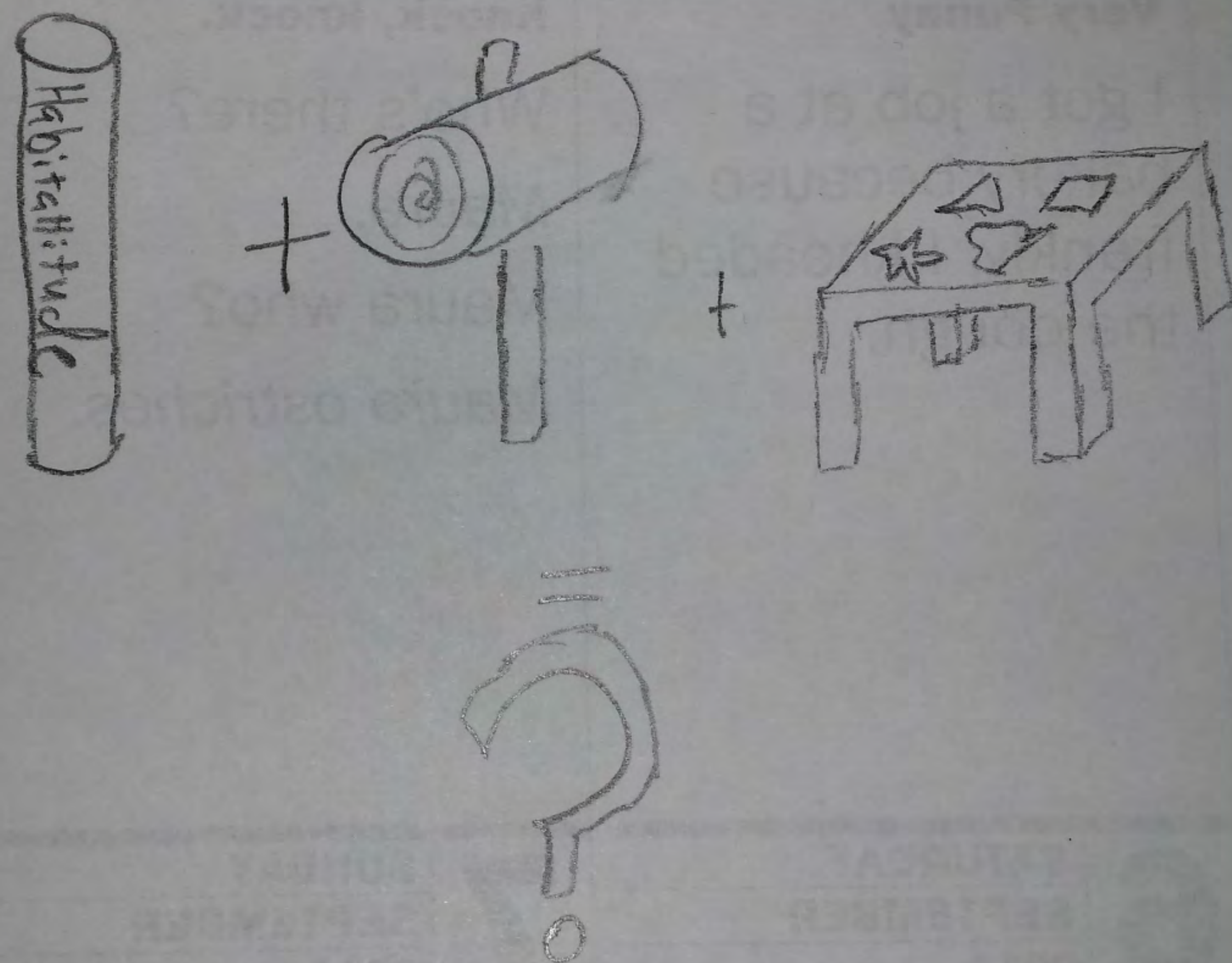

Making Habitattitude
Work for Wisconsin:
Or
It Happens
Benefits
- Building capacity
- Awareness about release behavior
- Generated interest
Pet Return Networks
- Can hobbyist clubs rehome animals?
- Build capacity within humane societies?
Pet Store Employee Training
- Training to assess capability of consumer
- Don't just not sell potentially invasive species, don't sell species likely to be released
Consumer visits pet store
Consumer gets pet
Tim Campbell

Making Habitattitude Work for Wisconsin:

Creating alternatives to release

Tim Campbell
UWEX/WDNR/UWSG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Video Photo

Piranha caught in Lake Winnebago?

