

*"Protecting in Partnership...
the Legacy of WI Lakes"*

Created by: WI Lakes Partnership
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Jennifer Filbert





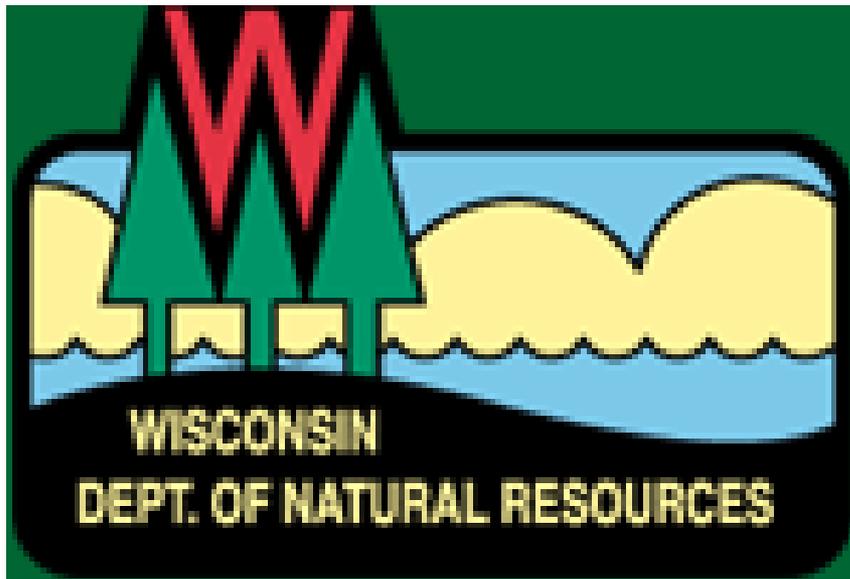
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Water Resources Programs

University of Wisconsin
Stevens Point

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The Wisconsin Lakes Partnership

Working together for the citizens and lakes of WI

The Wisconsin Association of Lakes

- Citizens, Lake Organizations & Professional Service Providers Network
- Political Will

The UW-Extension

- Organization and Education Assistance

The Department of Natural Resources

- Technical and Financial Assistance
- Regulatory Authority



Pressuring Wisconsin lakes...

Climate seems to be changing

Global species exchange increasing

Population is growing and moving to lake country

Lake and shoreline pressures increasing
larger houses, larger piers, more boats

Watershed land use intensifying
industrial farms, excess fertilizer in soil
rural highways and commercial areas
increasing



WI Lakes Strategy

The Water Way...

Engaging People, Politics & Partnerships

Sustaining Healthy Lake Ecosystems & Quality Outdoor Recreation and Living

Wisely Investing Time & Money

...Protecting in partnership

Making Lake Education Easy... and a lot of fun!



Lake Leader Institute



Wisconsin Association of Lakes e-Lake Letter



Northwest Wisconsin Lakes Conference
Friday, June 25, 2004 -- 8:00 - 4:30
Telemark Convention Center in Cable

Lake Tides

The newsletter for people interested in Wisconsin lakes

Today's Catch

Fishing Tournaments and AIS

It is 5 a.m. The mist is rising off the water and the sound of the birds greeting the new day is that space between darkness and light has begun. I can see the water now, an occasional fish jumps, ducks glide by and I hear a loon in the distance. My reverie is broken by the sound of tires on the gravel entrance to the boat landing. I grab my clipboard and flashlight and leave the truck to greet the lake's first visitors today - a fishing tournament team.

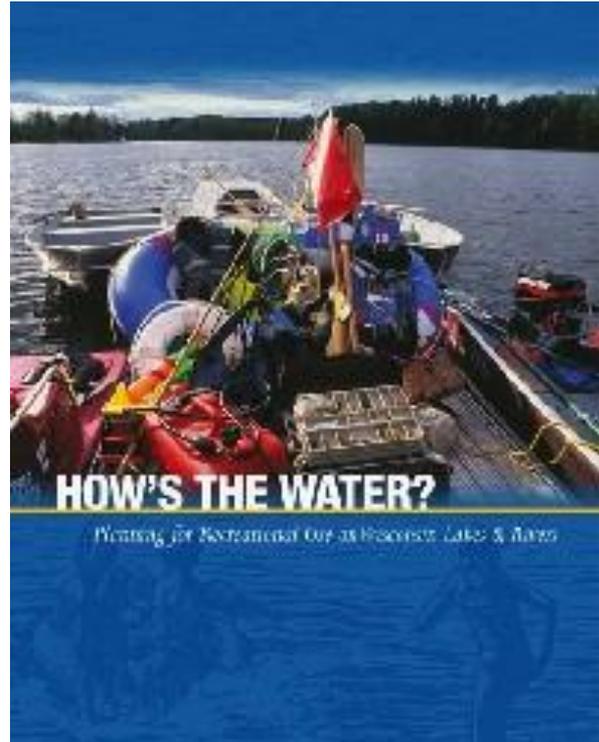
In 2004 and 2005, approximately 20,000 anglers competed in Wisconsin fishing tournaments with prize values in excess of \$2 million each year. On the plus side, these tournaments can benefit the local economy, provide biologists with fish population data, and promote sport fishing and conservation. On the other hand, some controversy has arisen over concerns about negative impacts on fish, other lake users and the water resource itself. You would think that those involved in fishing tournaments would be at the forefront of stopping the spread of aquatic invasive species (AIS), but are they? Do tournament anglers consistently follow the AIS prevention steps?

Tournament anglers, like all sportsmen, realize that in order to maintain their sport, conservation of the ecosystem is paramount. These are individuals who are diligent in their work to protect the resource, but others who do not grasp the value of taking the AIS prevention steps. Fishing tournaments, especially the larger or regional events, can become "the perfect storm" by increasing the opportunity for the spread of AIS in a short period of time. A large number of boats and anglers may arrive simultaneously, some from infested waters and come from out of state who are unaware of Wisconsin's AIS issues or rules.

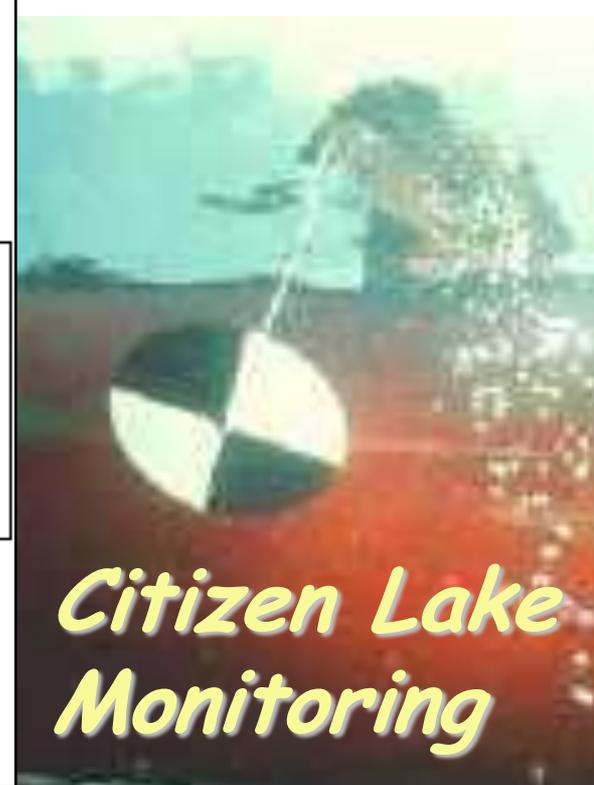
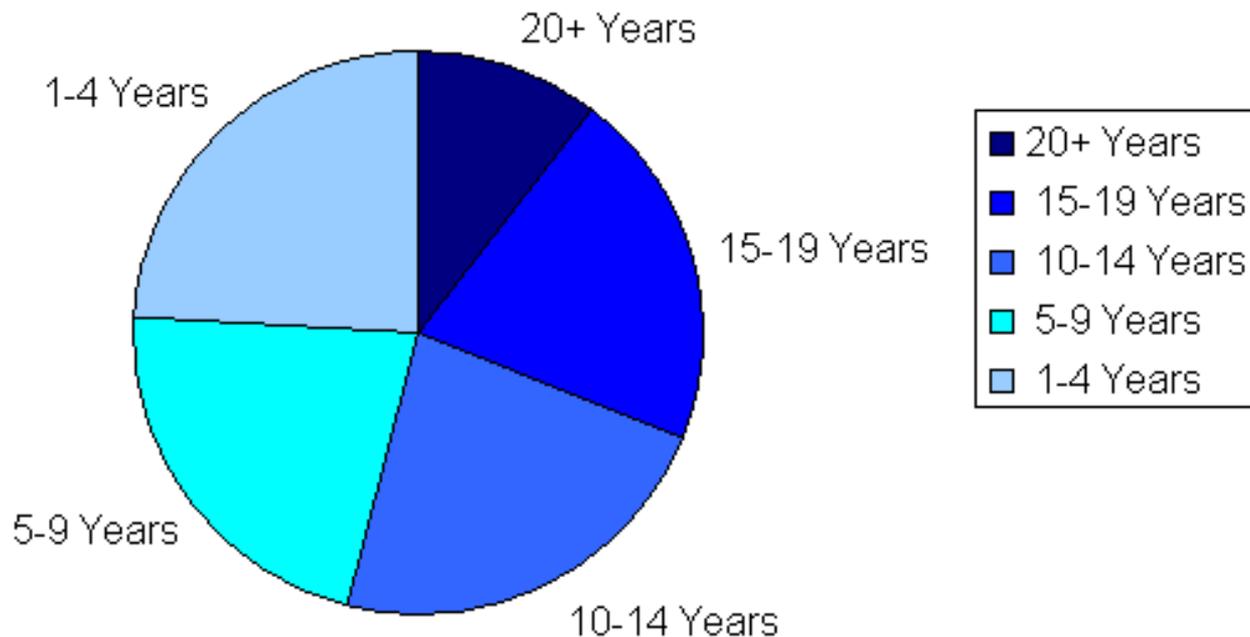
In the Northwoods from 2005-2006, Department of Natural Resources (DNR) staff and local lake volunteers saw 50-95% of tournament anglers launching with clean equipment. During the 2007 season, on the same area, the compliance was slightly lower. It is unclear why there was a decrease during this past season, especially on the second day of a two-day tournament. This was surprising in view of the recent discovery of viral hemorrhagic septicemia (VHS) in Wisconsin inland lakes and the related media blitz. Another surprising discovery is that the general public had a higher compliance rate than tournament anglers.

(Continued on page 2)

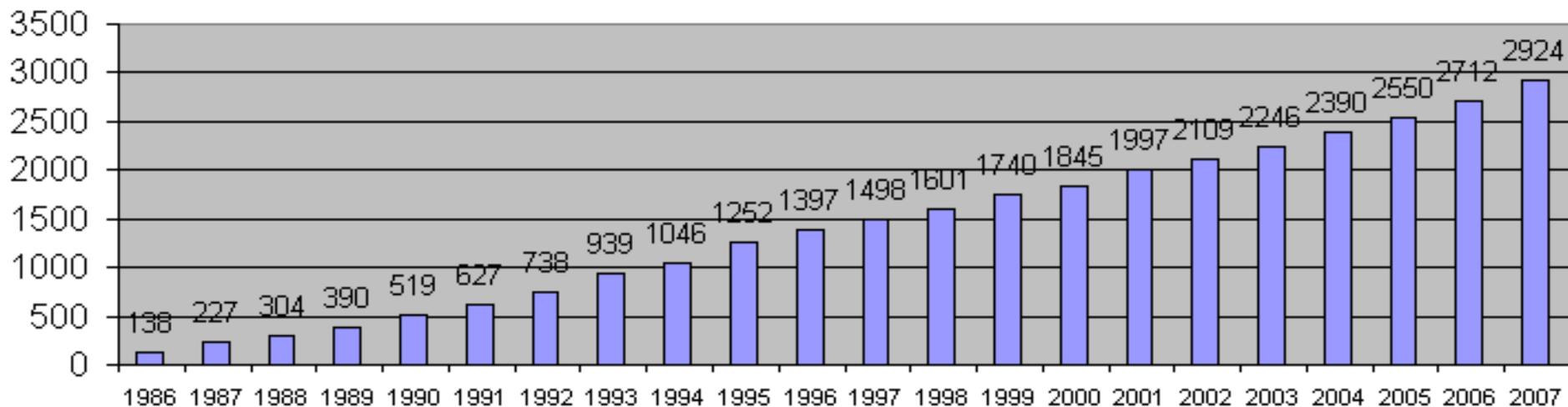
Volume 33, No. 1 Winter 2008
Wisconsin Lakes Partnership



