



**Northeast Aquatic
Nuisance Species Panel**
Resource Digest – May 1, 2004
Volume 3, Issue 4

Please send items and postings for the NEANS Panel Digest to ans@ecologyaction.ca.

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A. News

Connecticut Cutting Out Invasives

In May 2003, the state legislature of Connecticut passed a bill which created the Invasive Plants Council (IPC), which makes recommendations to the state legislature about plants that should not be allowed in the state. This bill also makes it illegal for the state to purchase invasive plants for road projects and other work. While nursery owners have been slow to come up with a list of species whose import will be banned, various initiatives are under way to stop invasives, such as explorations of non-toxic means of fighting invasive species, and a symposium on the subject hosted by the Mad Gardeners of Connecticut. For more information, see

[http://www.zwire.com/site/news.cfm?newsid=11188018&BRD=1657&PAG=461&dept_id=.](http://www.zwire.com/site/news.cfm?newsid=11188018&BRD=1657&PAG=461&dept_id=)

OK Invasives, the Garden Party's Over

In an article that appeared in the *Harwich Oracle*, Doreen Leggett reviewed initiatives taking place to decrease the damage caused by invasive plants in Massachusetts, Connecticut, and Rhode Island. Projects she touches on included the Cape Cod National Seashore's management plans for 70 invasive plants found on their property, regulations created by the Cape Cod Commission prohibiting the planting of invasives and requiring management of bioinvaders already present, attempts to eradicate *Phragmites* in Rhode Island and Connecticut, and the creation of an invasive species committee in the town of Orleans which, with the help of volunteers and AmeriCorps, removes invasives and promotes native plant species. For further details, see

http://www.townonline.com/harwich/news/local_regional/har_newhoinvasive04132004.htm.

Wetlands get Presidential Nod on Earth Day

This Earth Day, George Bush promised to conserve three million acres of marsh land in Maine in the next five years. In whirlwind visit to Maine's Wells National Estuarine Research Reserve, Bush emphasized the need to protect areas like wetlands from invasive species. The President seemed particularly concerned about invasive species, which are degrading grassland on his ranch in Texas. For more information on the President's visit, see <http://www.pressherald.com/news/york/040423bushcolor.shtml>.

B. Coming Soon to a Watershed Near You

Will Two Combs Make it Right?

The notorious invasive comb jelly, *Mnemiopsis leidyi*, native of the Atlantic coast of the United States, has spread from the Black Sea to the Caspian Sea. To try to control this invasion, scientists will be releasing a special breed of the predatory jellyfish, *Beroe ovata*, into the Caspian for the next three years. This second jellyfish preys exclusively on *Mnemiopsis leidyi*, and it is hoped that *Beroe ovata* will consume *Mnemiopsis* and then die out. Please check out "Comb Jelly Cover-Up," below, for details on the history of this invasion in the Black and Caspian Seas. Interestingly, this article points out that *Beroe ovata*, which was accidentally introduced to the Black Sea, has been unable to control *Mnemiopsis leidyi* there. http://www.boston.com/news/globe/health_science/articles/2004/03/23/slimy_stowaway_may_be_key_to_saving_distant_seas.

Rapid Response at a Snail's Pace

Ken Davis fears that the slow response of state officials in California may have made it impossible to eradicate the invasive New Zealand mud snail, which he identified in Putah Creek last fall. Although he hasn't given up hope that the snail can be stopped, Davis expressed frustration that the state did not have emergency response plans in place for invasive species. Instead, it took three weeks to convene public hearings, get legal advice, and close off the creek. Afterwards, eradication methods proposed would take months to get approval. Part of the problem could be that the state has only one person in the state's Fish and Game service devoted to invasive species issues. It is hoped that responses to invasives will improve now that the state has formed an Interagency Aquatic Invasive Species Council. For the full story, please see

<http://www.davisenterprise.com/articles/2004/04/01/news/274new2.txt>, and

<http://www.gbflycasters.org/conservation/projects/New%20Zealand%20Snails/New%20Zealand%20Snails.htm>.

Clean Ballast, Dirty Air

The Prince William Sound Regional Citizens' Advisory Council has issued a petition to reduce emissions of benzene derived from treatment facilities for ballast water. The benzene is emitted from huge tanks used to treat ballast water, to the tune of 360 tons of pollutants, including 130 tons of benzene, per year. The group contends that similar facilities in California emit less than three tons of benzene a year. For more details, see <http://www.adn.com/business/story/4883890p-4819633c.html>.