Updated: Wednesday, 16 Sep 2009, 6:44 PM CDT
Published : Wednesday, 16 Sep 2009, 5:39 PM CDT

FOND DU LAC - Fishing for bluegills on Lake Winnebago, Richard Pardee never thought he would come with what might be a piranha.

"I was getting pretty excited, thinking I had the biggest blue gill of my life," said Pardee. "I finally got him out and saw the face full of teeth, I thought, yep, I got a piranha, not a bluegill."

He took it to exotic fish shop Rivers and Reefs, 107 N. Main St., where they sell a species of piranha. There is still some debate at the store about what the 12 1/2 inch, toothy catch actually is. Owner Greg Schwantes is leaning toward the piranha's larger, generally more vegetarian cousin, the pacu.

"Lake Winnebago doesn't have a lot of vegetation, but it has a lot of bait fish, so it could survive eating minnows or other small fish," said Rivers and Reefs owner Greg Schwantes.

Joe Hennessey with a giant snakehead (*Channa micropeltes*) caught in a Wisconsin river, September 4, 2003, undoubtedly after being released by an aquarium enthusiast. Fortunately, this species will not survive the winter (see fig. 6). Photo by Mike Sorge, Wisconsin Department of Natural Resources, Bureau of Fisheries Management and Habitat Protection.

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Fisherman finds dead boa constrictor in Lake Monona

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April 05, 2014 8:30 am • By Jeff Glaze | Wisconsin State Journal (6) Comments

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In springtime, Terry Doyle regularly bikes around Lake Monona searching for open water to cast a line. But his fishing excursion Wednesday led to a much more unusual catch than the standard bluegill: a 6-foot-long boa constrictor.

Doyle, of Monona, was on the railroad embankment near John Nolen Drive when he discovered the dead snake dangling from the ice into the thawing water.

Constrictors aren't native to Wisconsin. They can live in a variety of habitats but generally take refuge in the warmer climates of Central and South America.

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Catch looks like piranha, but it's equally rare pacu

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July 08, 2010 11:45 pm • By Jen McCoy, Daily Register (0) Comments

When Jim Stendahl reeled in a toothy tropical fish out of the Wisconsin River, his reaction would be best censored for print.

"It pulled out drag when I set the hook on it. It had a good fight. I saw a silver flash, and its belly was red. As many years as I've fished, I never saw this kind of fish before," Stendahl said.

The Pardeeville angler set out to catch his dinner Wednesday south of the Highway 33 bridge on the west side of the river. He was accompanied by roommate Dan Lejman and his roommate's girlfriend, Amy Skunca.

It was humid at 5:30 p.m., so the men pulled their canoe onto the bank and dipped their feet into the cool water while Skunca stood waist-deep. They set minnows on their hooks and cast hoping for northern pike, but what came up was foreign.

"I started burying them (my toes) in the sand," Lejman said. "I said, 'Judging by the teeth, that's a - and then Jim says, 'A piranha.' You could feel it hitching its jaw."

Skunca got out of the water and the 14 inch, 2 1/2 pound fish was put in a cooler. Stendahl guessed that someone dropped the fish off in the river, and he probably was right.

"It would be somebody's pet fish that's been released, and absolutely nobody should be

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Mississippi River water hyacinth, water lettuce and parrot feather, oh my!

Posted on December 19, 2013 by mikepulnam

In recent years, three invasive species of aquatic plants have been found in Pool 5 of the Mississippi River near Buffalo City, WI. These three species – water hyacinth (*Eichhornia crassipes*), water lettuce (*Pistia stratiotes*), and parrot feather (*Myriophyllum aquaticum*) – are plants often found in the water garden and aquaculture trade. They can be very invasive when introduced into natural waterbodies. Water hyacinth and water lettuce were first found in 2011 in Pool 5; in 2012 parrot feather was found in an isolated bay of Pool 5. Nearly one thousand water lettuce and water hyacinth plants were found in Pool 5 in 2011 and by 2012 the populations exploded into the tens of thousands. These species had not been found to this extent in Wisconsin before so immediate action was taken to prevent the spread of these invasive species to other areas of the Mississippi River and possibly to inland lakes. Multi-agency rapid response control efforts included a team of experts from the Wisconsin DNR, Minnesota DNR, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and county aquatic invasive species (AIS) coordinators as well as interested citizens and university scientists.