Lake Data Record Length



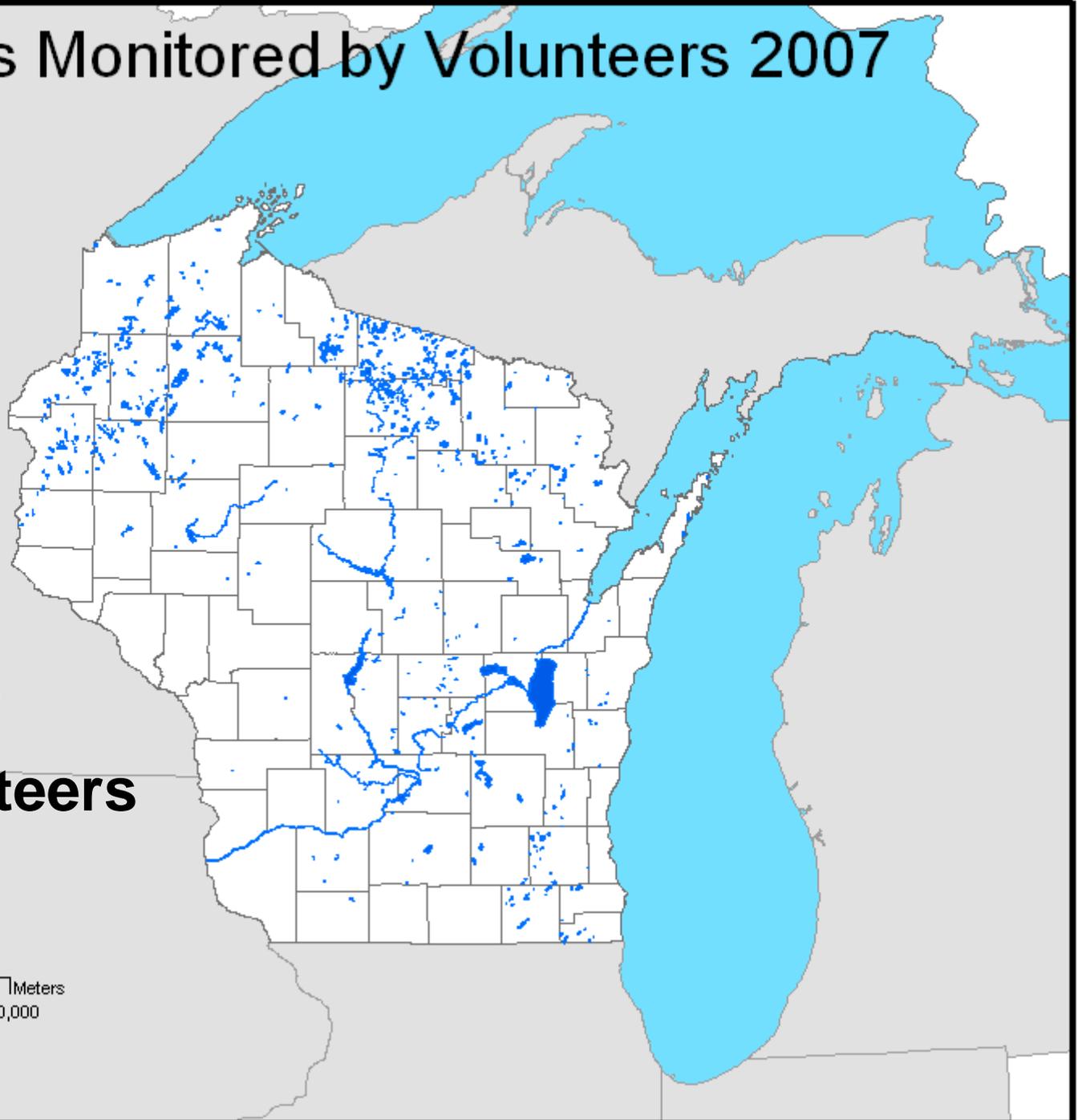
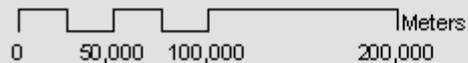
Cumulative Volunteer Participation



Lakes Monitored by Volunteers 2007

717 Lakes

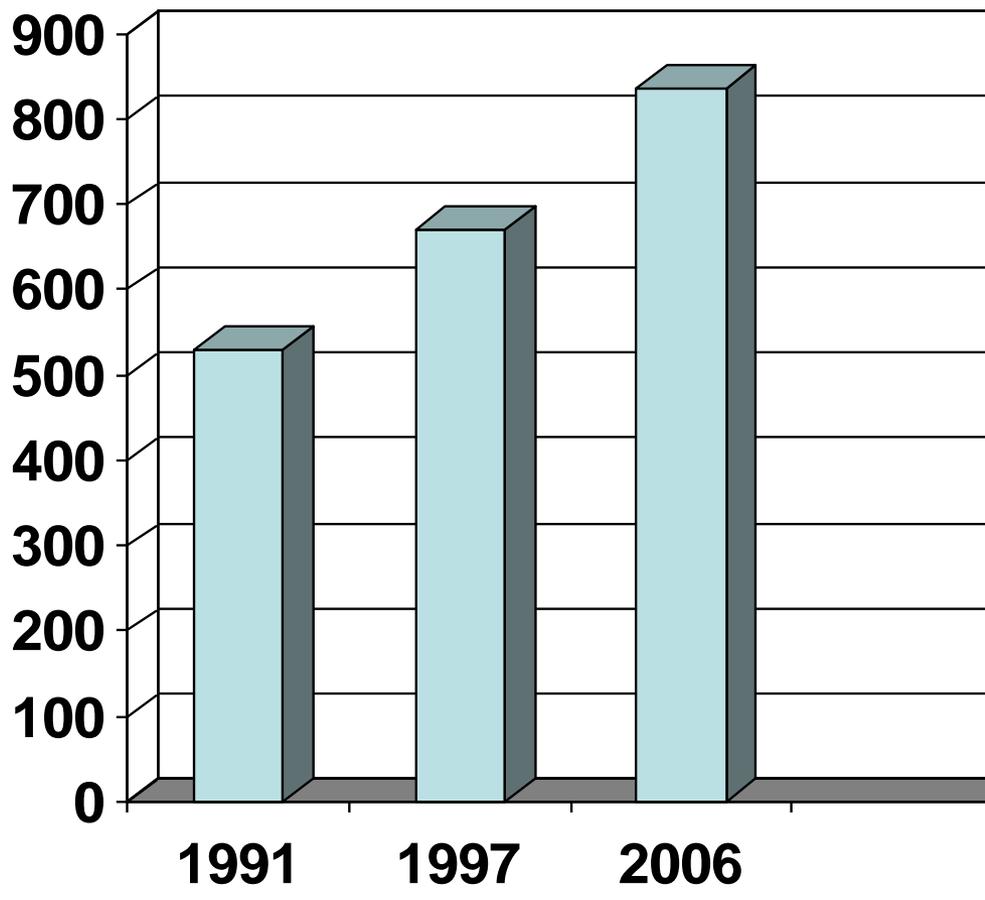
984 Volunteers



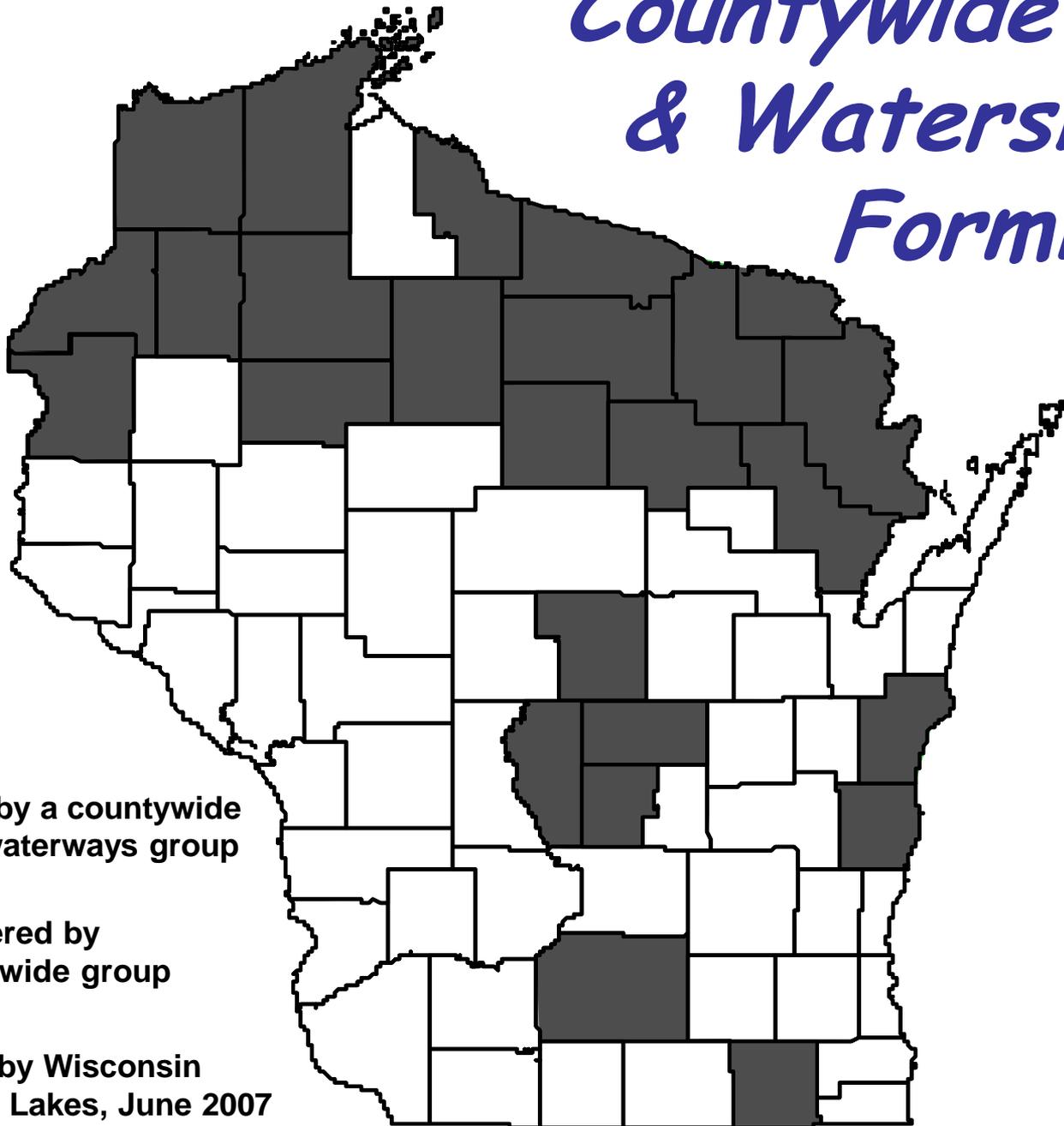
Building Partnerships...



Lake Organizations



Countywide Lakes & Watershed Forming...



25 Covered by a countywide lakes & waterways group

Not covered by a countywide group

* Map created by Wisconsin Association of Lakes, June 2007

Building Political Influence...

- WI Lake Governance Laws
- Water Resources Account
- Lake Protection Grant Laws
- Waterway and Wetland Laws
- Invasive Species Laws
- Aquatic Plant Protection Law



ATER AND LAW



What's Changing WI lakes?

