association gatherings. In addition, they inspected over 2641 boats, contacted 6364 people, and spent 956 hours on AIS efforts at boat landings.



These eleven deputy wardens play a critical role within their warden team working side by side with the full-time wardens and other state, local and federal partners on AIS related issues. The Water Guards are nationally certified to inspect watercraft for AIS, decontaminate watercraft and equipment, and train and certify new inspectors/ decontamination specialists. In 2014, the Water Guard will continue public education, identify and target sources for spread of AIS and expand to include specialized commercial customers.



Warden Matt Groppi shared ice packs and a reminder with anglers to “drain your catch” at a June 2013 Team Event.

CONSERVATION WARDENS: INCREASE EDUCATION AND ENFORCEMENT

The role of department wardens and invasive species issues continues to grow. In 2013, Wardens and Water Guards organized and participated in more than 20 AIS Warden Team Events across the state aimed at education and enforcement of AIS laws. Wardens worked closely with local AIS partners to design an effective plan for the day's events. “I am very proud how the warden service has responded to an issue of critical importance to the future quality of our lakes and rivers in Wisconsin” says Chief Warden Randy Stark. “It has also been great to see the enhanced relationships and cooperation that has

“I am very proud how the warden service has responded to an issue of critical importance to the future quality of our lakes and rivers in Wisconsin. It is only through a cooperative effort that the continued success of this initiative can be achieved.”

resulted from Conservation Wardens working closely with the many partners who have a high interest in this issue. It is only through a cooperative effort that the continued success of this initiative can be achieved.”

Collectively, nearly 2000 people were educated on AIS through these events, up from 900 in 2012. These events have led to increased engagement by the warden force on AIS issues throughout the year. While

- Randy Stark, Chief Warden

education is still a priority, wardens are moving towards increased enforcement on AIS laws, especially those with low compliance such as draining water. Citations written for failing to drain water increased from 7 to 21 this year. “The wardens have always been strong partners for the AIS team in Wisconsin. This year the wardens recognized that the education has been strong, but enforcement is needed for some individuals to choose to comply with the laws. We are extremely grateful to the wardens for their support and efforts.” says Diane Schauer, AIS Calumet County Coordinator.

PROVIDE ENVIRONMENTAL ENFORCEMENT TRAINING TO STAFF AND PARTNERS

Environmental Enforcement (EE) has supported invasive species prevention and control efforts by assisting in the evaluation of commercial violations to determine an appropriate course of action and training staff involved in the prevention, detection and control of invasive species, particularly those that deal with commercial activities. Staff are trained in use of the department’s Stepped Enforcement Process which has been used for decades to address violations of state pollution control laws. Stepped Enforcement is a series of actions designed to resolve violations at the lowest level appropriate for the circumstances and judiciously use government resources to achieve compliance. This process often results in voluntary compliance and the implementation of practices to prevent future violations. If not, it builds a strong foundation for prosecution to successfully achieve court ordered compliance, restoration or remediation of the effects of the violation and appropriate penalties. EE also provided training to Wisconsin Department of Agriculture, Trade and Consumer Protection staff. The department jointly works with local, state, and federal agencies to coordinate efforts and maximize the effectiveness of available resources.

Enforcement is needed for some individuals to choose to comply with the laws. We are extremely grateful to the wardens for their support and efforts.”

- Diane Schauer, AIS Calumet County Coordinator

FUTURE NEEDS

- *Environmental Enforcement staff will continue to work cooperatively with the Invasive Species Program to resolve alleged violations at the lowest level appropriate for the circumstances.*
- *Environmental Enforcement will continue to provide enforcement-related training needs and assistance.*
- *Expand business partnerships to include commercial entities such as boat dealers and transportation sectors.*
- *Seek grants and other means of funding a forecasted increase in invasive species related enforcement, education, and community building work in the future.*

FOREST HEALTH

GOALS AND HIGHLIGHTS

ASSISTING COMMUNITIES TO MINIMIZE IMPACTS OF INVASIVE PESTS AND DISEASES ON URBAN FORESTS

In 2013, the department provided urban forestry grants to 31 communities totaling \$490,000 to accomplish tree inventories, develop emerald ash borer (EAB) preparedness plans, and plant for increased species diversity. This work will help minimize losses to communities from EAB and other invasive pests and diseases in the future. Requests for support greatly exceeded the funds available, reflecting interest in and need for this work by Wisconsin communities.

