Managing Invasive Wetland Plants

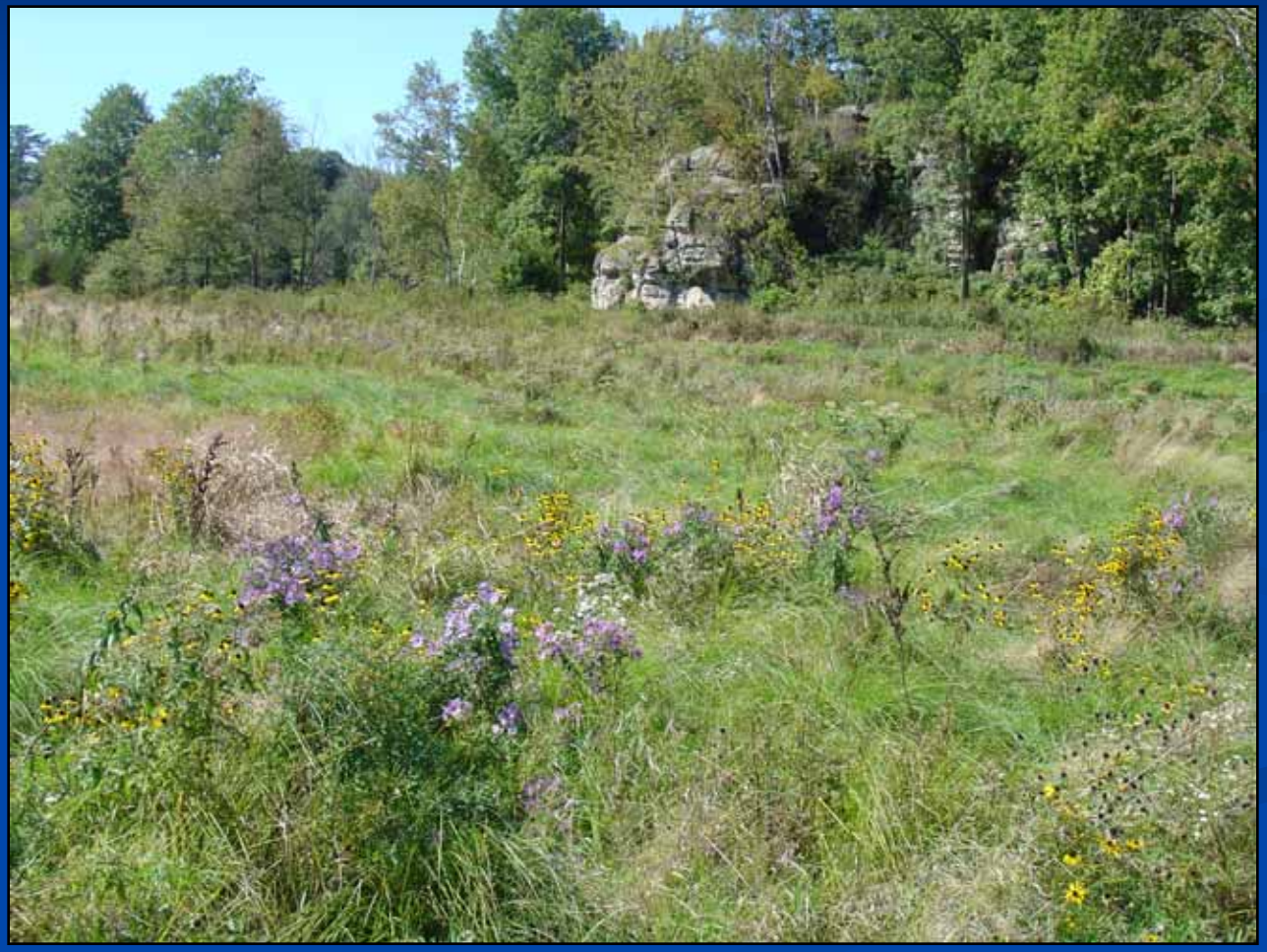
An Action Plan for Wisconsin Citizens:

A-Prevention

B-(Bio)control

C-Restoration

The goal of all wetland invasive plant work should be high quality native systems like this site in Sauk Co. plagued with reed canary



First, some personal invasive species philosophy (for us all?...)