Climate change may impact species, water level/use

Phosphorus and dirt pollution causing algae blooms

Domestication of shorelines robbing habitat
Declines in native plants, frogs and fishery

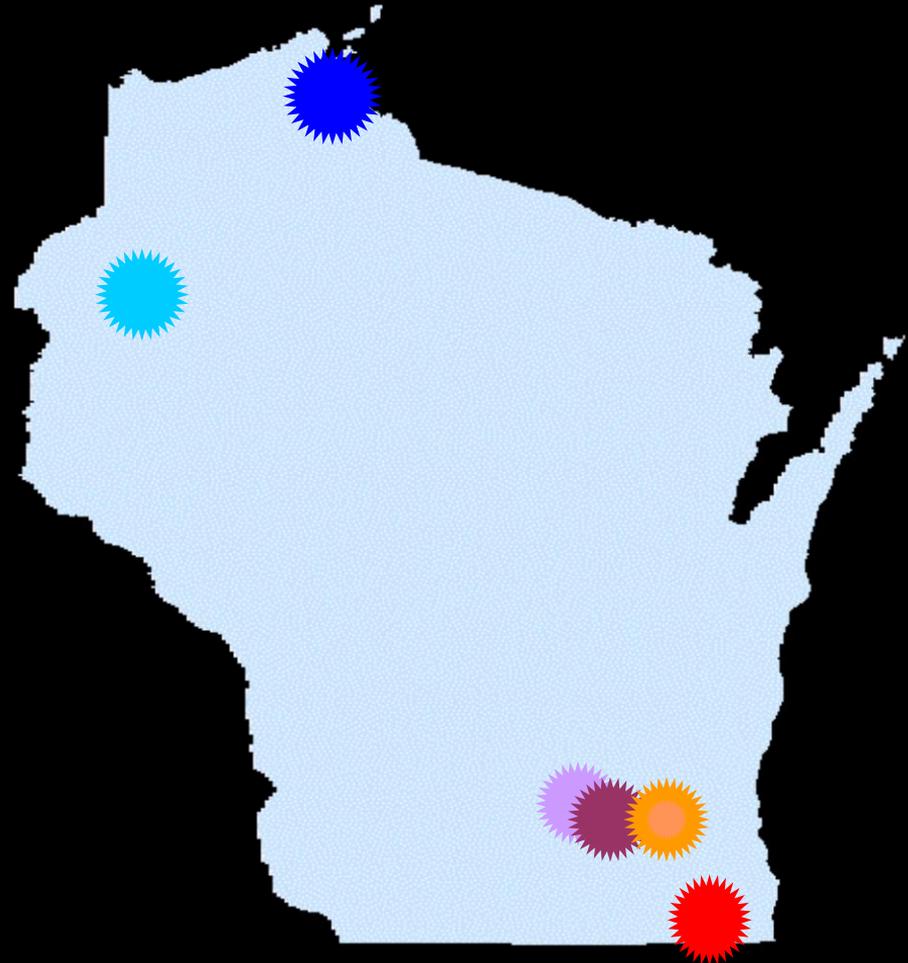
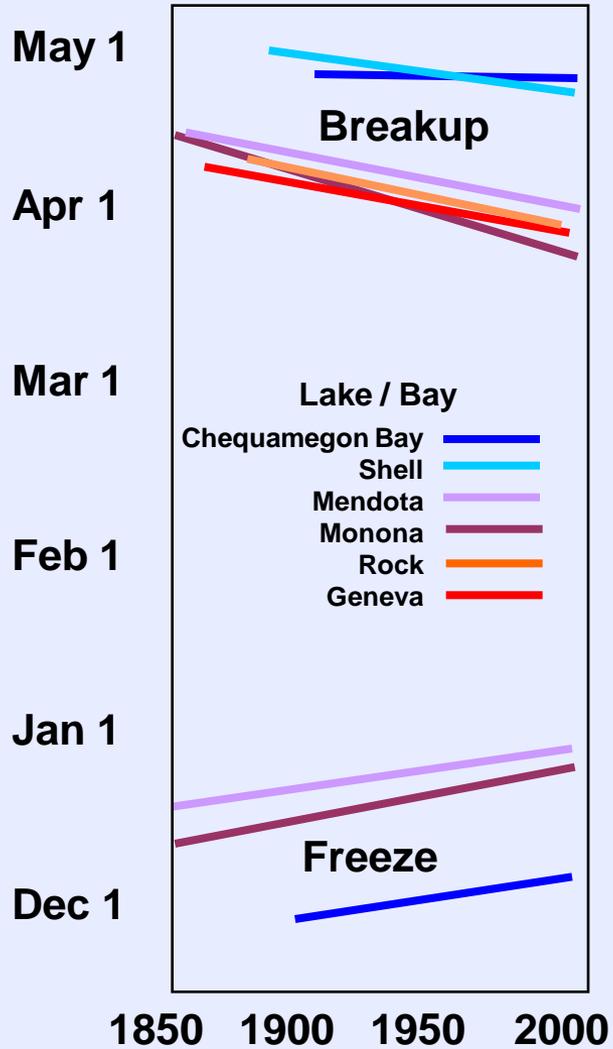
Invasive species displacing native plants and animals
sapping lake funds, energy and fun

Others:

- Accumulating toxics and fish consumption advisory
- Over-harvest by anglers
- Motorboat impacts
- Water use conflicts
- Groundwater conflicts



Changes in Ice Around Wisconsin



Global Climate change

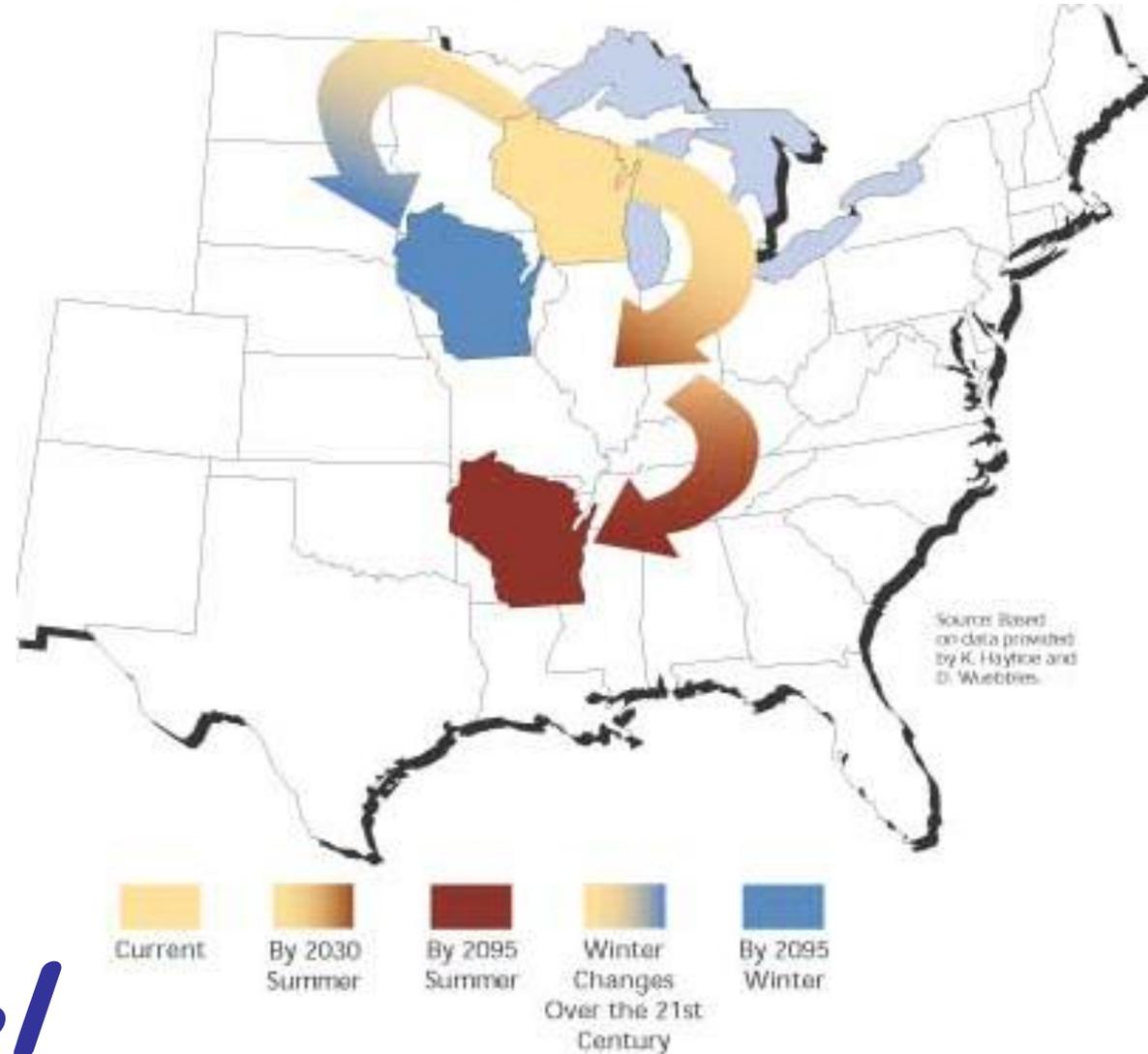
Ice cover

Species range

Water level

Water use

Conserve!



Source: John Magnuson

Phosphorus & Sediment Pollution

Algae blooms

Murky water

Toxic algae

Fish kills

Yucky muck!