These Boots are Made for Washing

This article in the *Juneau Empire* highlights an under-emphasized vector of invasive species like the New Zealand mud snail. Denny Lassuy, invasive species coordinator for the US Fish and Wildlife Service, and Bob Piorkowski, invasive species coordinator with the Alaska Department of Fish and Game, recommend various techniques for ridding anglers' boots and gear of the snails before entering Alaska's waters. For the whole story, please see http://www.juneauempire.com/stories/032804/out_snail.shtml.

It May Take an Army

Linking invasive species issues to biosecurity, Senator Neil Abercrombie says that greater resources should be allocated to stemming the tide of invasive species. Abercrombie was one of many politicians, managers, and policy-makers consulted by House Subcommittee on Fisheries Conservation, Wildlife and Oceans. The purpose of the Committee's hearings was to gather information about the problem so legislation can be enacted the upcoming session of congress. For more details, see <http://the.honoluluadvertiser.com/article/2004/Apr/16/ln/ln05a.html>.

Sub-Standard Standards

In the continuing debate on standards for ballast water treatment, legislators on the United States have come forward to critique the standards outlined in the International Maritime Organization's (IMO) convention on ballast water. The treatment standard adopted by the IMO was 10 organisms per cubic meter of ballast, much higher than the 0.01 organisms per cubic meter being proposed by the US negotiators. In addition to better standards, Senator Vernon Ehlers of Michigan is pushing for re-authorizing the National Invasive Species Act and increased budgets for research. For more details, see: <http://indaba.iucn.org/archives/aliens-l/2004-03/00005591.htm>.

Invasively Impaired

The Ocean Conservancy launched a lawsuit in San Francisco this month, asking the court to define invaded waterways as "impaired." This interpretation of the Clean Water Act would require states to develop total maximum daily load (TMDL) limits for invasive species believed to contribute to the "impairment." Laws about noxious weeds impairing waterways have been enacted in Louisiana and Oregon. For more details on the case, see <http://www.eenews.net/Greenwire/Backissues/images/040604gwr1.pdf>.

Invasive Species Makes Forestry's Cut

The US Forest Service will continue to be externally reviewed for the implications of its actions on issues related to the "Four Threats" of fire risk, invasive species, un-managed recreation, and loss of open space. In a memo issued by the Public Employees for Environmental Responsibility (PEER) on March 18, the Service will no longer be reviewed for laws relating to endangered species, clean water, and historical preservation laws. For further details, see <http://www.peer.org/press/440.html>.

USDA Caught California Dreamin'?

Some states are claiming that the United States Department of Agriculture (USDA) quarantine measures to stop the spread of sudden oak disease from infected nurseries in California to other parts of the country are insufficient. Sudden oak disease, a fungus-like pathogen infects 59 species of trees and shrubs, was detected in a nursery supplier in the California on March 10. It is estimated that the nursery center had shipped diseased material to 783 garden centers in 39 states in the past year. For more information, see

<http://www.lacitybeat.com/article.php?id=836&IssueNum=45> and

<http://search.atomz.com/search/?sp-i=1&sp-q=sudden+oak+death&sp-a=sp1002689f&sp-p=all&sp-s=1&sp-f=ISO-8859-1>. The incident was also featured in *Science*:

Stokstad, E. 2004. Nurseries May Have Shipped Sudden Oak Death Pathogen Nationwide. *Science*. 303:1959.

Stokstad, E. 2004. Sudden oak quarantine. *Science*. 304: 371.

Bush-Whacking in the Everglades

President George Bush took pruning shears to invasive plants in the Rookery Bay Estuarine Research Reserve on the Gulf Coast adjacent to the Everglades. Along with the President, volunteers have cleared 2000 acres of the reserve and plan to eradicate the weeds in another 2000 acres before their work is finished. The event was meant to demonstrate the Bush administration's commitment to invasive species and other environmental issues. For details, and a picture of the Presidential pruning session, see: <http://www.washingtonpost.com/wp-dyn/articles/A36495-2004Apr23.html>.