Requests for support greatly exceeded the funds available.

PROVIDING TOOLS AND GUIDANCE FOR MANAGEMENT OF INVASIVE SPECIES

- Forest Health Program staff released two natural enemies of EAB in three sites in southeastern Wisconsin where this pest is established. These sites join sites in Newburg and Victory where parasitoid releases were made in the past two years. Department staff are working with UW-Madison and USDA researchers to monitor the first release site in Newburg for establishment and impact of the parasitoids on the EAB population there.



The parasitoid *Tetrastichus planipennis* (shown above) will emerge from the section of branch shown on the left by Forest Health Specialist Bill McNee.

- Wisconsin communities and landowners continue to benefit from introductions of biological controls of gypsy moth made by department Forest Health staff. *Entomophaga maimaiga*, a fungal disease specific to gypsy moth, caused the collapse of several increasing populations of the pest in northern and central counties, preventing defoliation that would otherwise have occurred. As a result, no need for pesticide treatment of these areas is expected in 2014.
- For the second year, department staff set traps to detect walnut twig beetle (WTB), the vector of thousand cankers disease of walnut (TCD). Traps were set at 19 state properties in southern Wisconsin in stands of black walnut. In addition, three private woodlots were trapped. These privately owned sites were selected due to the presence of declining stands of black walnut. Trap catch is being analyzed and results will be available later in the year. The department detection survey in woodlands complements the detection survey being done by DATCP at mills receiving black walnut. This survey is supported by Forest Service funding and is part of a multi-state detection effort for WTB and TCD being done in natural range of black walnut.
- Forest Health staff, with input and review by community foresters and arborists, developed precautions that can be used by communities, businesses, and individuals who want to practice a good neighbor/good business policy and reduce the risk of spreading EAB within quarantined areas while utilizing wood from ash. These precautions are available at:
<http://datcpservices.wisconsin.gov/eab/articleassets/Recommendations%20to%20reduce%20the%20spread%20of%20EAB.pdf>

ASSESSMENT OF POLICY EFFECTIVENESS

EAB and several other invasive forest pests and diseases are moved in firewood. Since 2006, the Forest Health program and Science Services have periodically surveyed campers to determine if firewood regulation on state campgrounds and associated educational efforts are changing people's behavior with regard to movement of firewood. Surveys done in 2006, 2008, and 2010 showed steady improvement in awareness of invasive pests and the role of firewood in their spread as well as a reduction in long distance movement of firewood. In 2013, campers were surveyed to develop a baseline measure regarding their awareness of using certified treated wood as an option to prevent the spread of invasive pests. Many state campgrounds started offering certified wood in summer 2013, and an awareness campaign for this option is planned for next year. The camper survey will be repeated in the fall of 2014 to determine if awareness of certified firewood has improved and if there is continued improvement in reducing firewood movement.

FUTURE NEEDS

Funding is needed for local public and private management of invasive species, such as grant dollars or revolving loans. An example from another state is Illinois' loan program where communities can borrow money at low to no interest to remove ash infested with emerald ash borer and replace them with a diversity of tree species.

TERRESTRIAL INVASIVE PLANTS

GOALS AND HIGHLIGHTS

EDUCATION

Department staff and partners continue to provide invasive plant information at many events, professional conferences and through websites, social media and publications.

PREVENTION

Best Management Practices (BMPs) to minimize the spread of invasive plants have been a major prevention tool through ongoing outreach. This is one of our strongest tools for outreach to stakeholders, and positive feedback continues to be heard on the effectiveness and ease in which to implement this tool. In addition to existing BMPs for Forestry, Recreation, Urban Forestry and Rights-of-ways, this year BMPs were created specifically for people who work or play in wetlands.

EARLY DETECTION

Department staff and partners have contained numerous pioneering populations of new invasive plants. This year a population of ornamental jewelweed (*Impatiens glandulifera*) was reported by a partner in Shawano County. With the partner's assistance, the plant was verified and the area was inventoried to determine if there were more infested sites nearby. Funding was provided through a U.S. Forest Service (USFS) grant to control the population -- the only one known in the state. This project is a great example of collaboration between multiple partners, which is crucial in any project of this nature. The collaborators included the property owner, nearby residents, the Town of Richmond, the Menominee Nation, and Shawano County. The actual control work was done by the Rawhide Boys Ranch "About Face" work crew. Rawhide is a high school for at-risk teenagers in the New London area.



