

Manage the User, Manage the Resource: Invasive Species

Phil Moy

University of Wisconsin Sea Grant
Institute

Managing The Resource

- Seldom do we have the luxury of managing the invasive species itself: sea lamprey & Asian carp



Sterile-Male-Release



Lampricide (TFM)

Chicago Fish Barrier

Barrier Site 

Sanitary and Ship Canal 

Cal-Sag Channel 



Des Plaines River

Continental Divide

North Shore Channel

Chicago River 

Stony Creek

Calumet River 

Little Calumet River

Grand Calumet River

Lake Michigan

Illinois

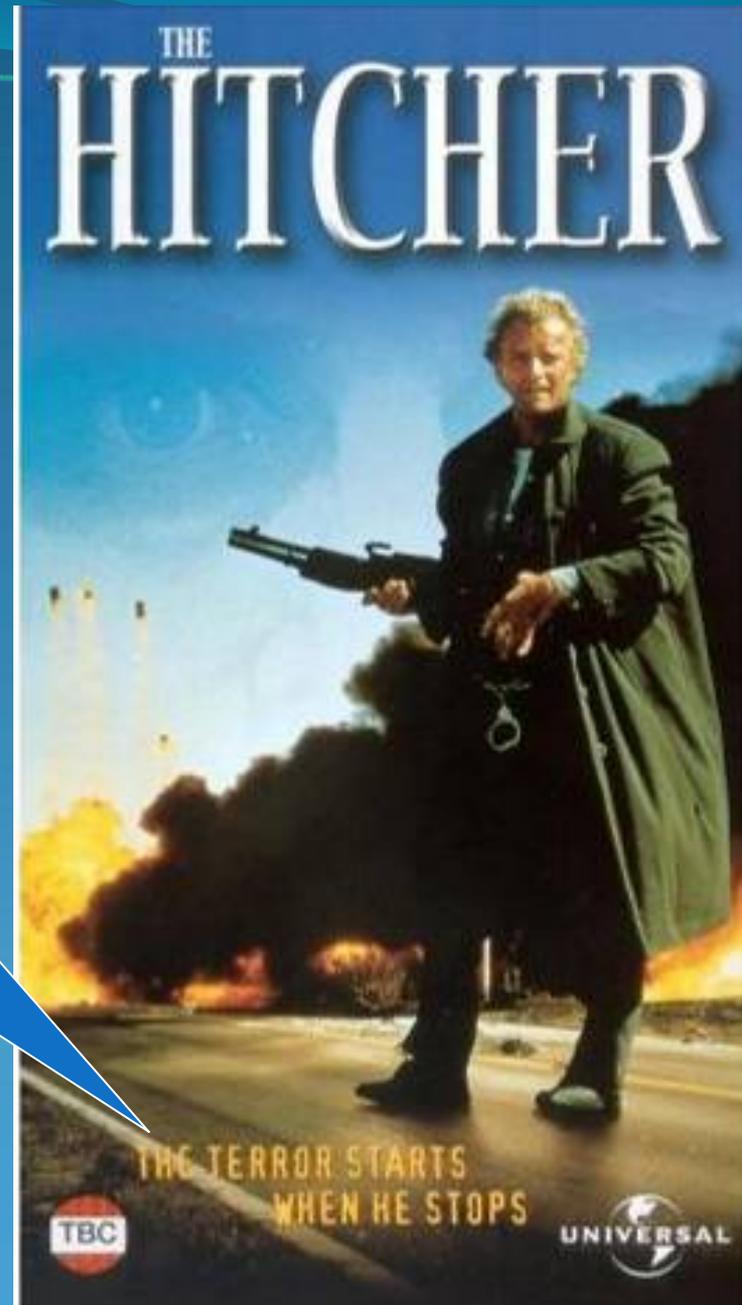
Indiana

Asian Carp Control



Hitchhikers

“THE TERROR STARTS
WHEN HE STOPS”