Testing the Waters

The Australian Commonwealth Scientific and Industrial Research Organization have developed a DNA screening technique to test ballast water for the presence of the northern Pacific seastar, the Pacific oyster, and a toxic dinoflagellate. For more information, see <http://www.csiro.au/index.asp?type=mediaRelease&id=geneprobe>.

Plague of Frogs... and Rats... and Pigs

The legal and illegal trade in animals is a source of disease pathogens that threaten endangered species and human health. Janet Ginsburg writes that, with fewer than 100 inspectors placed in 32 ports, the United States is ill prepared for this biological threat. For more details, see http://www.the-scientist.com/yr2004/apr/research2_040412.html.

Calling Foul on Laissez-faire Attitudes Toward Invasives

Steven Nash's April 11 editorial to the *Washington Post* argues that although both Democrats and Republicans support the fight against invasive species, open border attitudes, lack of inspections, and a need for rapid response and "clean lists" of invasive species that can be imported make the country vulnerable to invasive species and the economic costs they incur. For the full article, please check out <http://www.washingtonpost.com/wp-dyn/articles/A737-2004Apr9.html>.

C. Reports, Publications, and Resources

Beyond Ballast: *Frontiers* Looks at the Aquarium Trade

The April issue of *Frontiers in Ecology and the Environment* contains an article that explores the aquarium trade as a source of invasions. Authors Dianna Padilla and Susan Williams point out that, unlike organism transported by ballast, aquarium species are usually traded as adults, and the hardiest fish and plants are selected because they are the ones that survive

collection and transport. The authors also point out that one-third of aquatic species on the International Union for the Conservation of Nature's list of 100 worst invasive species were transported via the aquarium trade. Padilla and Williams make several suggestions to improve the current state of affairs, including creating list of species that are safe for trade, using bonds to cover costs should an invasion occur, and improved regulations of the industry.

Padilla, D. and S. Williams. 2004. Beyond ballast water: aquarium and ornamental trades as sources of invasive species in aquatic ecosystems. *Frontiers in Ecology and the Environment*. 2: 131–138.

The article and a press release are available online at:

<http://www.esajournals.org/esaonline/?request=get-abstract&issn=1540-9295&volume=002&issue=03&page=0131>, and
http://www.eurekalert.org/pub_releases/2004-04/eso-isa040804.php.

Understanding *Undaria*

The invasive seaweed, *Undaria pinnatifida*, was introduced to California in 2000. Researchers who studied the weed in Santa Barbara harbor found the seaweed exhibited two recruitment pulses that corresponded to 4°C drop in temperature. Each recruitment pulse consisted of plants with different individual size, growth rate, and survival at maturity. However, survival rate of the seaweed was determined by water temperature while recruitment success was limited by grazing by the native kelp crab, *Pugettia producta*. These different population dynamics will help understand and predict the spread of *Undaria* on the West Coast.

Thornber, C. S., B. P. Kinlan, M. H. Graham, and J. J. Stachowicz. 2004. Population ecology of the invasive kelp *Undaria pinnatifida* in California: environmental and biological controls on demography. *Marine Ecology Progress Series*. 268: 69–80.

Say *When*: Donlan and Martin Re-set the Invasion Clock

In a critique of the article “Non-indigenous species: ecological explanation, environmental ethics, and public policy” by Dodge and Shcrader-Frechette, (*Conservation Biology*, 17: 1-8), Josh Donlan and Paul Martin suggest that it is important to look beyond our “post-Columbus bias” when discussing the impact of invasive species. They point out that bioinvaders have been impacting biodiversity for thousands of years. On the islands of Oceania, 8000 species of birds went extinct 1,000 and 3,000 years ago due to the invasion of humans and their commensal animals. The ascendancy of the Clovis culture in North America 13,000 years ago coincided with the disappearance of over 25 out of 39 large mammal species. Understanding this deep ecological history is vital to conservation management such as efforts to re-introduce native species and manage invaders.

Donlan, C.J. and P.S. Martin. 2004. The role of ecological history in invasive species management and conservation. *Conservation Biology*. 18: 267 - 269.

The response of Dodge and Shradler-Frechette to the critique was published following this article (*Conservation Biology*. 18: 270-271).