Blue-Green Scum



Trends in Lake Clarity

of Lakes Improving /

of Lakes with Trends

Statewide

Lake Trends = 466

Stable = 308

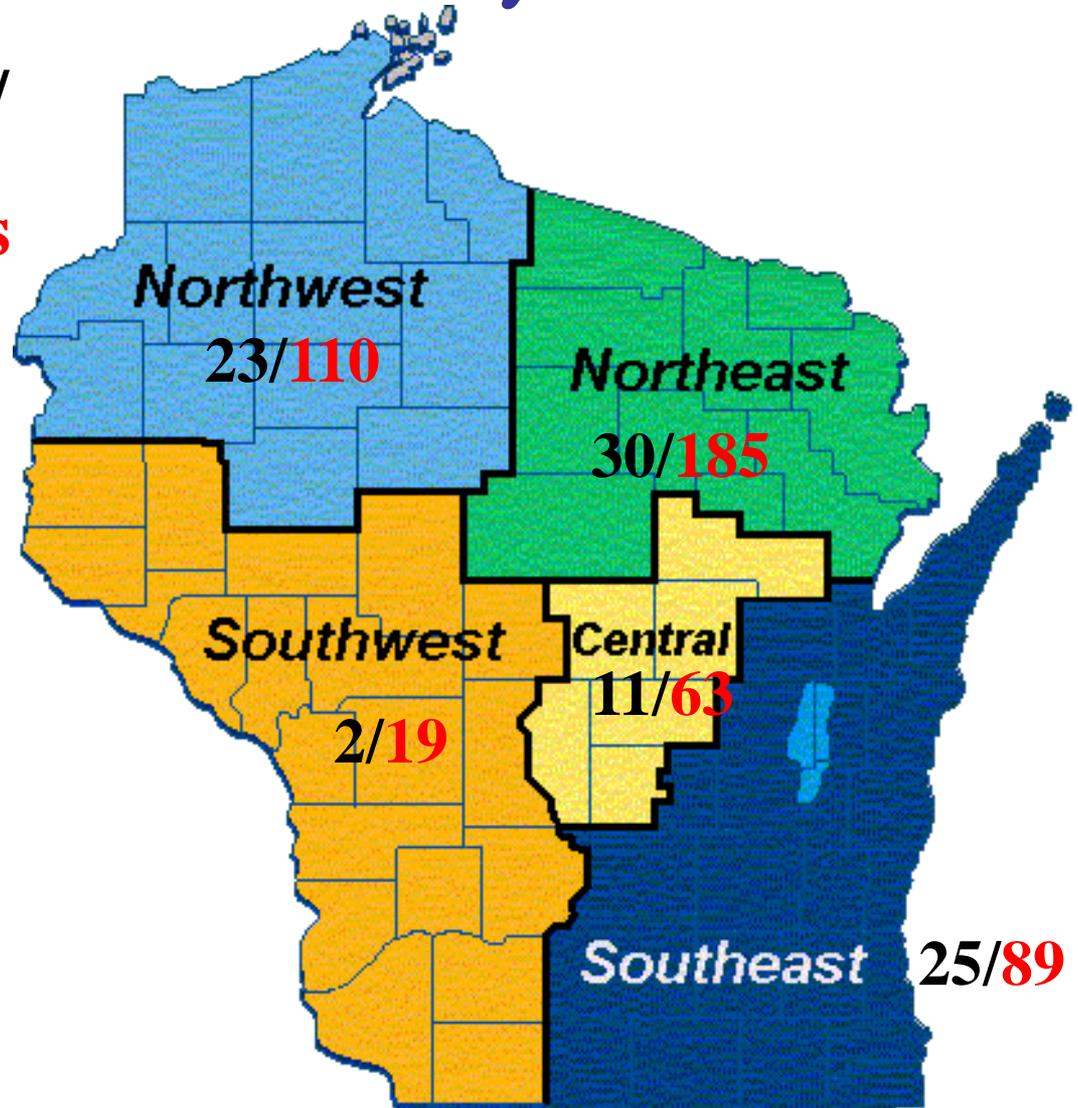
Improving = 91

Declining = 67

Unknown = 372

Total Lakes = 838

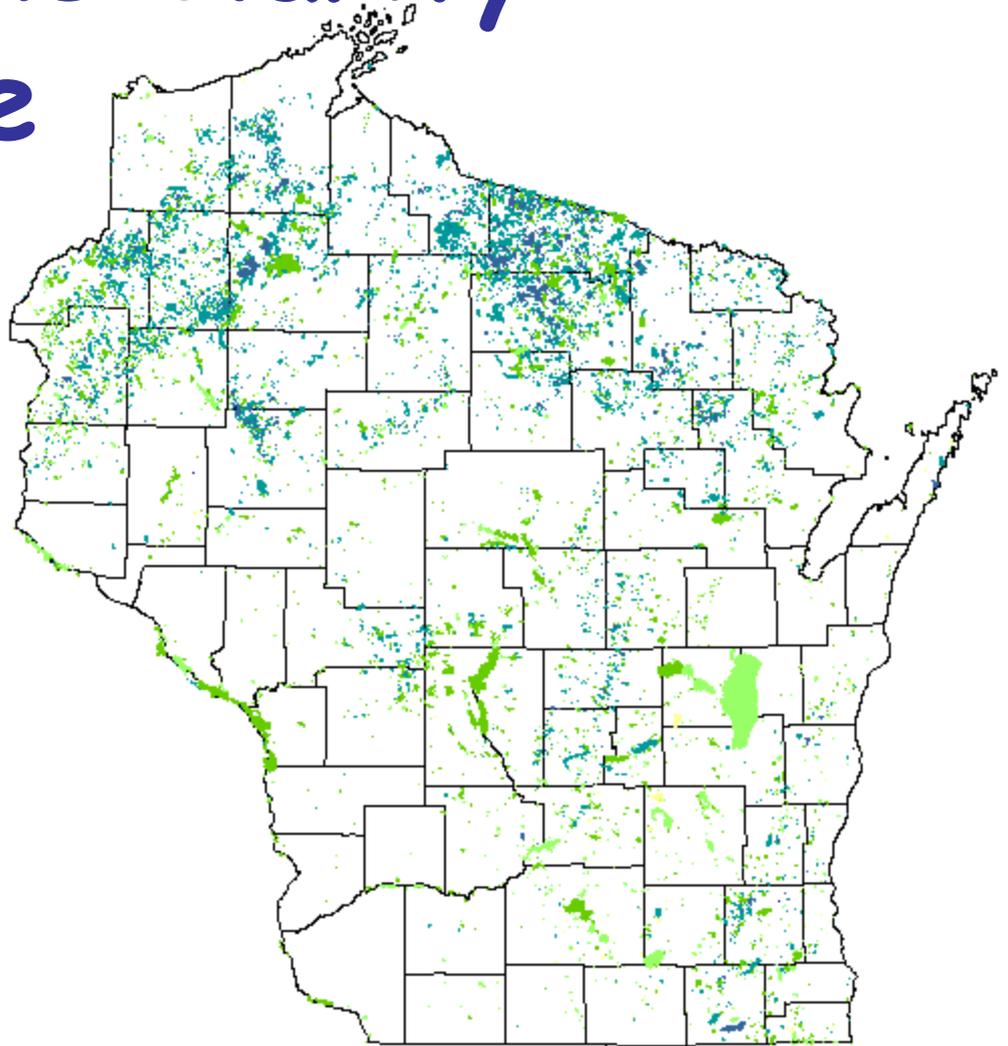
85 % Stable/Imp



Source: Jim Vennie (1999)

Wisconsin Lake Clarity - Trophic State From Space

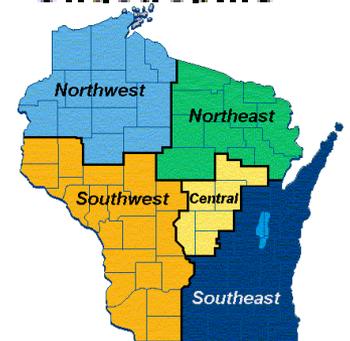
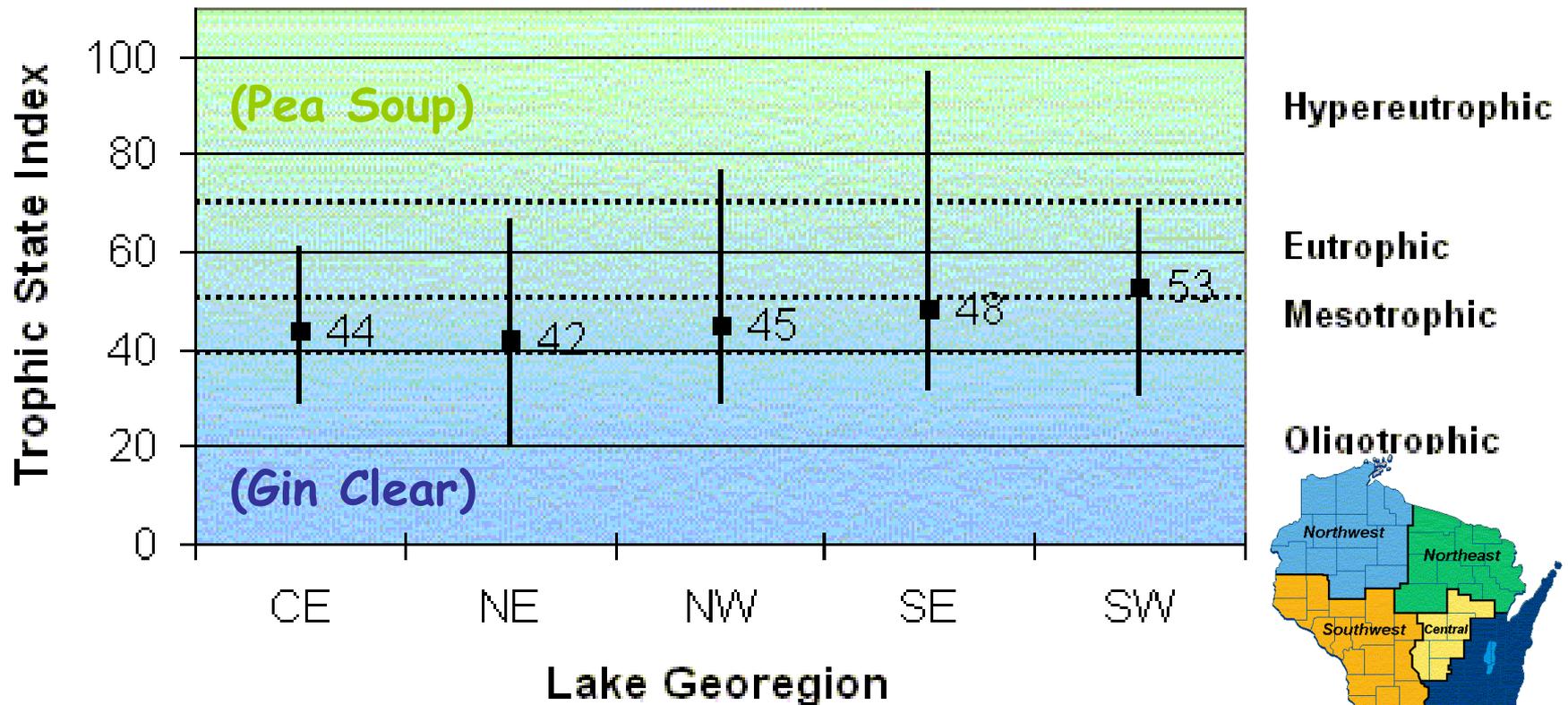
Trophic State Index	Estimated Secchi Depth
> 80	< 0.25 m (< 0.8 ft)
70 to 80	0.25 - 0.5 m (0.8 - 1.6 ft)
60 to 70	0.5 - 1 m (1.6 - 3.3 ft)
50 to 60	1 - 2 m (3.3 - 6.6 ft)
40 to 50	2 - 4 m (6.6 - 13.1 ft)
30 to 40	4 - 8 m (13.1 - 26.2 ft)
< 30	> 8 m (> 26.2 ft)



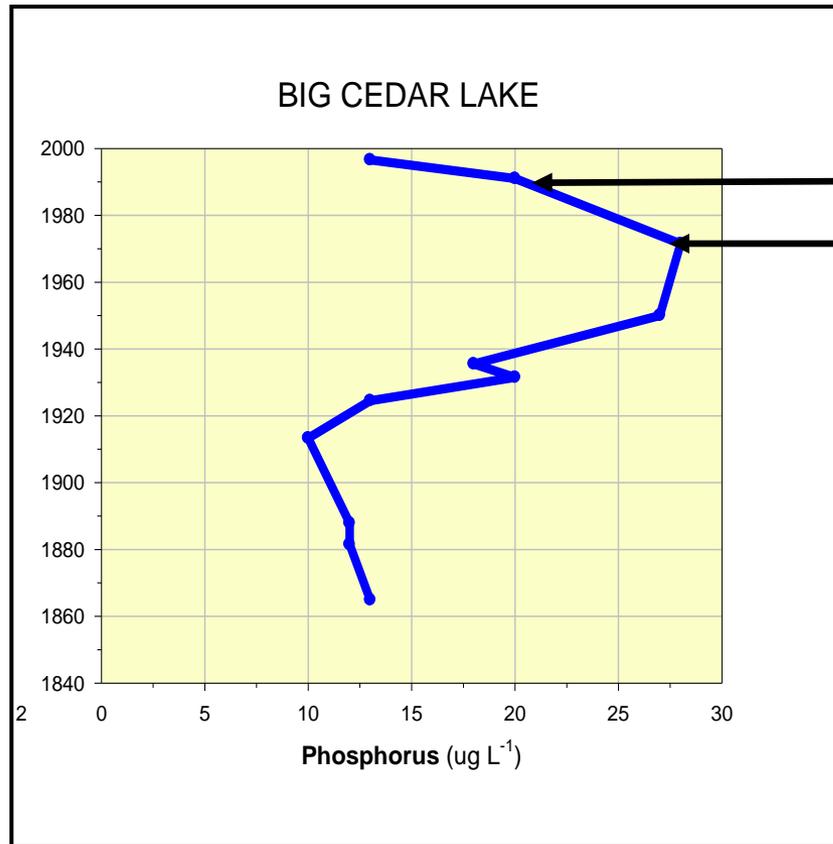
Assisted by hundreds of volunteers, University of Wisconsin-Madison researchers assess water quality of Wisconsin's lakes from space (1999-2001).