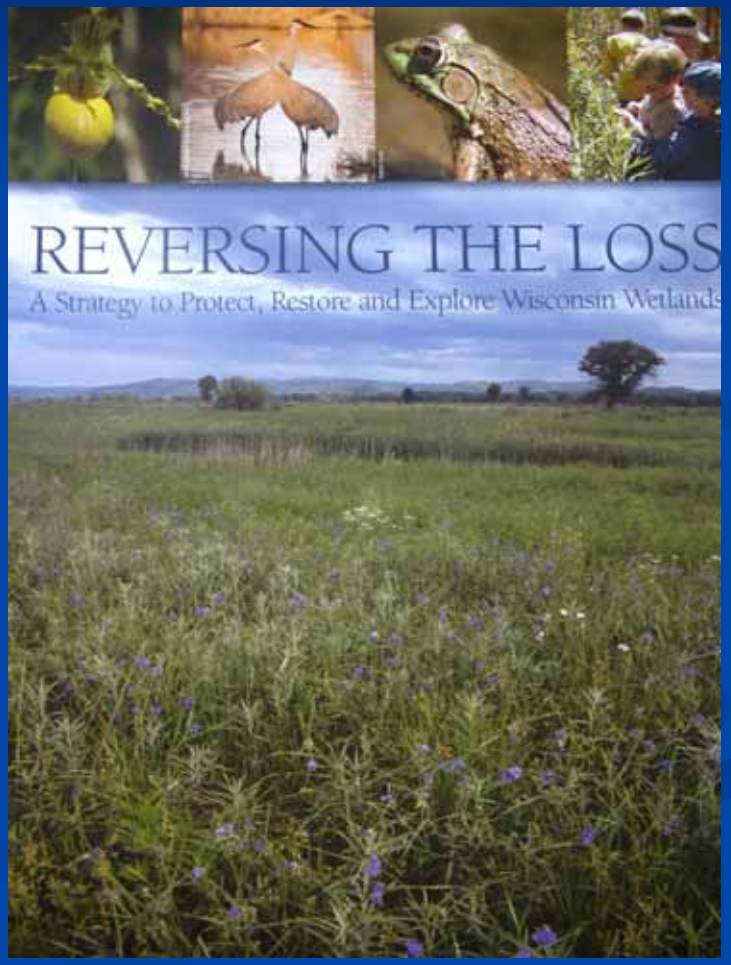
1. The care of our local environment, our neighborhood if you will, is our responsibility
2. We must make ourselves aware of and learn about how and what invasive species can invade our area
3. We must build consensus among our friends and especially neighbors by helping them understand and become motivated to help
4. We must be sure we have the tools needed, and take appropriate action to protect where we live

Why should "Lake People" care about wetlands?

- They are nurseries for fish and wildlife
- They purify the waters of our lakes and streams
- They are a storage facility for potential flood waters
- They also store carbon headed back to the atmosphere
- They are a playground for paddlers, hunters, birders, and hikers
- They can enhance every aspect of your lake!

Our goal here is to protect and enhance the quality of local wetlands in the face of invasive species

- Put this in the context of The Wisconsin Wetland Team's "Reversing the Loss" strategy
- 15 federal, state, and local governmental agencies and private citizen groups
- 2008 document



Is this effort really necessary, and why talk to private citizens about it?

- Wisconsin started with 10 million wetland acres
- Only half are left
- 75% of remaining wetlands are in private hands
- Invasive plants reduce usefulness of all…

Wetland Team's Strategy: How does managing invasive plants fit it?

A. Prevent Establishment of invasive plants in your wetlands

- Step One: learn to identify native plants, then learn about the invasive plants that are already here, as well as those poised next door waiting to invade your area

Step Two: Report all NEW invasive wetland plant locations to WDNR

- Report using one of these forms, along with sending a digital photo or sample, if possible
- At least email info/picture to kelly.kearns@wisconsin.gov
- Reporting new invasive plants to WDNR lets them help you keep them in check and develop a species control strategy! Possible funding…
- (Alycia Crall: report wkshop)

Report some established plants, too

- Report newly established, non-native Phragmites wherever you think it threatens to establish in native wetlands. (Lowest priority in all counties around Green Bay where it is already ubiquitous.)
- Use the Purple Loosestrife Watch Form to report unknown, established PL sites. (Go to www.glifwc-maps to see if your site is known.)
- If you work with Laura Herman's Lake monitoring Program, ask her where to report your invasive plant. All data will be shared.

Step Three: Take Quick Action!