Tunicates: Build It and They Will Come

By creating habitat for other benthic species, the invasive tunicate, *Pyura praeputialis* increased species found in the rocky intertidal habitat of Antofagasta Bay (Northern Chile). One hundred and sixty-six species were found inhabiting the places where the tunicate was found, whereas only 66 species were found in adjacent areas. The increase in species richness was found to be due to increased numbers of mobile invertebrates inhabiting the tunicate structures.

Juan Carlos Castilla, J.C., N. A. Lagos and M. Cerda. 2004. Marine ecosystem engineering by the alien ascidian *Pyura praeputialis* on a mid-intertidal rocky shore. *Marine Ecology Progress Series*. 268: 119–130.

Comb Jelly Cover-Up

The invasion of the North American comb jelly *Mnemiopsis leidyi* of the Black Sea in 1989 is often cited as a textbook case of bioinvasions affecting food webs and fisheries. In 1995, the planktonic predator spread to the Caspian Sea. In this article, researchers warn that the Caspian Sea may have yet to experienced its most intense abundances of the comb jelly. They also point out that overfishing and changes in the atmospheric and oceanic systems in the 1980's could also have cause changed in plankton populations in the Black Sea, and that the impacts observed in there may not have been entirely due to the comb jelly invasion. The researchers call for improved comparative studies between the Caspian and the Black Seas in order to better predict impacts and protect these waterbodies from further degradation.

Bilio M, and U. Niermann. 2004. Is the comb jelly really to blame for it all? *Mnemiopsis leidyi* and the ecological concerns about the Caspian Sea. *Marine Ecology Progress Series*. 269: 173-183.

***Pfiesteria*, Not Hysteria**

In the February 1st edition of the NEANS Digest, we described an article that appeared in *Science* on the controversy over toxicity and life history traits of *Pfiesteria*. The author of this article also reported that there have been disputes amongst researchers studying the elusive algae. In a letter to *Science* published on April 2, JoAnn Burkholder of North Carolina State University attempts to set the record straight on what is and is not known about the toxic algae as well as intimations that her lab has not been willing to share information and strains of the algae with other researchers.

Burkholder, J. 2004. Ongoing controversy over *Pfiesteria*. *Science*. 304: 46.

Internal Threat: Eel Swimbladder Nematode

The Oct. 10th edition of *Science* carried an item entitled “Freshwater Eels are Slip-sliding Away” that points out that eels are threatened by over-fishing, pollution, and climate change. However, Bernd Sures and Klaus Knopf point out in a recent letter to *Science* that readers should also remember that eels are impacted by an invasive parasite that infests their swimbladder organ, which they need to perform vertical migrations in the ocean. The swimbladder nematode was first noted in Texas in 1995, and has since been detected in South Carolina, New Jersey, Maryland, and New York. To read the description of the Asian swimbladder nematode and see a gruesome picture of the critter, see *Science*. April 9, 2004. 304: 208-209.

Making Criticism Constructive

A recent book that argues that invasion biology is an outgrowth of xenophobia and encourages the spread of non-native species as a means of enhancing biodiversity has been critiqued in the latest edition of the journal *Ecology*. Although the book lacks scientific and rational underpinnings, David Secord recommends that those involved in invasive species issues take a look at the arguments put forth by David Theodoropoulos in *Invasion biology: critique of a pseudoscience*. Secord suggests that the book reminds researchers and policy makers to be prepared to defend their science and conservation efforts from such criticisms. Secord also encourages scientists to use clear, non-incendiary language when describing the magnitude of the impacts of invasives, language that will defuse rather than fuel arguments put forward by Theodoropoulos.

Theodoropoulos, David I. 2003. *Invasion biology: critique of a pseudoscience*. Avvar Books, Blythe, California. xii + 236 p. \$14.50, ISBN: 0-9708504-1-7.
Secord, D. 2004. Deprogramming Invasion Biologists? *Ecology*: Vol. 85, No. 4, pp. 1172–1173.

REEF Dives into Data Collection

The Reef Environmental Education Foundation (REEF) has created a database where divers can record native and non-native fish they see when diving. Data is also being collected on invertebrate species in the Pacific Northwest through a collaboration between REEF and the Living Oceans Society of British Columbia. To check it out, see <http://www.reef.org/exotic/index.html> and <http://www.reef.org/data/lrp.htm>.