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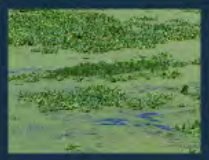

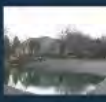

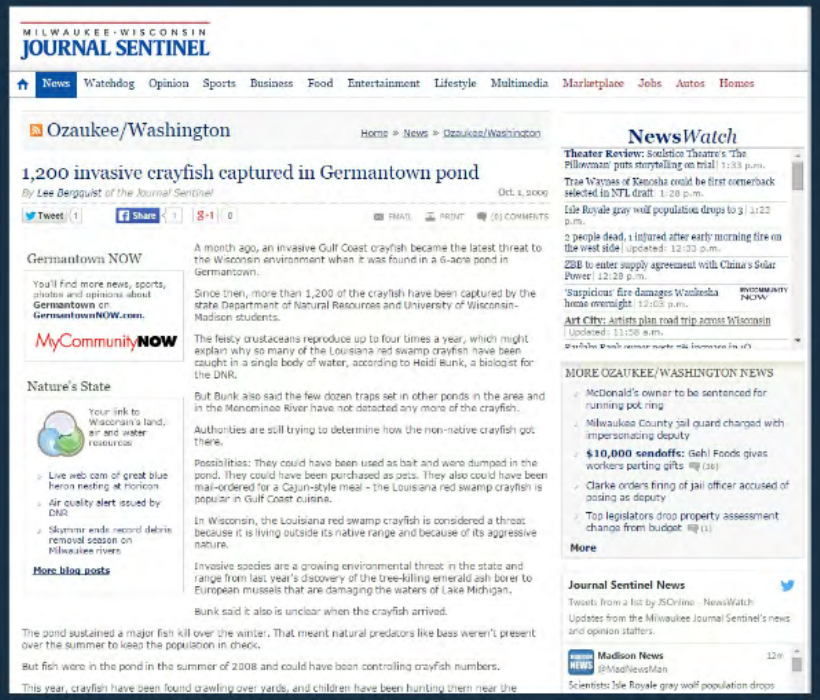

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1,200 invasive crayfish captured in Germantown pond

By Lee Bergquist of the Journal Sentinel

Oct. 1, 2009

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A month ago, an invasive Gulf Coast crayfish became the latest threat to the Wisconsin environment when it was found in a 6-acre pond in Germantown.

Since then, more than 1,200 of the crayfish have been captured by the state Department of Natural Resources and University of Wisconsin-Madison students.

The feisty crustaceans reproduce up to four times a year, which might explain why so many of the Louisiana red swamp crayfish have been caught in a single body of water, according to Heidi Bunk, a biologist for the DNR.

But Bunk also said the few dozen traps set in other ponds in the area and in the Menominee River have not detected any more of the crayfish.

Authorities are still trying to determine how the non-native crayfish got there.

Possibilities: They could have been used as bait and were dumped in the pond. They could have been purchased as pets. They also could have been mail-ordered for a Cajun-style meal - the Louisiana red swamp crayfish is popular in Gulf Coast cuisine.

In Wisconsin, the Louisiana red swamp crayfish is considered a threat because it is living outside its native range and because of its aggressive nature.

Invasive species are a growing environmental threat in the state and range from last year's discovery of the tree-killing emerald ash borer to European mussels that are damaging the waters of Lake Michigan.

Bunk said it also is unclear when the crayfish arrived.

The pond sustained a major fish kill over the winter. That meant natural predators like bass weren't present over the summer to keep the population in check.

But fish were in the pond in the summer of 2008 and could have been controlling crayfish numbers.

This year, crayfish have been found crawling over yards, and children have been hunting them near the

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2 people dead, 1 injured after early morning fire on the west side | Updated: 12:33 p.m.