The "About Face" work crew from Rawhide Boys Ranch in New London removes a population of ornamental jewelweed.

CONTROL

With grant funding from the USFS, the department allocated \$52,000 to staff and partners for on-the-ground control of several early detection (priority) species, such as Japanese hedgeparsley and black swallow-wort. This funding has been an integral part of slowing the spread of several very damaging plants. While the need continues to grow, this funding is no longer available, essentially halting progress made over the last several years. In addition, new populations found in the state are not able to be controlled.

WEED MANAGEMENT AREA-PRIVATE FORESTRY GRANT PROGRAM (WMA-PFGP)

The legislature approved a rule revision to the existing Wisconsin Forest Landowner Grant Program that allowed the development of an annual grant program allowing \$60,000 of existing private forest funds to go to local weed management groups for invasive plant management on private forest lands. Management includes developing a Weed Management Group, inventory, control and outreach and education. This is one of the few funding sources for private landowners to conduct invasive plant management.

For more invasive plant information, visit: <http://dnr.wi.gov/topic/Invasives/>

FUTURE NEEDS

- *Funding for control of priority terrestrial invasive plants (TIP).*
- *Coordination of statewide TIP distribution data to better strategize management efforts.*
- *Build department capacity to respond quickly to new TIP infestations by creating positions to coordinate rapid response.*
- *Increase staffing resources to coordinate pesticide use and safety issues across department land and water management programs.*



MANAGING PUBLIC LAND

GOALS AND HIGHLIGHTS

WORKING WITH PARTNERS

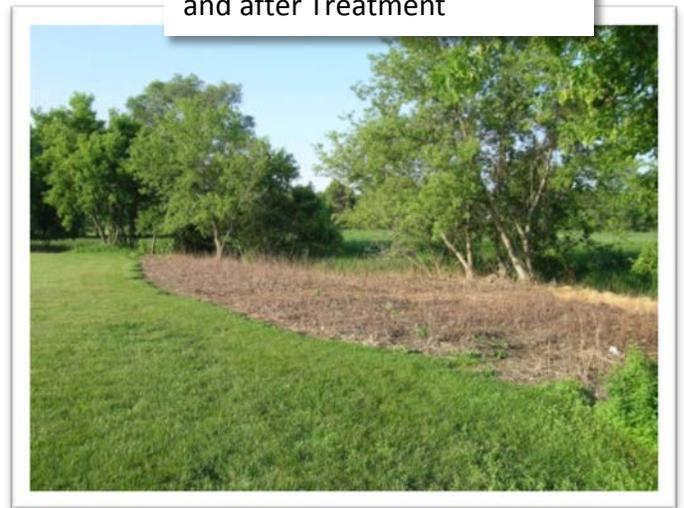
Managing invasive species on public land often starts with reducing the sources of threats on private land. This past year department wildlife staff partnered with Peshtigo School District, Marinette County Land and Water Conservation Department, and Wild Rivers Invasive Species Coalition to control a ½-acre patch of Japanese knotweed. The patch is located on school property adjacent to a football practice field and a feeder creek to the Peshtigo River, which leads to the Green Bay West Shores Wildlife Area. An aggressive control plan is working well.



Japanese knotweed before and after Treatment

RESPONDING TO EMERGING THREATS

A large-scale phragmites control project along the west shore of Green Bay and Lake Michigan is being followed up by mowing dead phragmites in an effort to give other species a chance to become established.



USE OF BIOCONTROL FOR SPOTTED KNAPWEED

The department has partnered with the Department of Transportation to release biocontrol agents (*Larinus* beetles) for spotted knapweed along roadside corridors in priority regions across the state.

"Public-private partnerships work well for invasive species control."

FUTURE NEEDS

- *Increase funding for inventorying invasives on state-owned land.*
- *Greater human and financial capacity to respond to a growing array of invasive species threats to our public land.*

A helicopter sprays a large stand of phragmites along the west shore of Green Bay. The dead plants are then mowed in the winter.



This "Weevil Warrior" spreads *Larinus* beetles for spotted knapweed biocontrol.