Regional Lake Report

Trophic State of Wisconsin Lakes



Big Cedar Lake Washington County

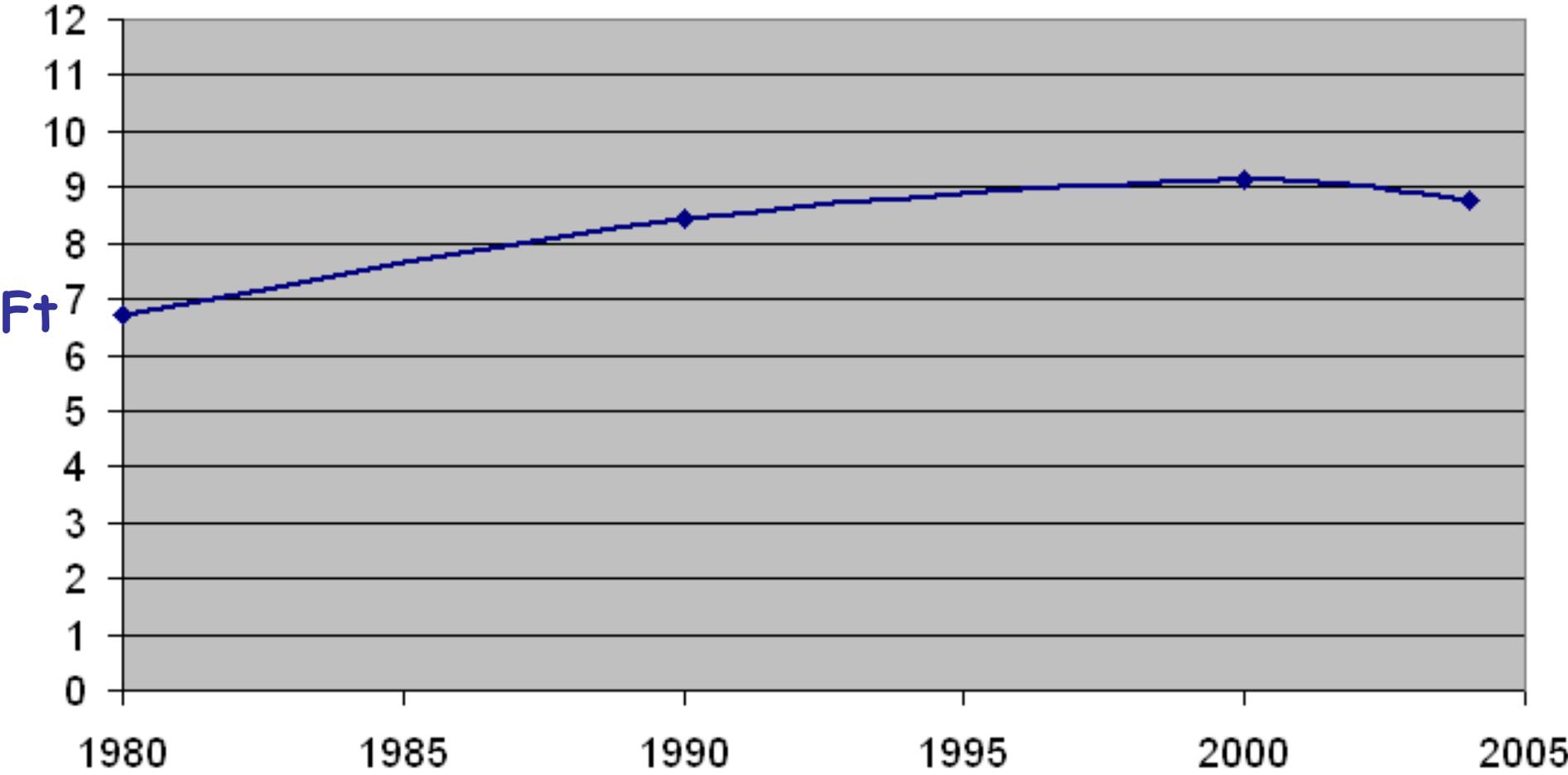


Additional land acquisition grants

First land acquisition grant and best management practices installed

Lake district formed in 1975. Received lake planning grants in 1977-78. In 1979 received first land acquisition grant. More received in late 1980s. Currently over 150 acres of former agricultural land preserved as a nature conservancy.

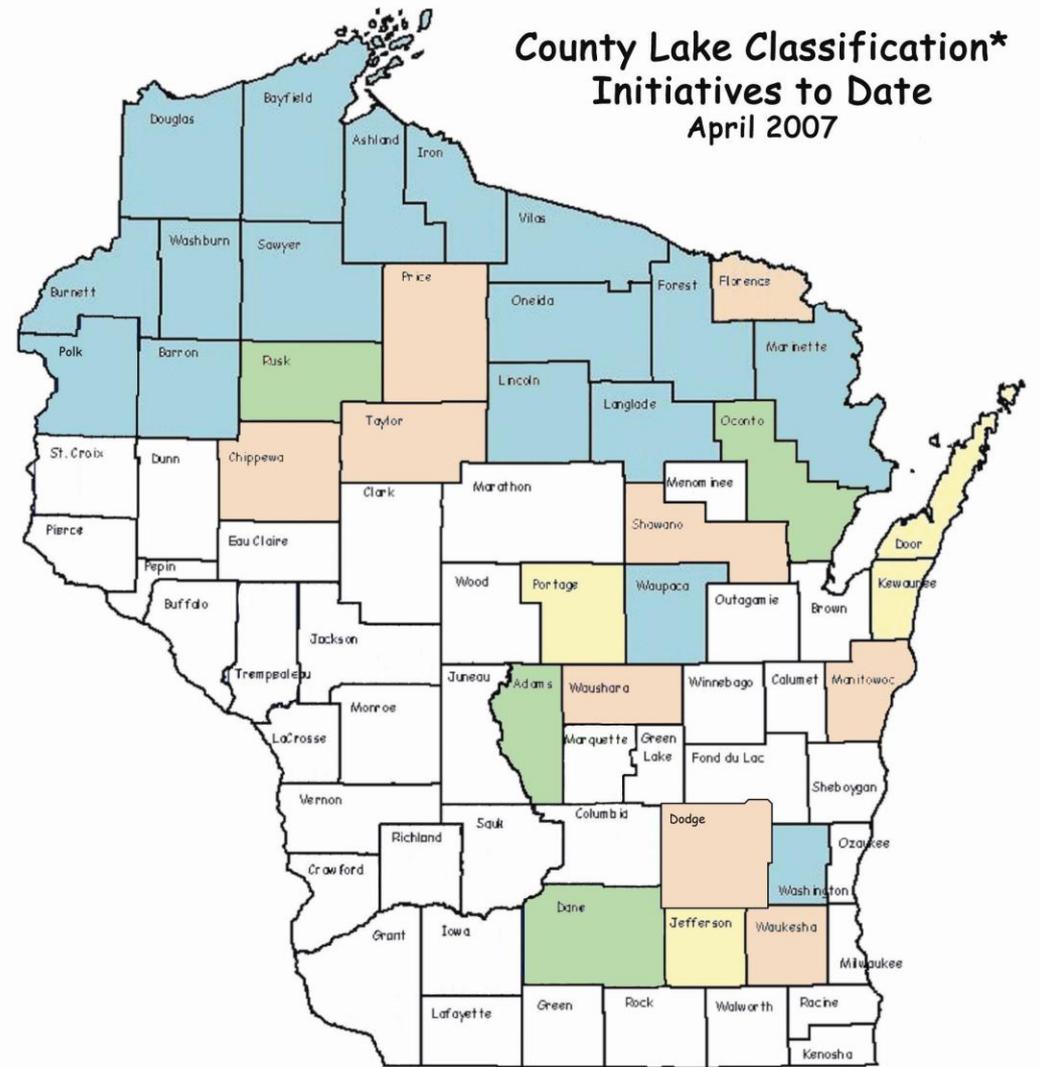
Average Secchi Clarity Satellite Trends



From Peckham and Lilliesand and Greb (2006)

Lakeshore Development Pressures

- year-round cottages, second tier lots
- smaller lots, bigger homes
- loosing wild lakes



- Adopted a classification system & significant shoreland ordinance upgrades by water class
- Working on a classification project
- Gathered county lake data to guide countywide and/or local lake protection efforts
- Only generated a classification system

*The Lake Classification grant program and formal state enabling for counties to use the lake classification tool were initiated by statutory changes (in Ch. 281.69, Wis. Stats.) passed by the Legislature and Governor in 1997 and administrative rules (Ch. NR 191, Wis. Admin. Code) adopted by the Department of Natural Resources in 1999.

Domestication of lake shores



Courtesy of MN DNR

Domestication of shoreline habitat

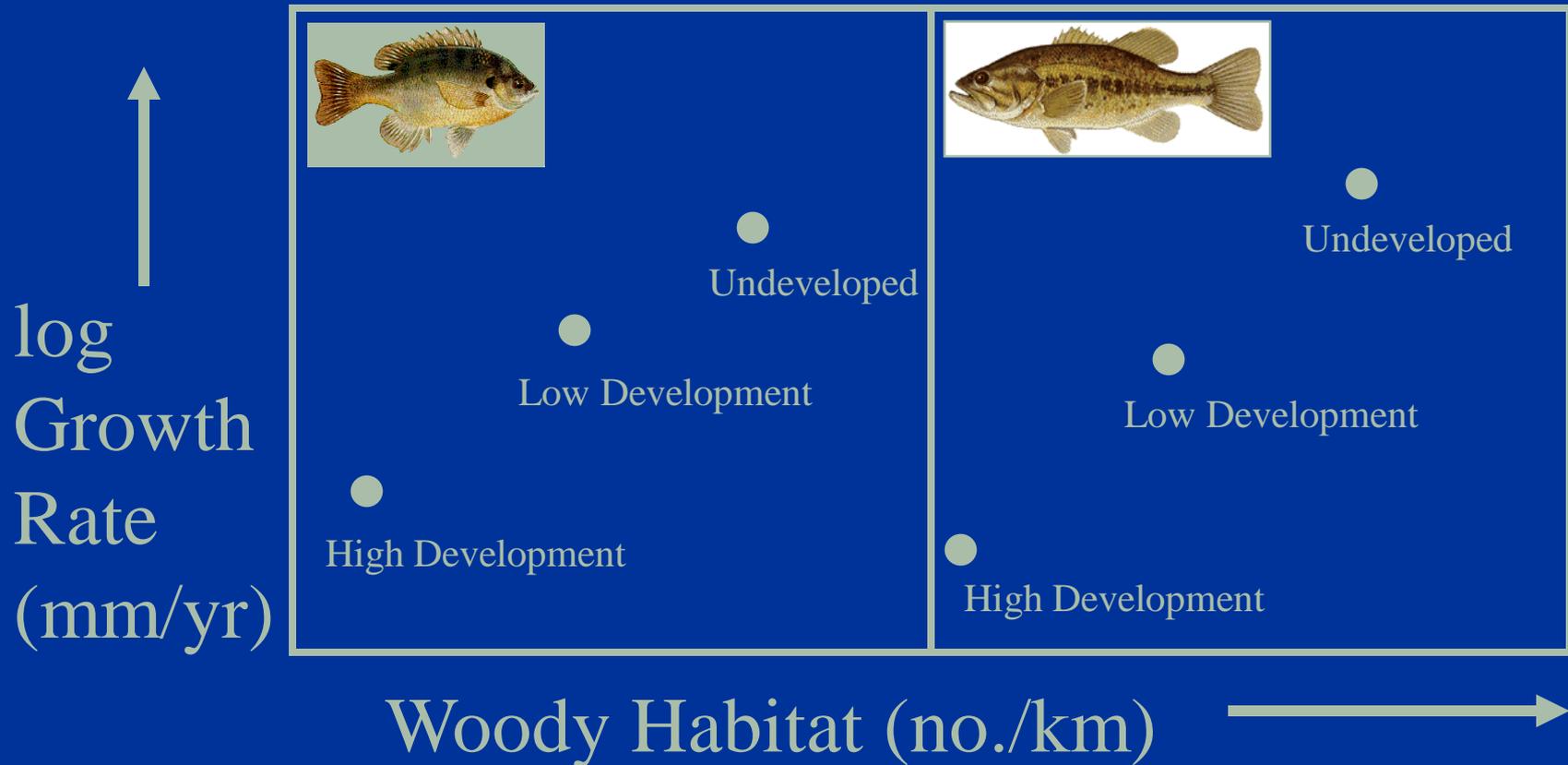


Photo: Michele Woodford

Neighborhood Fish & Frog Friendly?



Fish grow ~3X faster in lakes with lots of woody habitat



From Schindler et al. 2000

**Compared seine catches from
1970s and 2005 in 13 SE lakes**

**Recent major declines (20-30%)
in native, intolerant, rare species**

**Water quality & exotics
don't fully explain species
losses**

**Declines associated with
increased lakeshore
development**



John Lyons, Dave Marshall, Steve Galarneau, and Will Wawrzyn

Better Shoreline and Shallows Stewardship:

Landscape for
water quality &
natural beauty

Leave the logs in
the lake

Maintain native beds
of aquatic plants

Maintain or restore
shoreline vegetation

Reasonable pier
and boat use

Aquatic Invasive Species



Eurasian
Watermilfoil



Curly-leaf
Pondweed



Spiny water flea

Zebra Mussels



S. van Mechelen

Rusty Crayfish



Purple
Loosestrife

M. Walter

Rainbow Smelt



Aquatic invaders:

- Displace native plants and animals
- Interfere with boating and swimming
- Cost lakes a lot of \$ to control



Our Message:



L. Johnson

Our Message:

Clean Boats - Clean Waters!