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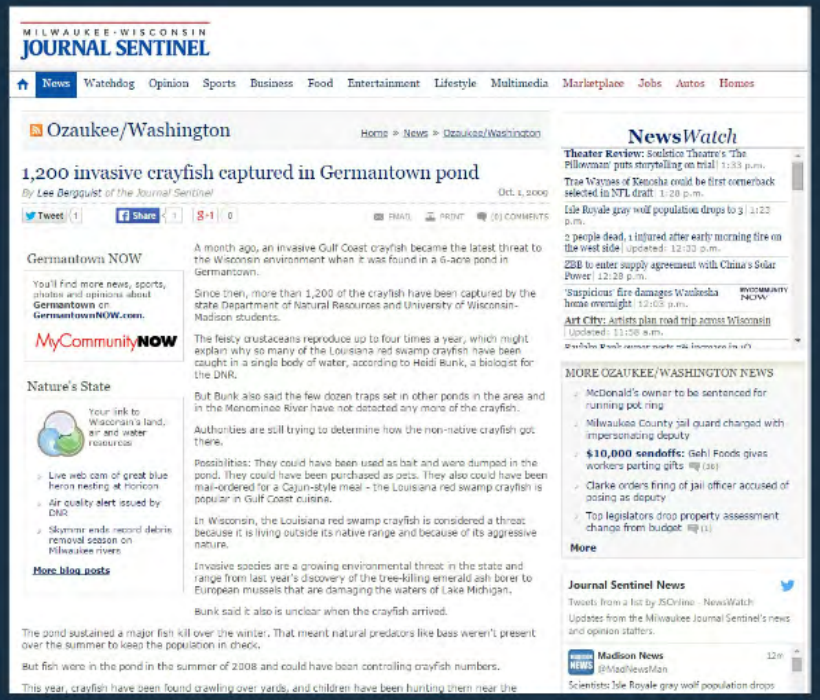

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- Lacey Act

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Assessment

Keeping potentially invasive species out of trade

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Consumer

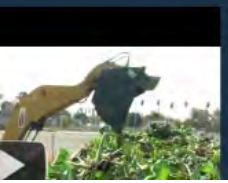
Consumer thinks about getting a pet

Consumer visits pet store

Consumer gets pet

Consumer unable to care for pet

Consumer releases pet



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Mystery Snail
Competes for food
Koi
Impairs water quality
Mosquitofish
Outcompetes native fish
Caiman
Reduces wildlife populations
Water Hyacinth
Clogs waterways
Hydrilla
Interferes with boating
Red Swamp Crayfish
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Give unwanted pets and study specimens to a school, aquarium, or zoo.
Dispose of aquatic plants in the trash.
Contact a retailer for possible returns or a veterinarian for guidance on humane disposal of animals.
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TROPIC LIFE Pets

- No space
- No money
- No expertise
- Not my problem

Regulations
- XR40
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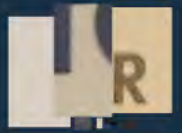


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Issues with KAEAR Model

- Jamie doesn't exist everywhere
- Don't always get AIS

Benefits

- Building capacity
- Awareness about release behavior
- Generated interest

Responsible Pet Ownership

- Right pet for right person
- Trained staff to assess
- Offer noninvasive pets
- Avoid commonly released pets
  - Big & small stores have their strengths

Habitattitude
PROTECT OUR ENVIRONMENT

Alternatives to Release

- Trade with a friend/hobbyist
- Return to store
- Take to a rescue
  - Need to build capacity for these
- Euthanasia probably isn't an option for most pets

Consumer thinks about getting a pet

Consumer visits pet store

Consumer gets pet

Consumer unable to care for pet

Consumer releases pet

UNIVERSITY OF WISCONSIN SEA GRANT INSTITUTE

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Organism in Trade Pathways

Using aquatic invasive species prevention messaging on pet products (left) can remind consumers that pet release threatens our environment and economy. The red swamp crayfish (right) invasion of a stormwater pond in Wisconsin is an example of the potential costs of pet release.

Why Address Organism in Trade Pathways?

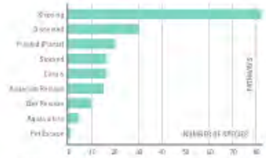
Organism in trade (OIT) pathways are significant risks for release or escape of new species and the spread of established species of fish, plants, snails, crayfish, turtles, and diseases and pathogens. Successful management of OIT spread can be accomplished by addressing each pathway for potential introduction and spread. Risks can be reduced by removing existing invasive species in trade, preventing new species from entering trade and by modifying behaviors, like pet release, that introduce OIT into the environment. By engaging natural resource management, academia, industry and consumer stakeholders while making decisions based in sound research and science, the risk for introduction through OIT pathways can be eliminated or reduced to acceptable levels.