EPA Offers Online Invasives Lessons

The US Environmental Protection Agency (EPA) has created a web-based course called “Online Training in Watershed Management.” The course included two modules on invasive species, as well as a section on management of water-based resources. For further details, see <http://www.epa.gov/watertrain>.

Ms. April Ash Borer - NISC Launches Monthly Invader Profiles

In celebration of Earth Day, the National Invasive Species Council (NISC) will be launching a monthly profile of invasive species at <http://www.invasivespecies.gov>. April’s species profile was on the emerald ash borer.

Florida Aquarium Exhibit on Invasives

The Florida Aquarium has launched an exhibit on invasive species which includes games, graphics, and exhibits of more than 20 invasive species, including the giant marine toad and the suckermouth catfish. The project is supported by the Gulf of Mexico partnership of the US Environmental Protection Agency. For details on the exhibit and pictures of the displays, see <http://flaquarium.net/Exhibits/UnwantedSpecies.asp> and http://www.epa.gov/gmpo/projects/inv_intro.html

D. Policy and Legislation

Sea Change in Ocean Policy

Two reports issued last month are calling for a change in US policy to address major issues that threaten the marine environment, including invasive species. In its report, *America’s Living Oceans*, the Pew Foundation has called for an independent agency to administer ocean policy and research, an overhaul of oceans policy framework, and a dedication to address key issues like invasives. The US Commission on Ocean Policy released the results of its work on April 5, giving 200 recommendations to improve ocean policy, including the creation of a National Ocean Council and the doubling of funding for research. Comments on the preliminary report of the Commission are due May 21, 2004. For commentary on the new oceans strategies, check out the April 22 edition of *Nature* (pp. 783, 787) and the April 23 edition of *Science* (p. 496). Copies of the reports can be found at <http://www.pewoceans.org/> and <http://oceancommission.gov/>.

Canada’s Draft National Plan on Invasives Online

Canada is currently seeking comments on its draft national plan on invasive species, and meetings are being held across the country to gather input on the document. The plan will be presented to the Canadian Council of Fisheries and Aquaculture Ministers next fall. To read the draft plan, please go to: <http://www.bco.ec.gc.ca/en/activities/ias.cfm> and <http://www.bco.ec.gc.ca/en/activities/documents.cfm>.

E. Upcoming Conferences and Events

April 30 – May 2, 2004, Hamilton, NY

New York State Federation of Lake Associations, Inc. 21st Annual Meeting and Conference

Few details are available online so far, but please contact Nancy Mueller for further details at 800.796.3652 or fofa@nysfola.org. You may also want to keep an eye on the New York State Federation of Lake Associations website at <http://www.nysfola.org>.

May 3 – 7, 2004, Fort Lauderdale, FL

Aquatic Weed Control, Short Course 2004

This workshop will focus on weed control efforts specific to southern states, but the program includes sessions on plant identification, pesticide use, and weed control techniques that might be useful to managers in the Northeast. For more information see <http://conference.ifas.ufl.edu/aw/>.

May 4, 2004, Washington, DC

Joint National Invasive Species Council (NISC) & Aquatic Nuisance Species Task Force (ANSTF) Prevention Committee Meeting

For further details, contact Richard Orr at Richard_Orr@ios.doi.gov.

May 5, 2004, Portland, ME

Maine's Marine Invasion: A Forum on the Impact of Non-native and Other Invasive Species on Maine's Coastal Ecosystems

At this meeting, scientists and managers in New England will discuss the results of the New England Rapid Assessment Survey, the ecology of invasive species found in the region, vectors of invasive species, and learn about how Massachusetts is responding to the issue of bioinvaders. For information, see <http://www.cascobay.usm.maine.edu/Invsives.pdf>.

May 17 – 18, 2004, Newport, RI

Northeast Aquatic Nuisance Species (NEANS) Panel Meeting

Spring meeting of the NEANS Panel. The draft agenda has been posted. Please keep an eye out for further developments at <http://www.northeastans.org/meetings.htm>.

May 19 - 20, 2004, Singapore

Second International Conference and Exhibition on Ballast Water Management

The Institute of Environmental Science and Engineering is hosting the second annual meeting for better ballast water technology. Topics to be covered range from ship design to policy, economics to safety. For more information see <http://www.ntu.edu.sg/iese/ballast2004>. The conference program is available at <http://globallast.imo.org/2ndSGConf.pdf>.