Aquatic Hitchhikers

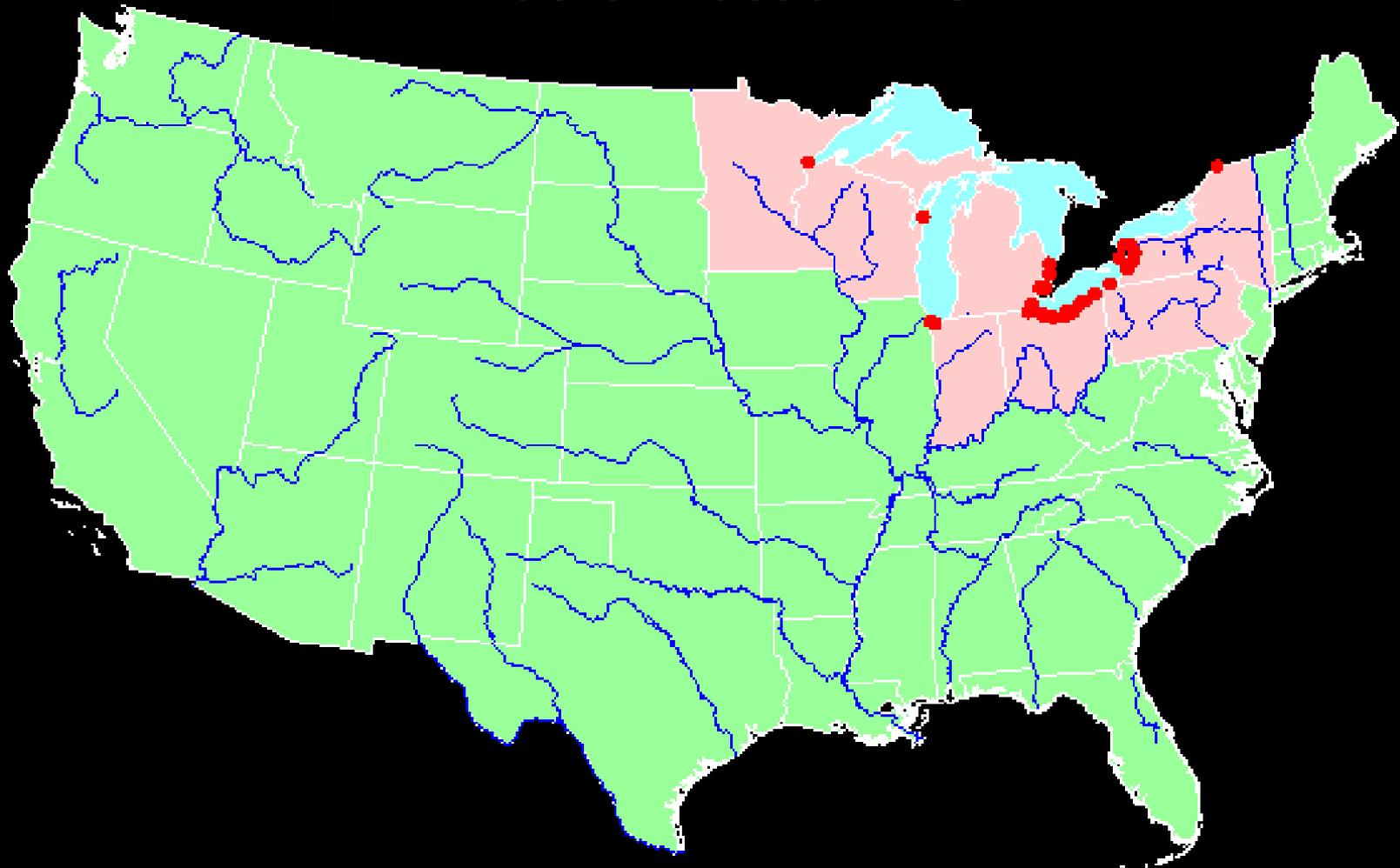
THE TROUBLE STARTS
WHEN THEY *ARRIVE*