- An ounce of prevention…
- Try to get new invaders out before they set seed!
- Small plants can often be pulled out, roots & all
- Form a clear site plan for multiple invaders
- Practical advice is at WDNR's web site at http://dnr.wi.gov/invasives/plants.htm, and http://dnr.wi.gov/invasives/pubs/manual_TOC.htm
- Early detection and response funding may be available to help—call local WDNR grant coordinator or check WDNR's web site

B. Work to control established invasive plants

- Controlling invaders is always harder than keeping them out, so PREVENT establishment of any new exotics in your wetland!
- Develop an **integrated** site plan that considers ALL invasive plants in (and near) your wetland
- All herbicide work over or near water requires a WDNR permit to be sure no other species are compromised (Purple loosestrife permits are free)
- Follow all label directions for any herbicide used

The Nature Conservancy

SAVING THE LAST GREAT PLACES ON EARTH

Stop Wasting Your Time on Invasives –

Plan Your Way to Success!

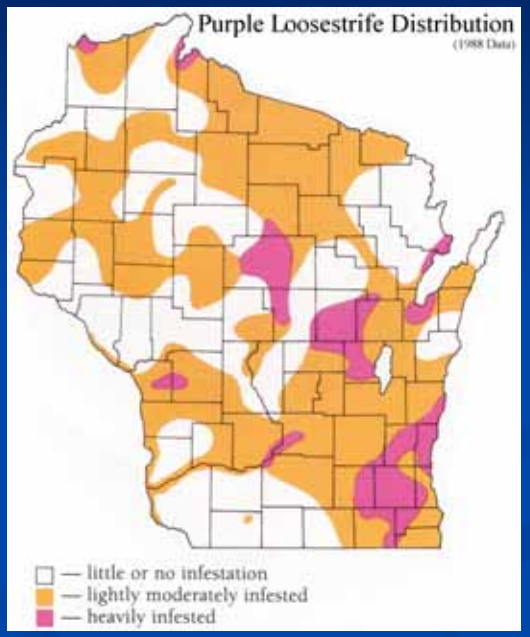
Ellen Jacquart
The Nature Conservancy
ejacquart@tnc.org

Success of Wisconsin's Purple Loosestrife (PL) Biocontrol Program suggests more research on other species!

Governmental agencies and citizens cooperate using biocontrol on an established, invasive wetland plant…

PL arrived in Wis. Around 1900 and by 1980s it was out of control

- The map at right shows its distribution in 1988
- PL was in almost every county and spreading
- Many control methods were used, but they were unable to stop its expansion
- Wis. teamed with other states to support international BC research efforts, and control insects became available in 1994



Wisconsin's Biocontrol Program has three critical parts:

1. Research to ensure BC safety & effectiveness in the state, and to integrate it with other control methods
2. An educational program to enlist citizen help in locating PL infestations, raising and releasing BC insects, and monitoring and reporting results
3. An easy and inexpensive method (for anyone) to rear and release large numbers of control insects

European "Cella" beetles are our primary control insects

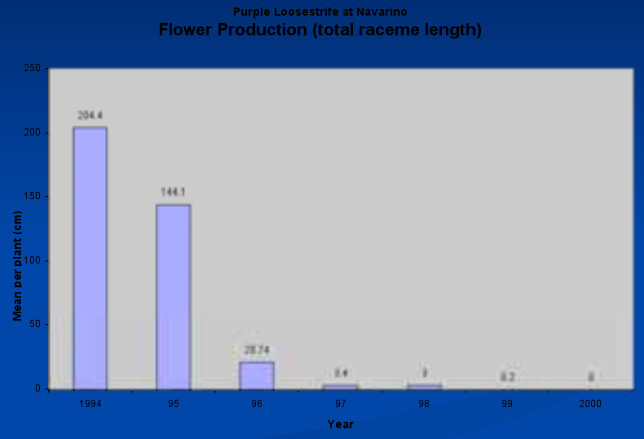
- 2 very similar beetle species, 4 life stages:
- Introduced together in 1994—north and south
- Monitoring in the state showed them to be safe and effective foliage feeders

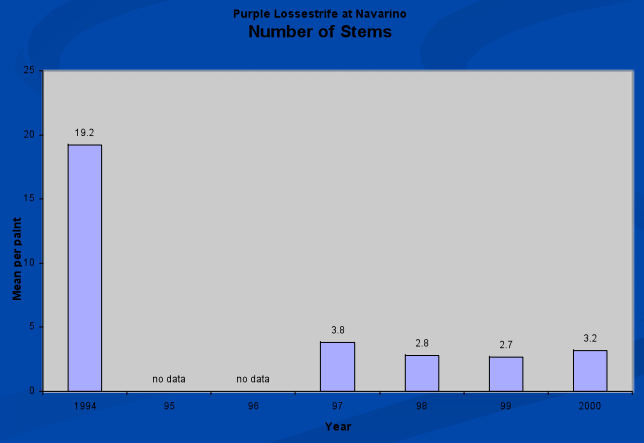
Cella beetle success: larvae destroy developing flowers & reduce seed