Invasions of the Great Lakes

Outside of invasions associated with ballast water, OIT pathways are some of the most probable ways that new species can enter the Great Lakes. The live organism trade is a large industry in the United States, and with the large number of organisms being shipped, bought and transported every day, the possibility that something will escape or be intentionally released exists. The red swamp crayfish and hydrilla are two examples of organisms that have been introduced into the Great Lakes Basin through OIT pathways.

Red swamp crayfish (*Procambarus clarkii*) were discovered in a stormwater drainage pond in Germantown, Wis., in 2009. They are larger and more aggressive than crayfish native to the Great Lakes. They can decrease levels of aquatic vegetation and damage earthen dams and levees by burrowing. These crayfish are used as classroom study specimens and as food items, and they are often introduced through intentional release. Since discovery, containment and eradication efforts have cost the Wisconsin Department of Natural Resources and local partners more than $750,000.

Hydrilla (*Hydrilla verticillata*) is an aggressive aquatic plant that invaded much of the southern United States as a result of aquarium releases and water garden escapes in the 1950s. Like other invasive aquatic plants, hydrilla forms dense mats in lakes and rivers that interfere with recreational boating and fishing. Mats displace native aquatic plants, which affects fish and wildlife — causing recreational, ecological and economic impacts. Hydrilla is now encroaching on the Great Lakes Basin with known infestations in Indiana, Pennsylvania and New York.



Outside of invasions associated with ballast water and hull fouling, new invasive species are primarily introduced into the Great Lakes through organisms in trade invasive pathways (GLANSIS 2014).

Goldfish (*Carassius auratus*) have been found to infest several lakes, ponds and rivers likely as a result of aquarium release. They harm water quality by increasing turbidity through their feeding behavior. Increased turbidity increases water temperature and decreases dissolved oxygen, which can cause fish kills. Few fish eradication efforts have been successful, but goldfish were eliminated from a stormwater pond in Duluth, Minn., to protect a connected designated trout stream that flows to Lake Superior. It required several months of work and cost $100,000.

To address future invasions, a combination of regulations prohibiting the sale of potentially invasive species and education efforts designed to change risky behavior have reduced the probability of these species being released or escaping into the environment.

GL BIOTIC Symposium June 3 – 4, 2014 Milwaukee, Wisconsin

What was GL BIOTIC?

The Great Lakes Briefs on Invasive Organisms Traded in Commerce (BIOTIC) Symposium was the first symposium in the region to bring together experts to discuss OIT invasion pathways. The goals were to identify research gaps to improve management of OIT and facilitate the efficient transfer of information between researchers, managers, educators, industries/associations and the public. Synthesis presentations focused on aquaculture; live specimen, live bait and pet releases; and spread of pathogens and diseases. Highlights included innovative approaches to risk assessment, regulations, outreach and industry efforts. Outcomes from the GL BIOTIC Symposium will be implemented over the next few years.

Pathway synthesis highlights

- Voluntary industry practices, like HACCP, have successfully reduced risk in aquaculture and live bait pathways.
- Many ornamental aquarium fish pose a low risk to the Great Lakes region; risk assessment can focus efforts on the few that could establish in the region.
- The potential for the spread of disease and pathogens can be addressed by using many already established invasive species prevention actions.

EXAMPLE: The HACCP process helps live bait harvesters identify likely places where invasive species may be transported or introduced. Corrective actions can be taken at those critical control points and record-keeping efforts document that the actions were taken.

Industry panel highlights

- The use of risk assessment tools that identify potentially invasive species can help industry address issues before bringing a species to market.

Large goldfish, such as these, can be found throughout the Great Lakes. This is an indication that independent release events are happening throughout the basin.

Monitoring efforts have helped locate populations of invasive plants commonly used in water gardens (top, right) before the plant could spread to uninvaded bodies of water and cause problems (left). The Habitattitude campaign provides guidance on responsible pet ownership and outlines options for people that can no longer care for their pets (bottom, right).