Inspect and Remove aquatic plants and animals

Drain all lake or river water (from bilges, live wells)

Dispose of unwanted bait, plants and fish

Rinse boat and equipment with high temperature/high pressure water OR

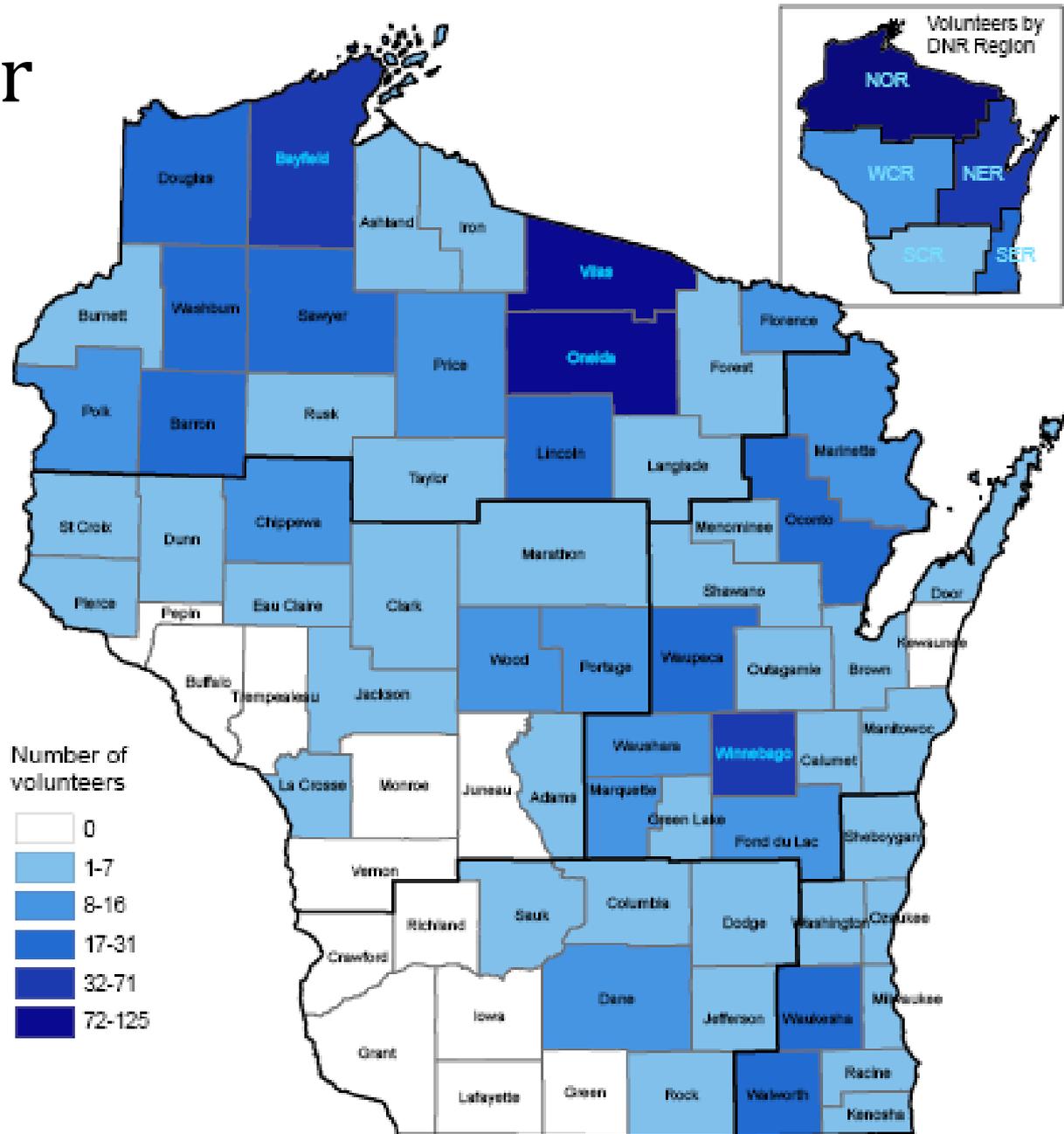
Dry boat for at least 5 days



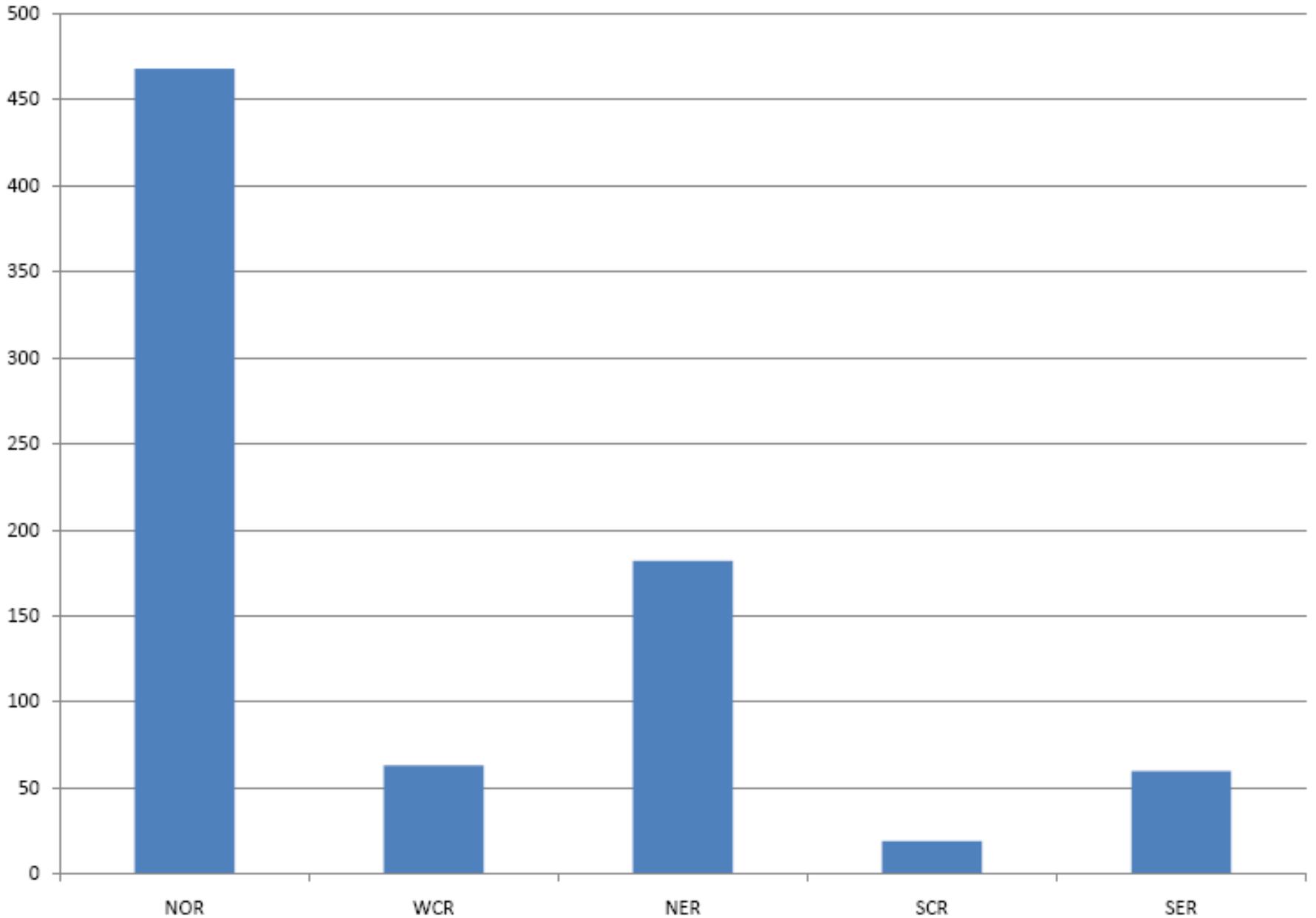
Please, don't release non-native species!