Ships – Ballast Water

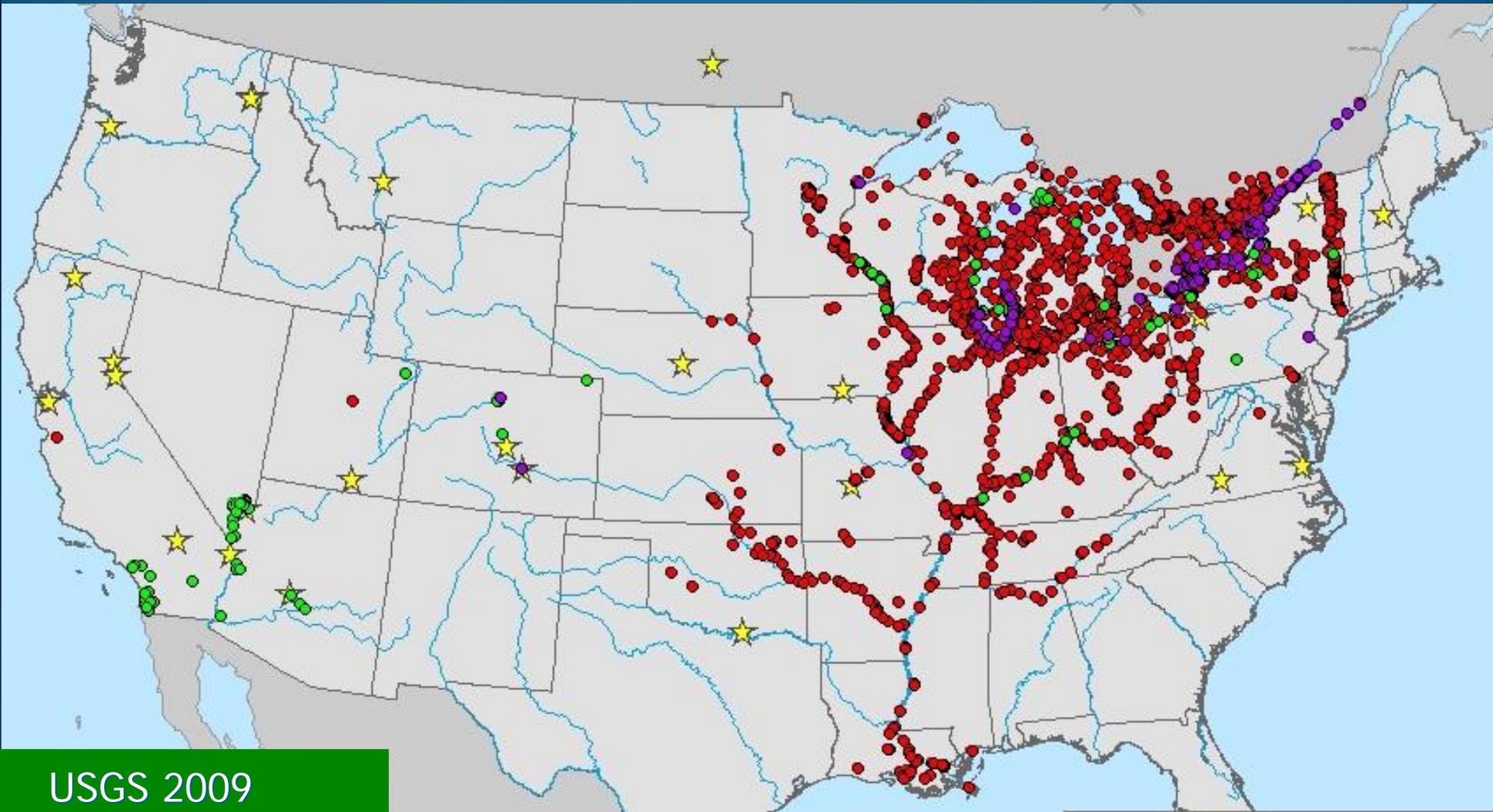


Zebra Mussel 1989