- The use of industry-supported voluntary BMPs and outreach campaigns like "Right Plant Right Place" and "Habitattitude" can engage all segments of the industry in prevention activities.

EXAMPLE: The Pet Industry Joint Advisory Council is partnering with the U.S. Fish and Wildlife Service and numerous other agencies to develop a standard risk assessment protocol for new pet species coming into the United States. This saves the public and industry money — it prevents new invasions, and it reduces industry investment in potentially invasive species.

Outreach highlights

- The Habitattitude campaign has been effective at raising awareness of invasive species issues and at educating owners about alternatives to pet release.
- Messaging that fosters personal obligation and attributes responsibility to hobbyists can encourage sustainable behavior.
- Programs that build retailer trust and enhance hobbyist networks can build capacity for invasive species prevention efforts.

EXAMPLE: NGOs/organizations like Kingdom Animalia Exotic Animal Rescue use the Habitattitude campaign to raise awareness of alternatives to pet release in Wisconsin. With the ability to take in and rehome animals, KAEAR helps make one of the Habitattitude recommendations a reality.

Risk assessment highlights

- Many invasion risk assessment tools exist that require varying amounts of resources and time (minutes to days) to complete.
- Using multiple risk assessment tools collectively can provide a "weight of evidence" approach that may provide an opportunity for more consistent and comprehensive adoption of these tools.
- eDNA monitoring tools can be used to assess risk of contamination in organisms in trade.

EXAMPLE: Some risk assessments can be just a decision tree where one or two characteristics can predict invasibility. More complex risk assessments involve long questionnaires that use every aspect of a species' life history to determine invasion risk.

Regulation highlights

- Species management regulations tend to be best for raising awareness and managing intentional trade and introductions.
- Pathway management regulations reduce overall risk and manage unintentional introductions.
- Species management regulations should strive to be proactive, rapid, flexible, science-based, cost effective and have stakeholder support. Wisconsin's NR-40 regulations are a good example of species regulations that address all of these.

EXAMPLE: A collaborative effort in the western U.S. brought invasive species managers together to develop a model watercraft inspection and decontamination regulation that would make these programs consistent across states. A similar process can be used to help make regulations regarding OIT pathways consistent.

Both disposal and surrender guidance for unwanted organisms can help protect the Great Lakes and our environment from the unwanted impacts of invasive species.

Needs Identified by the Great Lakes BIOTIC Symposium

- Better "end of use" guidelines for teachers using classroom study specimens.
- More availability of prevention campaign and program resources (e.g., Stop Aquatic Hitchhikers!, Habitattitude, Nab the Aquatic Invaders, and AIS-Hazard Analysis and Critical Control Point/HACCP) throughout the Great Lakes Basin for local partners.
- Incorporate existing risk assessment tools in decision making.
- Continued collaborative approach with industry stakeholders.

All stakeholders represented at the Great Lakes BIOTIC Symposium have a role to play in addressing these needs.

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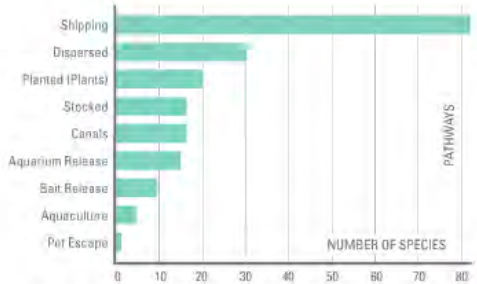

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KEVIN KAPUSCINSKI

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PAUL SKAWINSKI

TIM CAMPBELL

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GL BIOTIC was hosted by the Great Lakes Sea Grant Network led by Minnesota and Wisconsin. Funding provided through U.S. Environmental Protection Agency from the Great Lakes Restoration Initiative.

March 2015 WISCU-G-15-001

Responsible Pet Ownership

- Right pet for right person
- Trained staff to assess
- Offer noninvasive pets
- Avoid commonly released pets
  - Big & small stores have their strengths

Alternatives to Release

- Trade with a friend/hobbyist
- Return to store
- Take to a rescue
  - Need to build capacity for these
- Euthanasia probably isn't an option for most pets

Consumer thinks about getting a pet

Consumer visits pet store

Consumer gets pet

Consumer unable to care for pet

Consumer releases pet

Tim Campbell
tbcampbell2@wisc.edu