CBCW Volunteer Distribution by DNR Region

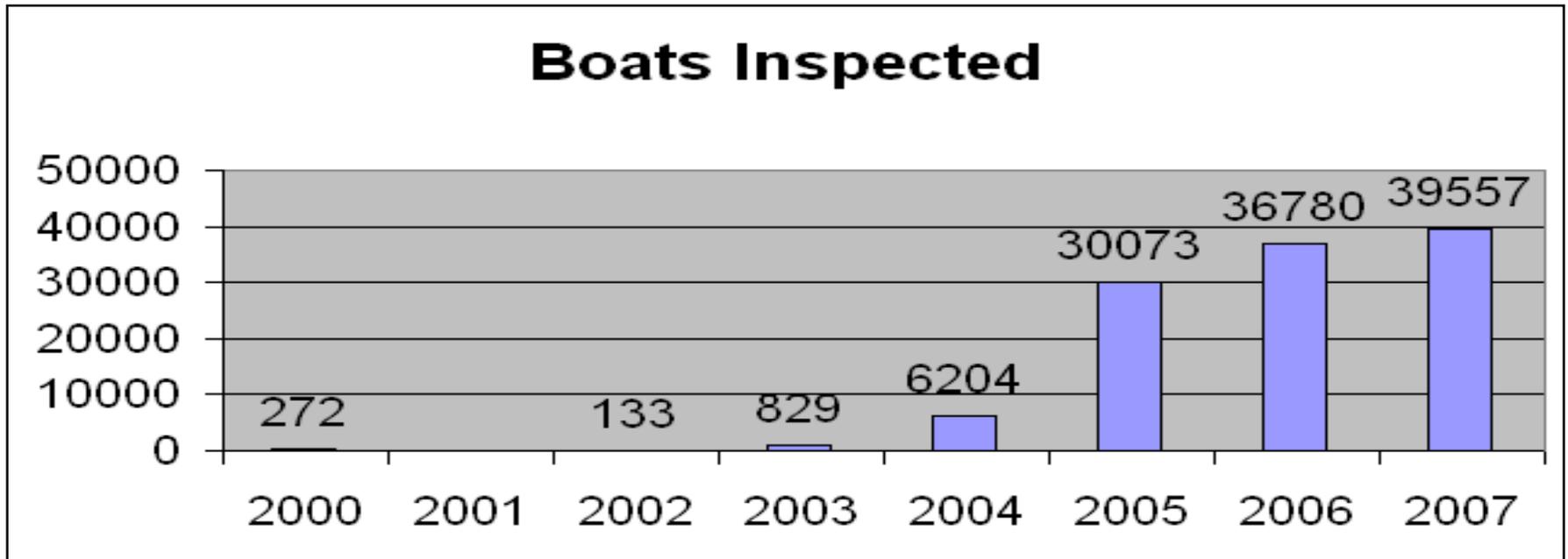
Volunteers Trained Since 2004



Number of CBCW Volunteers by DNR Region

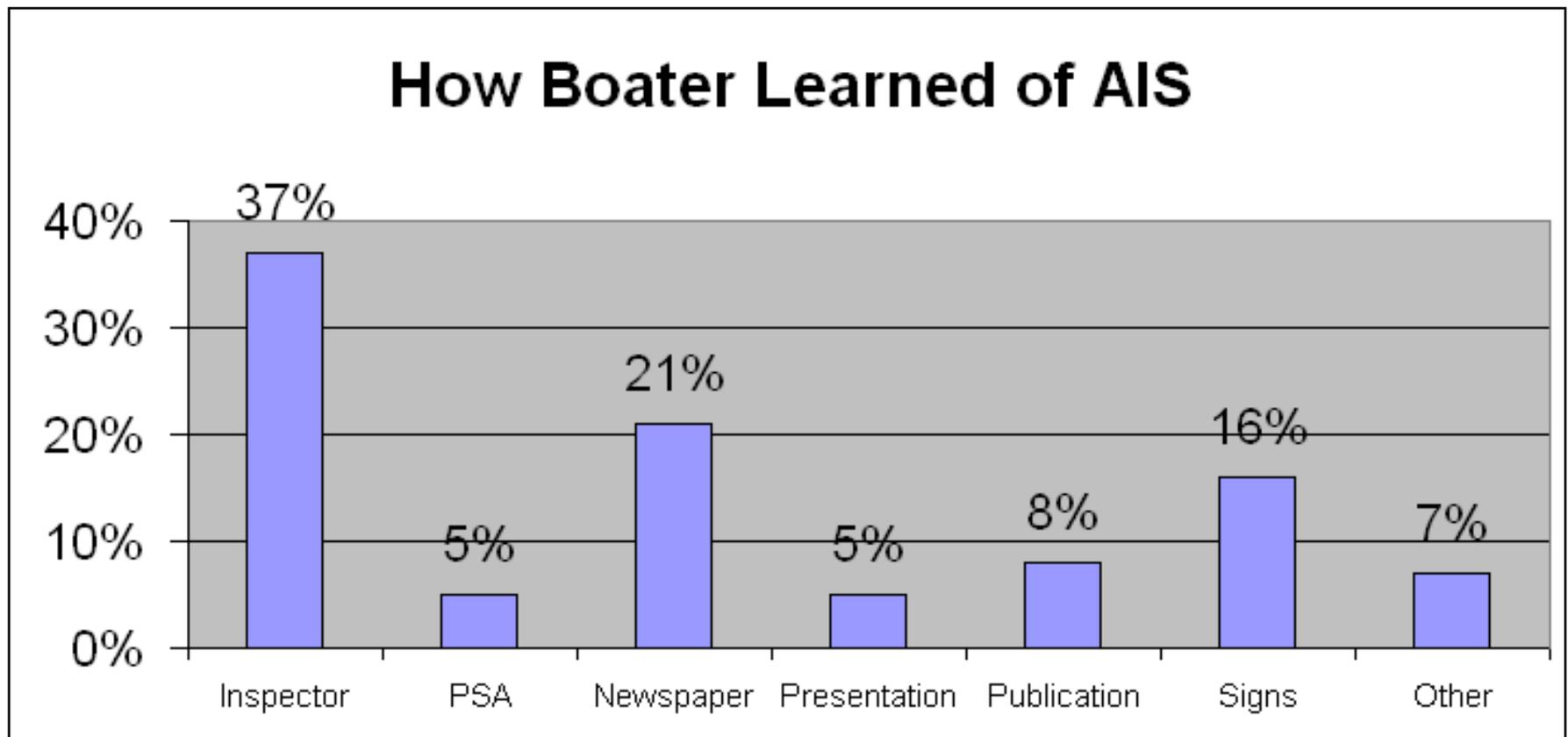


Watercraft Inspection

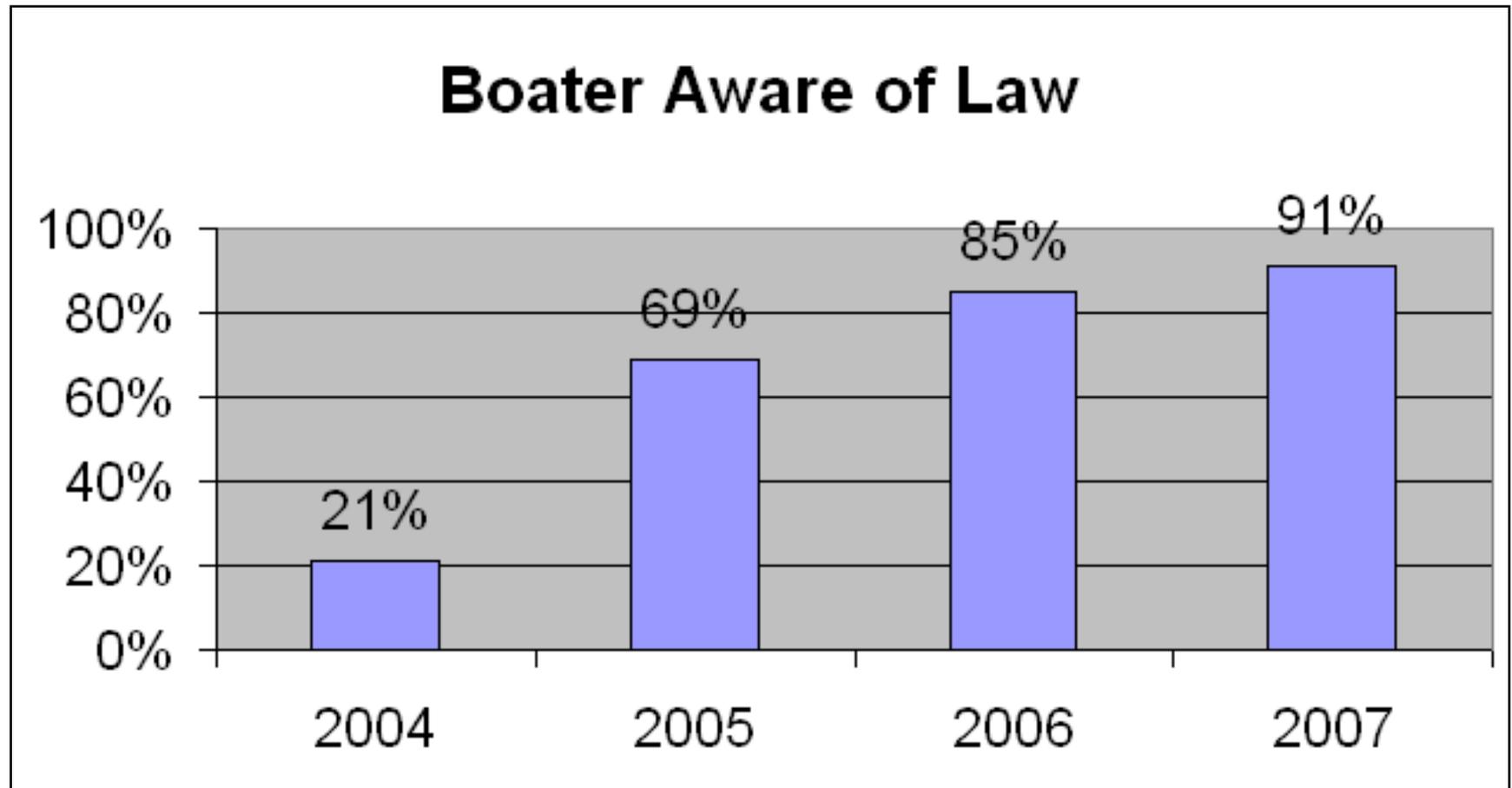


240,446 Personal Contacts

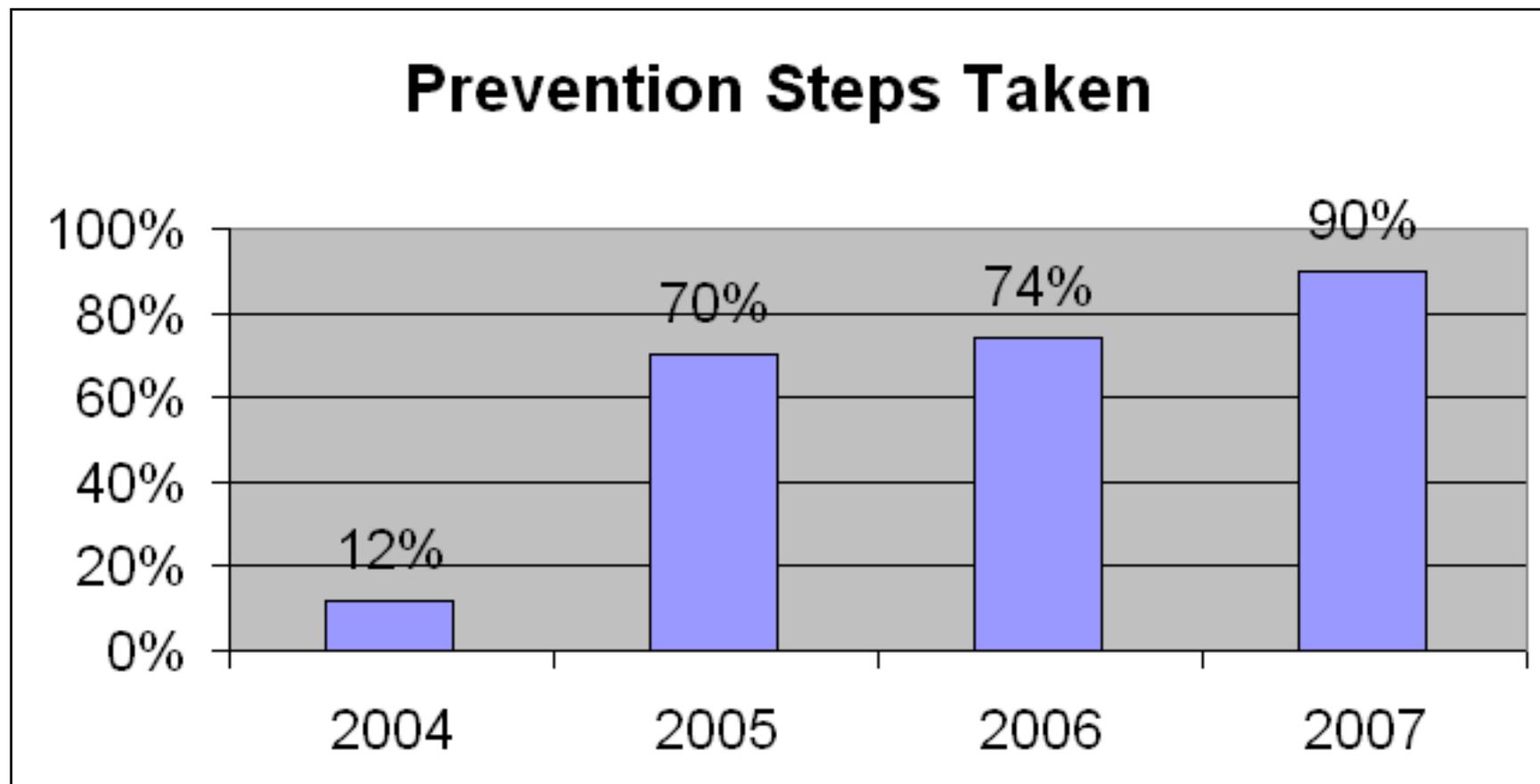
Where did they learn of the law?



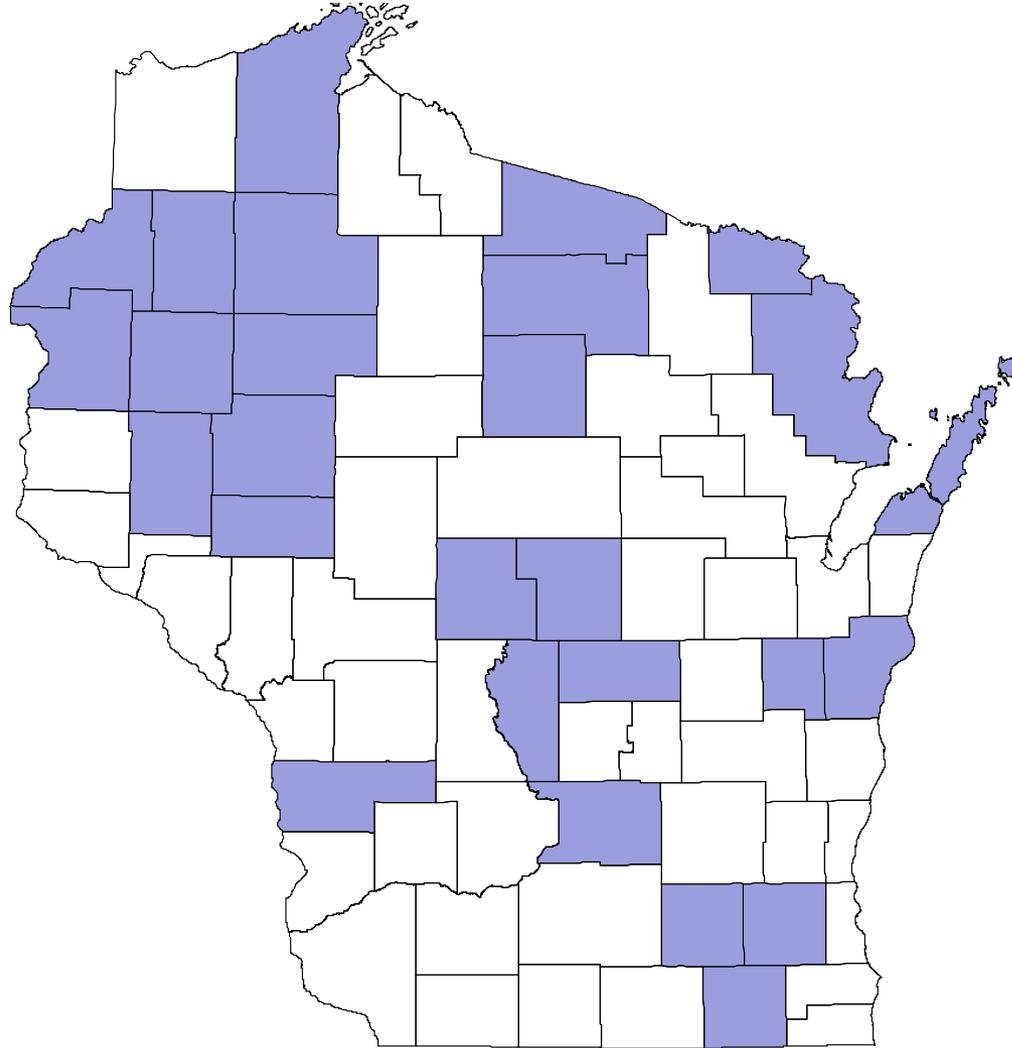
Were they aware of the law?