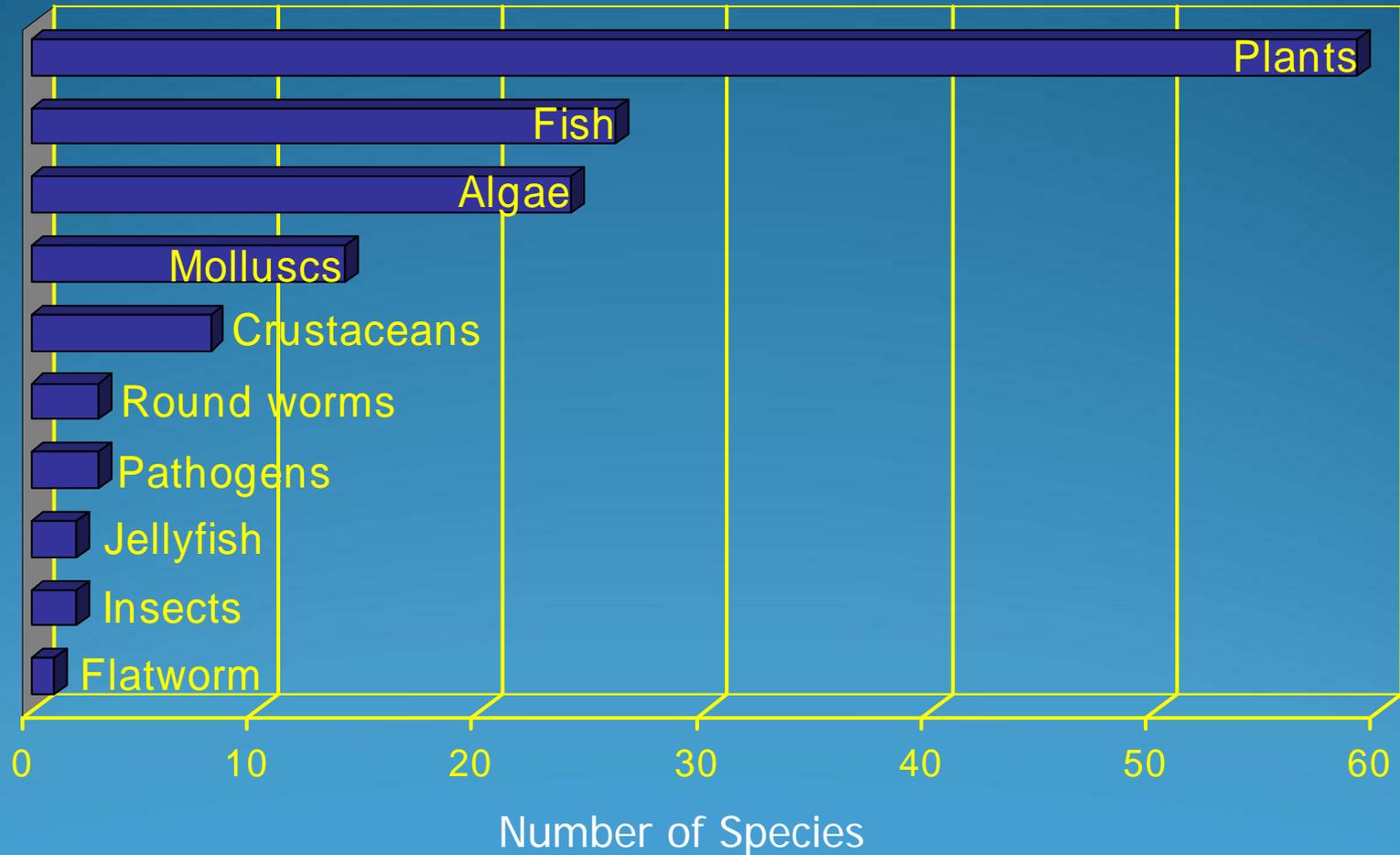
 States with zebra mussels in inland and adjacent waters.