STATE PARKS

GOALS AND HIGHLIGHTS

WORK WITH PARTNERS

We continue to work with Friends groups to help fund and conduct invasive species control throughout the state. For example, the *Friends of Peninsula State Park* hold weekly invasive species control work parties targeting species like garlic mustard and dame's rocket. The *Friends of Hartman Creek* actively pull garlic mustard and have also contracted to have garlic mustard sprayed in the spring for further effectiveness.

RESPOND TO EMERGING THREATS

Emerald ash borer (EAB) populations at Big Foot Beach State Park and Richard Bong State Recreation Area greatly increased in 2012. At each property we identified and removed hazard ash trees in public use areas such as campgrounds and picnic areas. We used a combination of department staff and, at Richard Bong, a Department of Corrections crew. Using the lessons learned at these properties, we are developing responses to the anticipated spread of EAB to other state properties.



Using the lessons learned, we are developing responses to the anticipated spread of emerald ash borer to other state properties.



Photo by Marianne Prue, Ohio Department of Natural Resources, Bugwood.org

SUPPORT RESEARCH

We are using a risk model developed by a team of researchers to help us identify what parks might be most vulnerable in the near future to EAB.

INCREASE MONITORING

We evaluate the efficacy of our control efforts and modify our priority actions accordingly.

FUTURE NEEDS

- *Increase funding for invasive species identification and control within the state park system.*
- *Continue to develop, implement, and revise invasive species plans in response to management results and new threats identified.*
- *Continue to explore alternate mechanisms for invasive species control.*
- *Continue invasive species education for park visitors.*

WISCONSIN BAT PROGRAM

GOALS AND HIGHLIGHTS

RESPOND TO EMERGING THREATS

The department has been a leader in the national response to the deadly disease white-nose syndrome (WNS), with staff participating in national working groups and oversight committees. The department has also worked closely with other partners within the state of Wisconsin, including the U.S. Geological Survey's National Wildlife Health Center, the U.S. Forest

The department has been a leader in the national response to the deadly disease white-nose syndrome.



Photo by Al Hicks, NYSDEC, Bugwood.org

Service's Northern Research Center and Eastern Regional office, and researchers at the University of Wisconsin - Madison, among others, to advance our understanding of the disease and work toward developing effective management strategies. As of April 2013, the department has not observed WNS or the causative fungus, *Geomyces destructans*, in Wisconsin bat hibernacula. The agency has led an adaptive program that addresses managing high-risk situations associated with the arrival and spread of WNS into and within the state. While some might argue that conservation agencies should take little action in the face of the uncertainties of WNS, the U.S. Fish and Wildlife Service and other agencies agree that the department's precautionary approach is justified given the severe threat posed to Wisconsin's bat populations.

INCREASE MONITORING

Two volunteer-based projects, which have over 1000 participants, continue to gather baseline information statewide.

SUPPORT RESEARCH

Wisconsin continues to be an important location for WNS research. The department collaborates on research with agencies and organizations across the United States.

Visit our webpage at:

<http://wiatri.net/inventory/bats/>



16 volunteers in the Bat Roost Monitoring Project counted over 3800 bats on one August (2012) evening at Yellowstone State Park.

FUTURE NEEDS

- *Increase funding for WNS surveillance and response efforts.*
- *Protect priority sites by installing "bat friendly" gates at critical habitat (hibernacula) with high human disturbance.*
- *Increase education and awareness by supporting annual bat festival.*

LAKES AND RIVERS

GOALS AND HIGHLIGHTS

WORK WITH PARTNERS

The Lakes and Rivers Section completed the fifth year of its successful [Landing Blitz](#), an educational campaign to improve boater compliance in preventing the spread of aquatic invasive species (AIS). The Landing Blitz occurs statewide on the July 4th weekend as part of the volunteer Clean Boats, Clean Waters program. The Blitz, which rewards boaters practicing good boat hygiene with complimentary towels and ice packs printed with the AIS prevention steps, has proven very successful with Wisconsin residents.

	2010	2011	2012	2013
People contacted	5,320	27,548	29,019	40,539
Boats inspected	2,440	11,784	13,759	17,752
Hours spent	1,533	5,019	6,609	8,978

The Landing Blitz has grown from covering 90 lakes in 2011 to 288 lakes and rivers this year. This was enabled by an incredible 167 partner groups in 54 counties. These citizen volunteers and staff came from dozens of lake

associations and lake districts, local, county, and tribal governments, non-profit groups, scout troops, businesses, and the University of Wisconsin system.