Cella beetles reduce PL and allow native plants to recover: Navarino SWA site in 1994 and 1997

Navarino saw a decline in PL flower/ seed production and stem

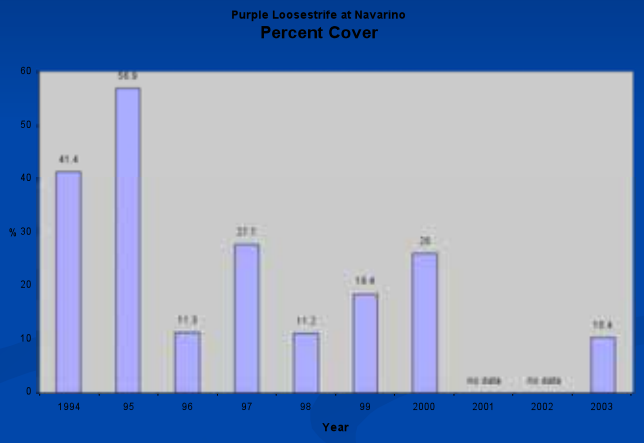
- Clear decline in PL!
- Especially important is the lack of seed since this should curtail spread of the plant to other wetlands

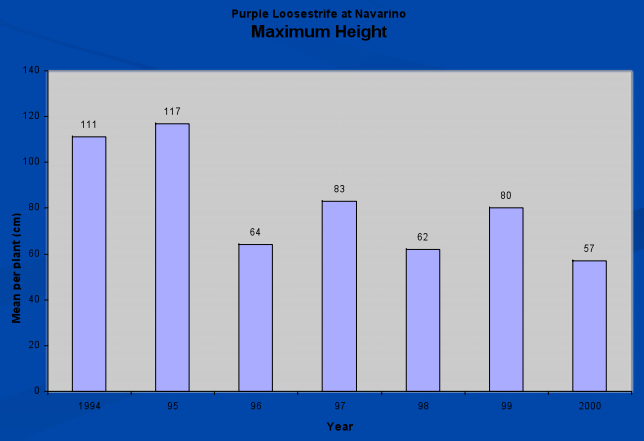




Other PL changes show it remains on the site--trending down, but is variable

- Top: percent PL cover
- Bottom:PL stem heights
- The important future questions are will the variability remain (probably) and will the amplitude of the variation be within acceptable management goals (likely based on positive management responses)





A simple backyard rearing set-up:

- Transplant PL rootstocks into pots and add sleeve cages (insect netting)
- Put the pots into a kid wading pool with water and suspend the cages
- Add 10 beetles per pot
- Release 1,000 beetles in 6-8 weeks by dispersing pots and removing cages

We make the process easy/cheap by supplying most needed gear for free

- Program supplies 3 to 5 gallon pots, wading pools, and netting
- Cooperators buy potting soil, sew cages, and dig roots out of a local wetland
- Program delivers starter beetles when cooperators' plants are 2' tall
- Cooperators monitor beetles and release them at the right time and report their work

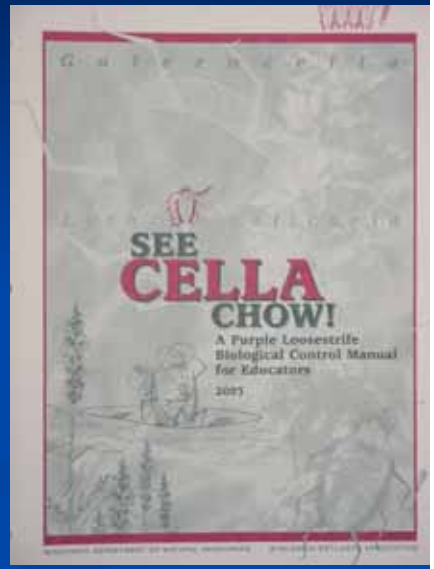
An educational effort to involve citizens is complicated, but critical:

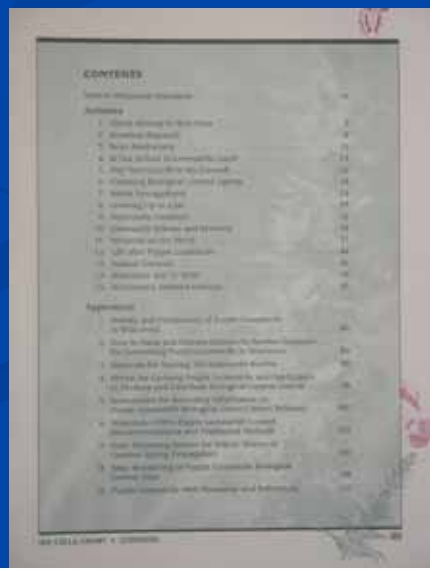
- **Recruiting:** DNR press releases, local newspaper stories, radio interviews, TV programs, conference talks, etc. educate about invasive species, especially about PL and its BC
- **Training:** includes free statewide spring field trips to wetlands with PL and beetles, conference workshops, informational and training sessions for groups as requested
- **Complete written instructions** are on the web and in hard copy in an Educators' Manual that also has 15 curricular activities to entice teachers into the program
- **Easy availability of forms** on the web makes reporting PL locations, applying, getting gear, reporting release site locations, and monitoring beetles and plants easy

Spring field trips allow potential cooperators to see infested wetlands, effects of BC, and help collect adult beetles for rearing or immediate dispersal to new sites!
–Stop at the PL booth to sign up.

Educational and instructional materials are available on the web and in hard copy

- Education leads to involvement and action!
- Over 800 copies of "See Cella Chow!" are now in use (new manual to be printed this summer)
- Appendices include the history of PL in Wis., all rearing instructions, and forms (soon to be printed separately as a project primer)
- 15 educational activities to make it easy for educators of all kinds to make the project a real learning experience to add to the fun!
- See at www.dnr.state.wi.us/org/es/science/publications/ss981_2003.htm)





Results of the program thru 9/08: Over 25 million beetles have been released, with 90+% locally raised and released by citizens!

- Over 600 citizen groups
- Farmers, insurance people, nurses, single parents, teachers and their students, federal employees, county workers, and so on…
- Over 1500 release sites statewide!
- More cooperators are setting up local PL sites with beetles where they can collect beetles to simply release on other nearby sites (though only until the beetles decimate the PL and the beetles decline to wait for more PL!)
- Perhaps less than ¼ of all PL sites now have BC so we still have a long way to go…

Perhaps most important: The program makes more citizens true nature warriors by giving them a personal way to help solve a real environmental problem where they live:

It's easy to help (reduce PL) every day

- Personal environmental work enriches lives
- Here a Rotary Club member is proud of having collected beetles for his club's project
- Many cooperators move to other environmental projects when done rearing beetles…

Kids who get involved early in life never give up their love of nature & will be our environmental caretakers!

- Please contact me with comments, questions, and suggestions!
  - Brock.Woods@Wisconsin.gov; 608-221-6349

C. Restoring native diversity is the crucial third step

- Many, if not most, wetland projects are still concerned with state acquisition or good hydrology (latter is critical if absent)
- Wetland quality must be addressed to retain or achieve full wetland function and use
- Invasive plants, if left unchecked, may reduce wetland value as much as drainage or filling
- Much effort later can be saved later with a little early effort to prevent exotic invasion
- We should care more about what we want, but don't have, rather than what we have, but don't want…

Critical to know all the plants on a site since nature may re-fill your wetland with native plants after invasive reduction, but only likely with no other invasives!

- Sites with no other invasives:
- Our Navarino site filled in with native plants

- Sites less certain:
- This lake site is (was last I heard) filling in with native plants, though it is now threatened by *Phragmites* and Lyme Grass

Examples of wetland restoration after invasive reduction are uncommon, but show it can be done

- Federal NRCS agents have restored to reasonable management a number of wetlands across the state afflicted with reed canary grass
- These agents are available in all counties to help landowners and may even have limited funding!

Teachers and students at Waterford HS have worked since 1997 to cut/remove PL at Druid Lake, reduce it with biocontrol, and replace it with native plants!

Students prep soil, and then plant 5 native species with help from teachers and (Howard Black of) the Druid Lake Protection District

We need such restoration projects wherever invasive plants have established, reduced or eliminated the native component, and are themselves being reduced to get .back what we need from our remaining wetlands

Terri Lyon will now describe what her Go Getters have begun doing at Kohler Andrae SP.