● Zebra M. ● Quagga M. ● Both ★ Trailers



USGS 2009

188 Species - Organism Type



Manage the Resource





User – Organism Interaction

- Zebra & Quagga mussels, VHS, aquatic plants – cryptic, insidious
- The interaction of human activities and organism life stages can lead to spread & adverse impacts
- As the diversity of AIS increases, the problem is compounded







Manage people to control AIS

Challenges:

- Overland transport great risk for spread
- 13.7 M boaters move frequently between waterbodies in the U.S.
- Without proper info, they will likely do nothing

Solutions:

- Boaters will take action if they know what to do
- Strategic public education programs and campaigns are needed to effect behavior change
- Efforts should use most effective methods
- Use simple, universal guidelines
- Evaluate effectiveness of efforts to tailor future efforts & worthy of investment



#1 Attached to vegetation



#2 Attached to hulls/motor



#3 Contaminated water

Educating Resource Users

- Civil penalties for transporting AIS
- Road checks to enforce regulations
- Inspection/education programs at boat accesses
- Signs at boat accesses



Educating Resource Users

- Billboards
- Educational packages for lake associations and schools
- Conferences and workshops
- Fishing/boating regulation booklets



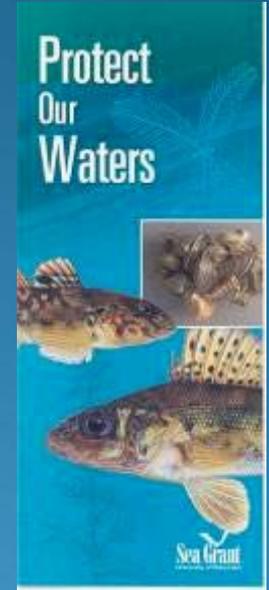
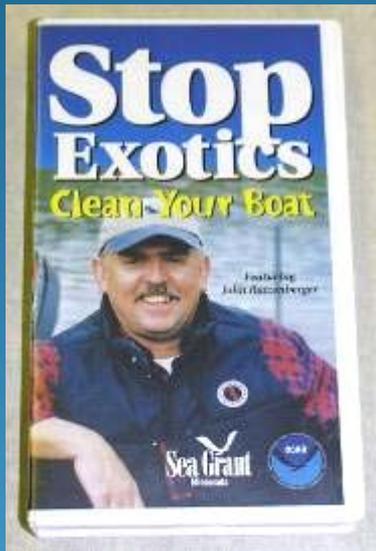
Educating Resource Users

- Public service announcements (PSA)
- Media coverage of AIS issues
- AIS Kiosks

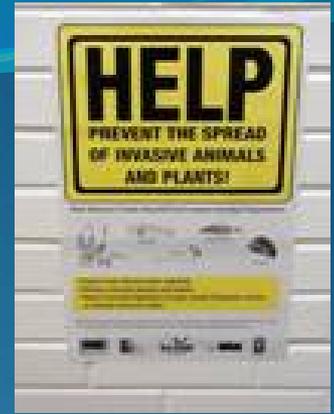


Educating Resource Users

- Fact sheets, brochures, and videos



Outreach to Anglers



• Products

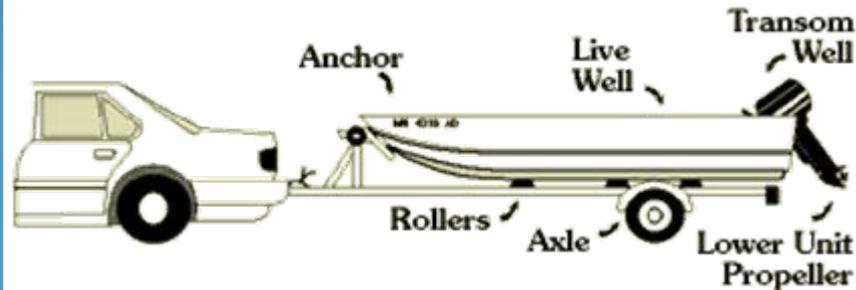
• Displays

• Presentations

Successful AIS Education

- ✓ Stress why prevention is important
- ✓ Tap values and motivations
- ✓ Avoid myths or fallacies
- ✓ Reinforce compliance with laws
- ✓ Use simple, universal guidelines

Emphasize self-inspection:



Help Prevent the Spread of Aquatic Invasive Plants and Animals

BEFORE launching...BEFORE leaving:

- ✓ **Remove** aquatic plants and animals from boat, motor and trailer
- ✓ **Drain** lake or river water from livewell, motor, and bilge
- ✓ **Dispose** leftover live bait minnows, worms, and fish parts in trash
- ✓ **Rinse** boat and equipment with high pressure, hot water, especially if moored for more than a day
- ✓ **Dry** everything for at least 5 days



Protect Your Property and Our Waters



Outreach Effectiveness Study

- Outreach campaign along key invasion corridors targeting resident and non-resident boaters and anglers in three states*
- Implement a strategic multi-media effort in collaboration with the MN, WI, and IA DNRs, WI Sea Grant, USFWS, USFS, Wildlife Forever and others
- Evaluate boater awareness to assess effectiveness

* Two year initiative funded by NOAA/Sea Grant

Media Used



1. Highway radio messages (TISs)
2. Billboards
3. TV, radio, and newspaper PSAs*
4. Displays at rest areas
5. Kiosks at retail and other outlets
6. Outside ads on gas pumps (toppers)
7. Lawn banners
8. Regulations booklets*
9. Watercraft inspectors*
10. Signs along roadways
11. Signs at water accesses*
12. Windshield flyers
13. Displays at airports (dioramas)
14. Brochures*
15. AIS cards*
16. Stickers
17. Other media

* Methods based on previous surveys

Evaluation

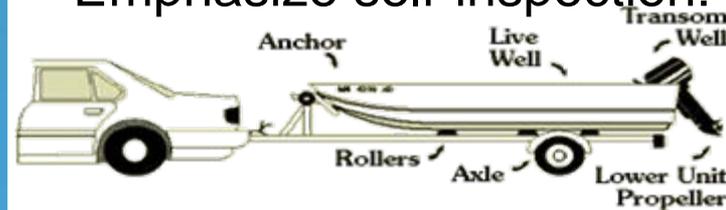
Goal:

- Understand relationship of boaters/anglers exposure to campaign and their willingness to take action

Objectives:

- Determine sources for *Stop Aquatic Hitchhikers!* (*SAH*) info
- Identify most effective methods to reach boaters
- Determine if campaign raised their awareness or increased knowledge
- Did it influence them to take action now and future

Emphasize self-inspection:





**STOP AQUATIC
HITCHHIKERS!™**

'06-'07 SAH! Results

- Surveys Administered -

Survey Type	MN	IA	WI	Total
Face-to-Face	887	674	319	1880
Self-Administered	178	90	113	381
Total	1,065	764	432	2,261
Locations Statewide*	45	5	10	60

'06-'07 SAH! Results

Primary Information Sources



MN	IA	WI
<ol style="list-style-type: none"> 1. Signs at water access 2. Watercraft inspectors 3. Television ads 4. Billboards 5. Regulation booklets 	<ol style="list-style-type: none"> 1. Signs at water access 2. Watercraft inspectors 3. Television ads 4. Billboards 5. Regulation booklets 	<ol style="list-style-type: none"> 1. Signs at water access 2. Television ads 3. Billboards 4. Watercraft inspectors 5. Regulation booklets

2006 SAH! Results

To what extent raise awareness?

Awareness	MN (n=207)	IA (n=47)	WI (n=55)	Overall (n=309)
Large amount	60% (n=124)	43% (n=20)	40% (n=22)	54% (n=166)
Moderate amount	32% (n=67)	38% (n=18)	27% (n=15)	32% (n=100)
Sub-total:	92%	81%	67%	86%
Small amount	7% (n=14)	17% (n=8)	27% (n=15)	12% (n=37)
None	1% (n=2)	2% (n=1)	6% (n=3)	2% (n=6)

2007 Results

To what extent raise awareness?