Were prevention steps taken?

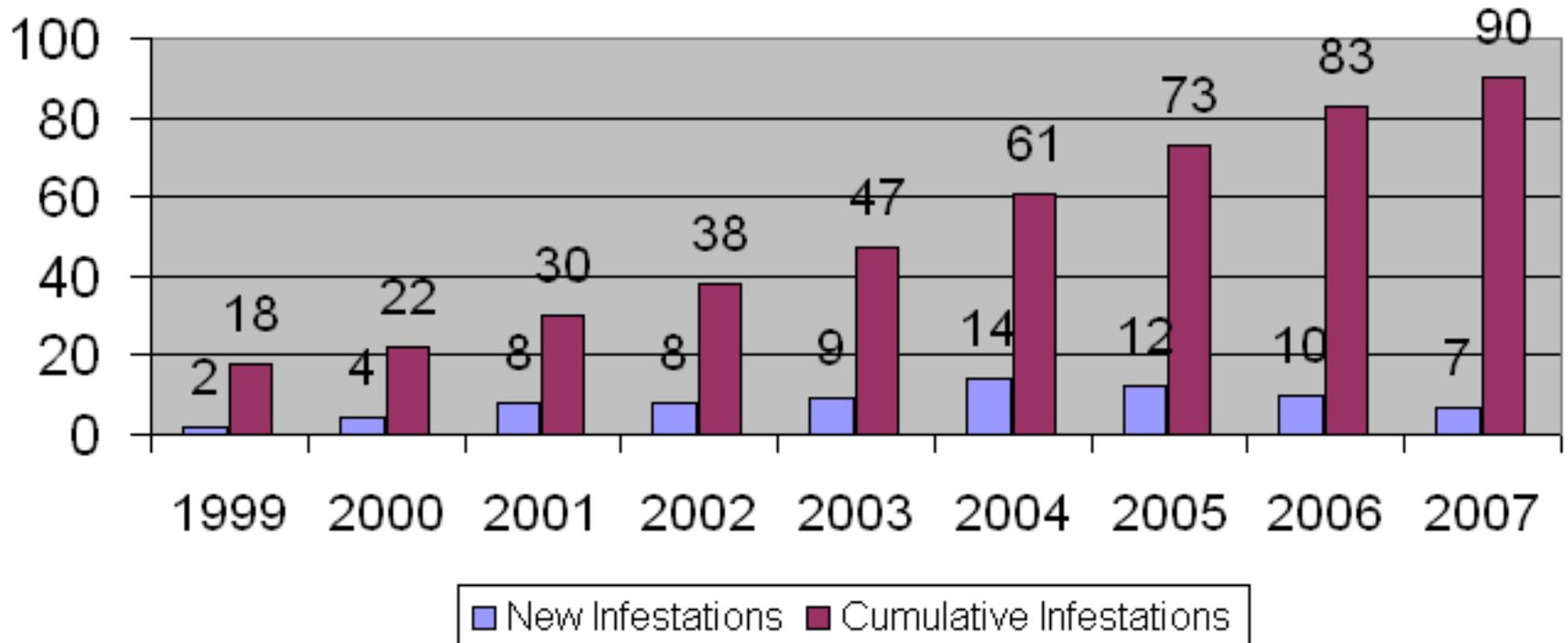


Counties with AIS staff

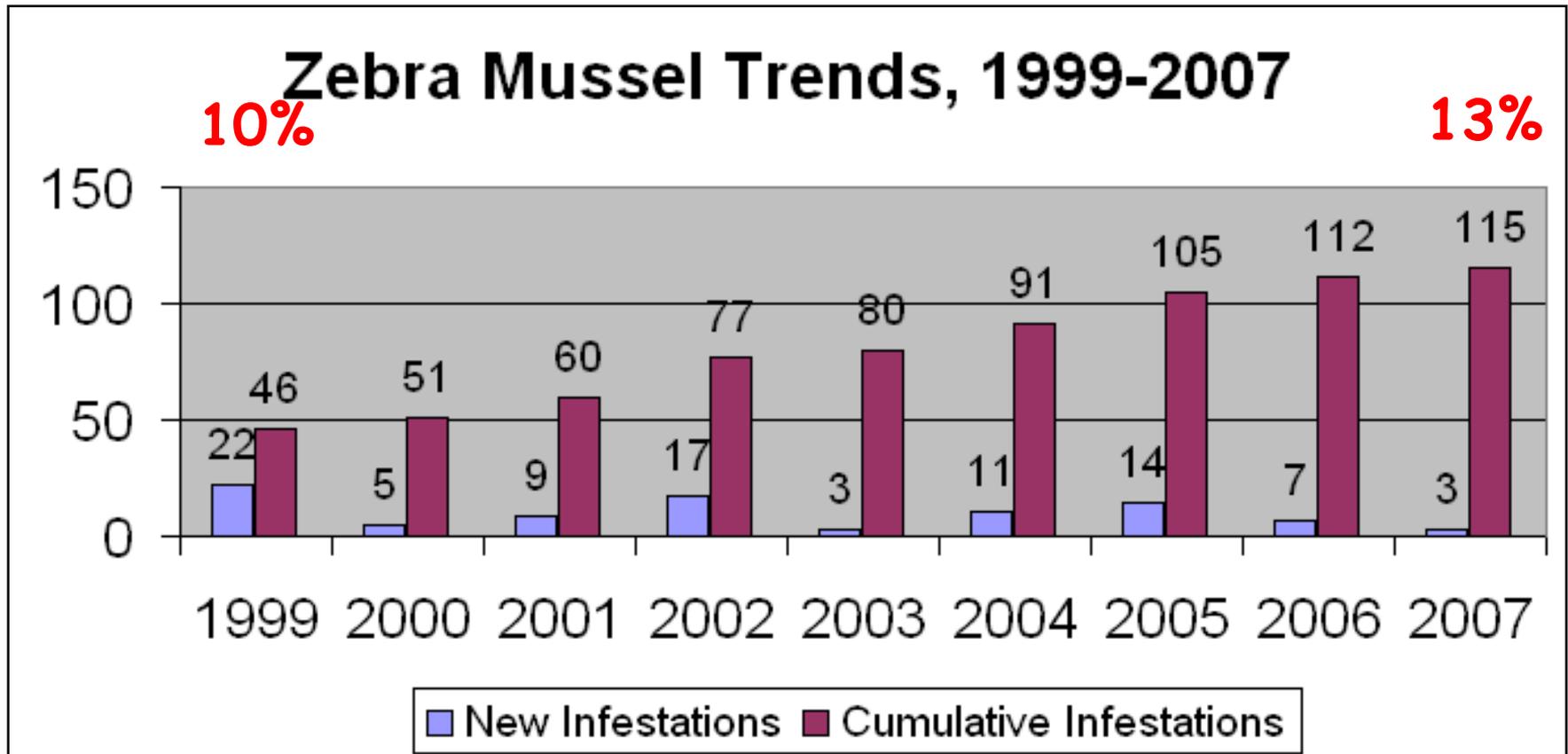


Eurasian Water Milfoil Trends Northern Region

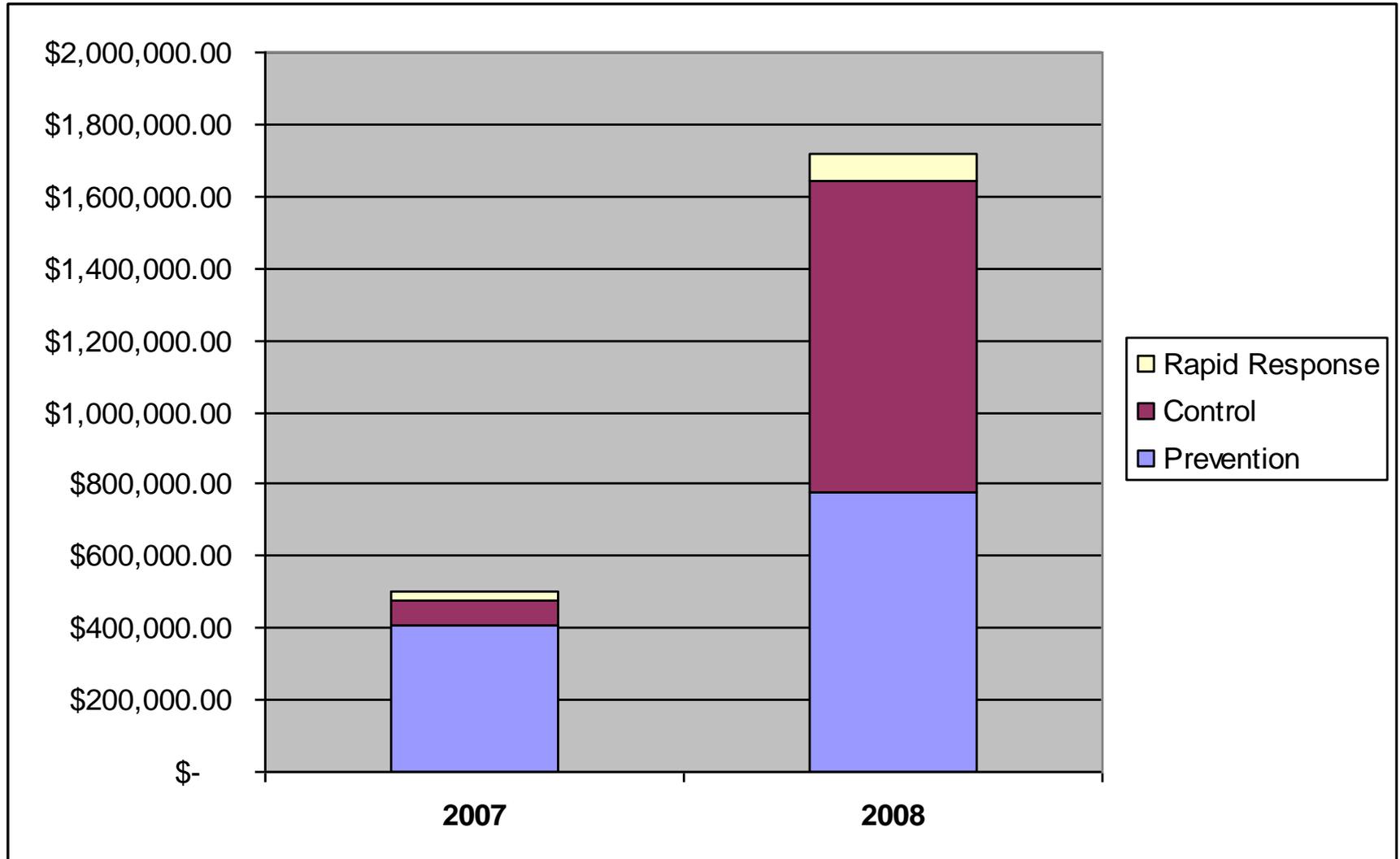
EWM Trends, 1999-2007 (NOR)



Zebra Mussel Trends



Northern Region AIS Grant Awards



Trends with aquatic invasions:

Eurasian water milfoil is still the biggest trouble-maker
VHS has raised the stakes

Scientific capacity to predict harmful invasions is limited
but improving

Management tools for controlling or eliminating invaders
after the invasion are spotty and limited

The best management tool is to prevent invasion

State grants and technical assistance available

Prevent invasions

Control pioneer invasions

and where possible eliminate an invasive species



Thank you for...

Taking individual responsibility and leadership

To get informed, engaged and advocate for WI lakes

Strengthening your lake organization and
Wisconsin Association of Lakes

Partnering with the State of Wisconsin

Lake protection grants

Aquatic invasive species control grants



...Protecting in Partnership!