An effort of this size and reach would not be possible without the continued enthusiasm, dedication and hard work of the department’s lake partners. At the heart of this event are ordinary citizens like boater

Dean Witkowski of North Fond du Lac, who said of the Landing Blitz, “I grew up on this lake and learned to ski and boat and everything on it and I want it there for my grandkids and their grandkids.”

“I grew up on this lake and learned to ski and boat and everything on it and I want it there for my grandkids and their grandkids.”

- Dean Witkowski, North Fon Du Lac

“This is a battle we can all win.”

- Frosty Smith,
Lake Thompson Association

RESPOND TO EMERGING THREATS

In 2009 red swamp crayfish (*Procambarus clarkii*), an aquatic invasive species, surfaced in three ponds in Germantown and Kenosha near rivers draining into Lake Michigan. It was discovered by a resident who knew the crayfish was non-native and contacted the department. This crayfish is a proven invader in Europe and North America that replaces native wildlife, weakens dam embankments and carries diseases harmful to native crayfish.



Members of the Lake Thompson Association participated in the Landing Blitz over the July 4th holiday weekend.

The department quickly contained the crayfish and, working with international crayfish experts, enacted a **Rapid Response Eradication Project**. After three years of trapping, chemical treatment and pond drawdown the department is now on a course that will hopefully put the nail in the coffin. The pond in Kenosha has been completely filled in, eliminating all available habitats at that location. In 2013, monitoring in and around these ponds found no red swamp crayfish near the Germantown retention pond and Kenosha pond. A small number of these crayfish were found in the second Germantown pond.



Water Guard Chris Hamerla holds captured red swamp crayfish in Kenosha.

Plans for eradicating the remnant population in Germantown include another chemical treatment and placing a 20-foot-wide stone embankment around the pond, which will make it very difficult for the crayfish to burrow and increase predation on this invader. If successful, this eradication of the red swamp crayfish will be the first of its kind and can provide guidance to other such efforts around the world.

INCREASE MONITORING

In 2011, the department and partners began a lake monitoring program to determine the rate of AIS spread in the state. The [Statewide AIS Monitoring Program](#) will survey over half the state's lakes with public access. So far, 182 and 184 lakes have been monitored in 2011 and 2012, respectively. Eurasian water milfoil or curly leaf pondweed were only observed in 30 percent of lakes. Faucet snails, spiny water fleas, and zebra mussels were found much less frequently. The department's preliminary results indicate that the spread of AIS is not increasing.

The department's preliminary results indicate that the spread of AIS is not increasing.



AIS specialists hand-pull a small stand of Eurasian water milfoil discovered in Sunset Lake.

In addition to collecting baseline data on Wisconsin's distribution of AIS, these surveys serve as **Early Detection** tools that can greatly increase the odds of successfully eradicating or controlling harmful invasive species. In one example, pioneer populations of Eurasian water milfoil and zebra mussels were discovered last summer in North Lake of the Spread Eagle Chain, Florence County. The Eurasian water milfoil was hand-pulled by department staff and has not been observed since. By providing this finding to local partners, the Spread Eagle Chain of Lakes Association was able to apply for and receive a [DNR AIS Early Response Grant](#) to protect their lake.

For more project information, visit our AIS Efforts page at: <http://dnr.wi.gov/lakes/invasives>

FUTURE NEEDS

- *Increase funding for AIS control grants to local communities.*
- *Install boat decontamination equipment at critical source waters.*
- *Build department capacity to respond quickly to new AIS infestations by creating an FTE position to coordinate monitoring and rapid response.*
- *Increase enforcement of AIS laws, the next step to follow 10 years of boater education.*

FISHERIES

GOALS AND HIGHLIGHTS

WORK WITH PARTNERS

The invasive alewife is a favorite food of Wisconsin's stocked salmon and trout species on the Great Lakes, but in turn, the alewives have probably blocked restoration of lake trout populations. Through the stocking of salmon and trout in Lake Michigan, the department and sister agencies in Illinois, Indiana, and Michigan have held alewife abundance to levels that now appear low enough to allow some natural reproduction by stocked lake trout. This program to stock alewife predators is funded by recreational anglers through the sale of Great Lakes Trout and Salmon Stamps and sport fishing licenses. The lake trout stocking program is entirely funded and implemented by the US Fish and Wildlife Service.