Awareness	MN (n=542)	IA (n=266)	WI (n=156)	Overall (n=964)
Large amount	56% (n=307)	50% (n=133)	42% (n=66)	53% (n=506)
Moderate amount	36% (n=194)	33% (n=88)	44% (n=68)	36% (n=350)
Sub-total:	92%	83%	86%	87%
Small amount	7% (n=37)	15% (n=39)	12% (n=19)	10% (n=95)
None	1% (n=4)	2% (n=6)	2% (n=3)	2% (n=13)

2006 SAH! Results

What extent will *SAH!* influence YOU to take action?

Will Influence	MN (n=207)	IA (n=47)	WI (n=55)	Overall (n=309)
Very Likely	89% (n=185)	60% (n=28)	64% (n=35)	80% (n=248)
Somewhat Likely	10% (n=21)	34% (n=16)	34% (n=19)	18% (n=56)
Sub-total	99%	94%	98%	98%
Not Very Likely	1% (n=1)	6% (n=3)	2% (n=1)	2% (n=5)
Not at All Likely	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)

2007 SAH! Results

What extent will *SAH!* influence YOU to take action?

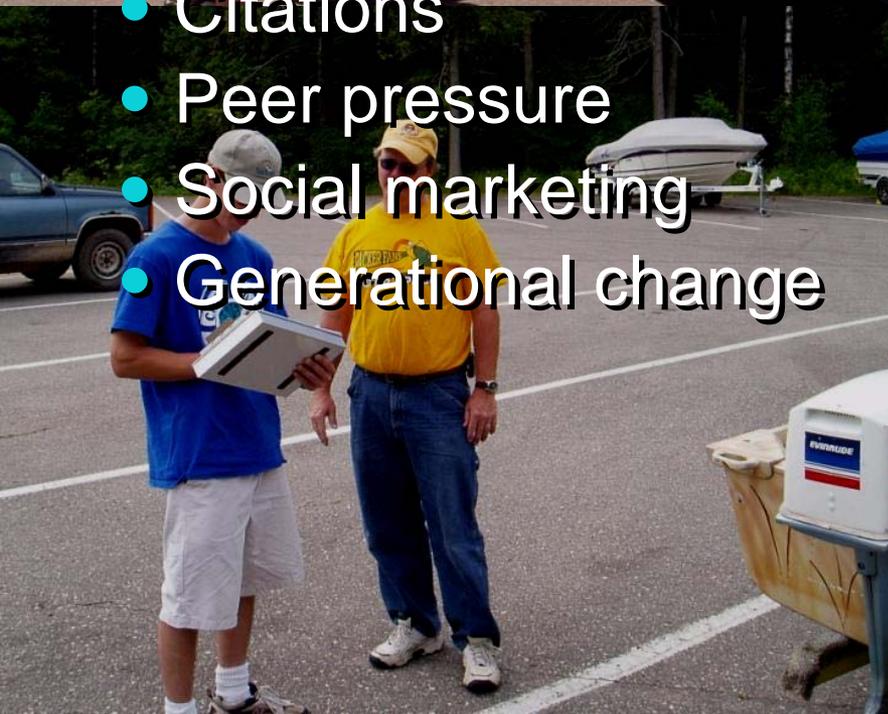
Will Influence	MN (n=539)	IA (n=263)	WI (n=157)	Overall (n=959)
Very Likely	92% (n=494)	80% (n=210)	76% (n=119)	86% (n=823)
Somewhat Likely	7% (n=39)	17% (n=45)	21.5% (n=34)	12% (n=118)
Sub-total	99%	97%	97.5%	98%
Not Very Likely	0.5% (n=3)	2% (n=6)	2% (n=3)	1.5% (n=12)
Not at All Likely	0.5% (n=3)	1% (n=2)	0.5% (n=1)	0.5% (n=6)

Survey Conclusions

- Boaters and anglers:
 - Do pay attention to AIS messages
 - Are willing to take action
 - Know what to do and when
- Knowing where and how people get AIS prevention information can make prevention outreach more cost effective
- But will they take action when no one's looking?

Effect Behavioral Change

- Remote cameras
- Watercraft inspectors at boat ramps
- Wardens
- Citations
- Peer pressure
- Social marketing
- Generational change



Don't Pick Up Hitchhikers!