May 23 - 28, 2004, Paris, France

72nd General Session of the International Committee of the World Organization for Animal Health (OIE)

This meeting will be attended by representatives from 166 member countries of the OIE, as well as observers and affiliated organizations. Issues that will be highlighted this year include new standard of safety of trade in animals and animal products, the role of veterinarians in detecting animal diseases, tracing animals and emerging diseases and a summary of the world animal health situation . For a copy of the complete program and for additional information, please visit <http://www.oie.int/eng/Session%20generale/home.htm>.

May 26-27, 2004, Columbia, MO

Spring Aquatic Nuisance Species Task Force (ANSTF) Meeting

For additional information, please contact Erin_Williams@fws.gov.

June 1 - 3, 2004, Washington, DC

Environmental Protection Agency (EPA) Science Forum

The third annual EPA science forum will be held to demonstrate the Agency's scientific achievements and illustrate how science influences decision-making. EPA staff, congressional staff, independent scientists, stakeholders, and representatives from other state agencies are invited to attend. It is expected that some sessions will include discussion of invasive species. For more information, see <http://www.epa.gov/ord/scienceforum>.

June 7-10, 2004, Muskegon, MI

Great Lakes Invasive Species Workshops and Lake Michigan Monitoring Meetings

The first day of this workshop will be devoted to rapid response plans for the potential invader, *Hydrilla verticillata*, while the second day will be devoted to early detection and monitoring in the Lake Michigan Basin. For information on the first day, please contact please contact Kathe Glassner-Shwayder (shwayder@glc.org) or Kevin Walters (kwalters@glc.org). For information on the second day, please contact Kevin Walters (kwalters@glc.org) or John Hummer (jhummer@glc.org). The phone number for information on both events is 734-971-9135.

June 8 - 11, 2004, Beijing, China

Beijing International Symposium on Biological Invasions - Species Exchanges between Eastern Asia and North America: Threats to Environment and Economy

The goals of the symposium are to share expertise and knowledge of invasive species, assess our capacity to predict bioinvasions, contrast the ecology of species in their invaded habitats with that of their native range, and to create a forum to discuss management, research, and policy goals. Contact for North America is Dr. Shili Miao of the South Florida Water Management District, email: smiao@sino-eco.org. For more information see <http://bisobi.sino-eco.org>.

June 20 – 24, Durban, South Africa

4th International Weed Science Congress

This year's conference will include talks on aquatic weed management, biological control, proactive management of invasive species, and many other topics. The deadline for early registration is March 21 and regular registration ends May 31. For more information see <http://www.iwsc2004.org.za>.

June 27 – 30, 2004, St. John's, NF

Coastal Zone Canada 2004 Meeting

The theme of this year's meeting is "All Within One Ocean: Co-operation in Sustainable Coastal and Ocean Management." Sub-themes include Challenges, Strategies, Tools, and Managing Shared Waters. The meeting will be held in St. John's, Newfoundland. Deadline for abstract submission was January 16, 2004. For more information see <http://www.czca-azcc.org/index2.htm>.

July 11 - 14, 2004, Tampa, FL

44th Annual Meeting of the Aquatic Plant Management Society

This year's meeting will include discussion of aquatic plant management and research. Deadline for abstract submission for posters and presentations is April 15, 2004. For more information see <http://www.apms.org/2004/2004.htm>.

July 18 - 23, 2004, Kailua-Kona, Hawaii

47th Annual Symposium International Association of Vegetation: Landscape Change and Ecosystem Disturbance: Islands and Continents

The meeting will explore the diversity and uniqueness of Hawaii's biota, and will include a plenary speech by Julie Denslow on the subject of assessing impacts of invasive species on plant communities. Great field trips are also on the agenda. For more details, please see <http://conference.uhh.hawaii.edu/iavs2004.info.htm>.

August 26 - 29, 2004, Yokohama, Japan

International Conference on Assessment and Control of Biological Invasion Risks

This conference will have special sessions on marine and freshwater invasions, legislative design and liability, and the advantages and disadvantages of various management techniques. For more information see http://bio-eco.eis.ynu.ac.jp/jpn/top/topic_sheet/symposium20040827/eng.html.