MONITOR FOR ASIAN CARP

Monitoring for [Asian Carp](#) in the 2013 fiscal year found six stray adults (5 bighead carp, 1 silver carp) in the Lower Wisconsin and Mississippi Rivers, with no range expansion from previous findings and no breeding populations. Since 2003, the department has been monitoring for Asian Carp in Pool 11 of the Mississippi River in and around the mouth of Cassville Slough. The department is also partnering with the University of Notre Dame and others to test for Asian carp DNA in the state's Lake Michigan tributaries and harbors. Commercial fish harvesters in the Mississippi River report any Asian carp captures to the department.

For more project information, visit the Lake Michigan fisheries page at:

<http://dnr.wi.gov/topic/Fishing/lakemichigan/index.html>

FUTURE NEEDS

- *Sustain sea lamprey control in the Great Lakes by supporting the work of the Great Lakes Fishery Commission.*
- *Create reasonable public expectations about the risks associated with Asian carp and the feasibility of controlling them where they become established.*
- *Maintain key barrier dams on Great Lakes tributaries and elsewhere to limit expansion of invasive species.*
- *Assess the risk of importation of AIS with shipments of bait or with shipments of minnows for use as forage in department hatcheries.*

BALLAST WATER

GOALS AND HIGHLIGHTS

INCREASE COMPLIANCE

More than 180 aquatic invasive species have entered Lake Michigan in the last 100 years, mostly through ballast water. Recent regulations from federal and state agencies have stemmed this tide, and the department's ballast water subprogram was established to promote compliance. Inspectors completed 77 compliance inspections in Fiscal Year 2013 (52 for Lake Superior, 25 for Lake Michigan), which is one quarter of all ballast water permittees, the highest inspection rate in the wastewater program. Each vessel inspected received education on AIS issues and regulations and a follow-up letter with recommendations to improve the ship's ballast water management plans or best management practices. At the end of each shipping season, inspectors review arrival logs and send effective Notices of Noncompliance to all companies that operated without permits. As a result, the non-compliance rate is currently at less than 1 percent.



DNR ballast inspectors prepare to board a ship.

Wisconsin is leading Great Lakes ballast water policy through its work with the Great Lakes Ballast Water Collaborative. It is the only state represented on the Great Lakes Water Quality Agreement Annex 5 (Vessel Discharges) subcommittee that works to enforce the renewed Agreement.

WORK WITH PARTNERS TO IMPROVE POLICY

Wisconsin is leading Great Lakes ballast water policy through its work with the Great Lakes Ballast Water Collaborative, which brings industry, state and federal regulators and scientists together from the U.S. and Canada to engage in the reduction of the introduction and spread of AIS in the Great Lakes region. Wisconsin is the only state represented on the Great Lakes Water Quality Agreement Annex 5 (Vessel Discharges) subcommittee that works to enforce the renewed Agreement.



CONTESTED CASE SETTLEMENT

Three contested cases involving ballast water that were brought against the department, from both industry and environmental advocates, were ruled in the department's favor. The combined ruling was a result of months and years of dedication to the cases on the part of program and legal staff, and is a testament to the department's solid ballast water policy, as it was proven to effectively and adequately protect the environment while considering the needs and limitations of the shipping industry.

SUPPORT RESEARCH

The department fosters good working relationships with research institutions that are making progress in ballast water treatment system development and testing. Staff review proposals, write support for research projects, complete peer reviews for National Parks Service, US Geological Survey and Great Ships Initiative projects, and assist academic research projects with ballast water sampling.

For more information on the ballast water program and requirements, please visit our General Permits webpage at: <http://dnr.wi.gov/topic/wastewater/GeneralPermits.html>

FUTURE NEEDS

- *Strengthen state ballast water regulations.*
- *Develop legislation to enforce and perpetuate the ballast water permit program.*
- *Renew the fee requirement for the state ballast water permit, in order to continue to conduct inspections and outreach beyond 2015.*
- *Support research and technology development to encourage prompt and effective freshwater-compatible treatment system installation.*

WETLANDS

GOALS AND HIGHLIGHTS

CONTROL ESTABLISHED

WETLAND INVASIVES

Wisconsin's wetlands provide a range of environmental and economic benefits such as flood protection, filtering pollutants from the water supply, fisheries habitat and wildlife production. Invasive species that move into and infest wetlands, such as purple loosestrife, can greatly reduce these benefits.



Volunteers prepare to restore a wetland with *Galerucella* biocontrol beetles

Wisconsin's wetlands provide a range of environmental and economic benefits. Invasive species that move into and infest wetlands can greatly reduce these benefits.

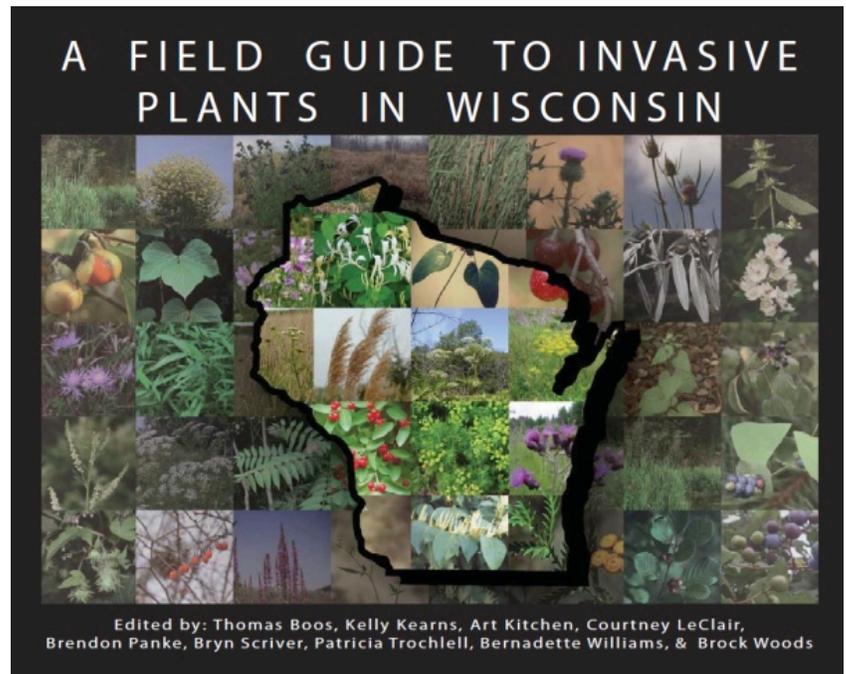
The highly successful purple loosestrife biocontrol project continues to recruit and assist volunteers and coordinators in raising *Galerucella* biocontrol beetles. This program is supported by a wide range of participants, from Dane County Conservation League volunteers (shown on right) to prisoners from McNaughton Correctional Center in Oneida County. Participants raise beetles that are taken to wetlands infested with purple loosestrife. The beetles then feed on the loosestrife, weakening it to a point where native wetland plants can flourish.

CONDUCT AND SUPPORT RESEARCH

To ensure control efforts are successful, the department is cataloging the locations and extent of invasive wetland species in Wisconsin. GLRI funds were acquired to hire a wetland invasive species specialist (LTE) to coordinate mapping a range of wetland invasive species throughout the state. Built in cooperation with a range of partner organizations and external data sites, these maps will be used to analyze the distribution of invasive plants and assist with project coordination.

PROVIDE OUTREACH AND EDUCATION

Great Lakes Restoration Initiative (GLRI) funds were acquired to create and publish a wetland invasive species supplement to the [State Invasive Species Field Guide](#). This supplement was presented to a variety of groups and used in education or outreach about wetland invasive plants for a range of audiences including lake associations, utility companies, and the Wisconsin Wetlands Association conference. It provides photos and information on identification, as well as some basic information on how to report and control the various invasive plant species.



FUTURE NEEDS

- *Continue state-wide reporting and mapping of wetland invasive species.*
- *Support partner research on control strategies for new and established invasive species.*
- *Facilitate science-based wetland invasive plant control work by funding a Wetland Research Ecologist position in Science Services.*
- *Build department capacity to respond quickly to new wetland invasive species infestations by creating an FTE position to coordinate monitoring and rapid response.*
- *Increase outreach efforts to a variety of audiences to improve public awareness, prevention and control of wetland invasive species.*

Contact:

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<http://dnr.wi.gov> keyword "invasives"

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