August 31 - September 2, 2004, Dijon, France

XIIth International Conference on Weed Biology

The XIIth International Conference on Weed Biology will be held August 31 - September 2, 2004 in Dijon, France. Information on the conference can be found at <http://www.dijon.inra.fr/malherbo/AccueilF1.htm>.

September 12 - 15, 2004, Seattle, Washington

2nd National Conference on Coastal and Estuarine Habitat Restoration

The goals of this year's conference are to expand our ability to restore habitat, build the restoration industry, and catalyze multi-sector collaboration. The schedule includes all-day workshops and field sessions. Poster and presentations will be accepted that fit the following themes: people, practice, science, strategy, policy and funding, evaluation, and a few additional selected topics. For more information, see <http://www.estuaries.org/2ndnationalconference.php>.

September 19 - 23, 2004, Ennis, Ireland

13th International Conference on Aquatic Invasive Species * Preliminary Program Now Online!**

The 2004 International Conference on Aquatic Invasive Species will be hosted by Institute of Technology, Sligo, in Ennis, County Clare, Ireland. The conference will cover subjects ranging from policy to invasion ecology to education. Deadline for abstract submission was December 31, 2003. The preliminary program has been posted, and topics to be discussed range from shipping to zebra mussels to education and outreach. Looks like many of bioinvasions' brightest will be there, including the NEANS Panel's own Judith Pederson, Charles O'Neill, and Donna Turgeon along with Shippen Bright, MaryAnn McGarry, Daniel Molloy, and Michelle Harmon. For more information visit <http://www.aquatic-invasive-species-conference.org>.

September 30 - October 1, 2004, Bern, Switzerland

3rd International Conference on Biological Invasions NEOBIOA - From Ecology to Control

The topics covered at the upcoming meeting of NEOBIOA are the ecology of invasive

species, impact and risk assessment, and prevention as control. NEOBIOTA is a multidisciplinary group that links researchers with policy makers and conservation groups on issues pertaining to the introduction of alien species. Its focus is mostly on invasive species issues in Central Europe. For more details on the conference see <http://www.neobiota.unibe.ch>.

October 22-23, 2004, New Orleans, Louisiana

Eighth International Wildlife Law Conference

The theme of this year's conference is Protecting Species in the World's Coastal and Marine Regions: The Role of Law, Science and Management. Proposals are sought for a variety of ecological policy issues, including invasive species. For further details, see Proposals and questions should be submitted to: Wil Burns, conference coordinator e-mail: jiwlp@internationalwildlifelaw.org, phone: 650.281.9126 <http://www.internationalwildlifelaw.org/index.shtml> Presenters will have their presentations recorded in *the Journal of International Wildlife Law and Policy*.

November 3 - 5, 2004, Victoria, British Columbia

24th International Symposium of the North American Lake Management Society

The theme of this symposium is "Lakes - habitat for fish, habitat for people." The meeting will feature sessions on introduced aquatic species, lake restoration, and managing aquatic plant problems. Deadline for abstract submission is May 31, 2004. Other dates to remember are: September 17, 2004, early bird registration ends, and October 15, 2004, the last day to register. For more information see <http://www.nalms.org/symposia/victoria/index.htm>.

November 8 - 10, 2004, San Francisco, California

Third International Conference on Invasive *Spartina*

This conference will focus on the latest research and complex management issues surrounding the intertidal interloper. There will be aerial and ground tours of wetlands, as well as discussion of the hybrid form of *Spartina* that threatens San Francisco's estuary. For more information, please see <http://www.spartina.org>.

November 15 - 19, 2004, Cape Town, South Africa

XIth International Conference on Harmful Algae

This year's conference will focus on the topics of taxonomy and biogeography, population dynamics, physiology, biochemistry, and monitoring and management of harmful algal blooms. Deadline for abstract submission is May 31, 2004. For more details, please see: <http://www.botany.uwc.ac.za/pssa/hab2004>.

December 6 - 10, 2004, Orlando Florida

First National Conference on Ecosystem Restoration (NCER)

The first conference on ecological restoration will bring together people dealing with all aspects of ecosystem restoration. Feature topics include: Science Synthesis and Scaling, Detecting Change Across Scales, Planning Restoration, Adaptive Management, Effective Science Communication Within and Beyond Restoration Programs, and National Priorities for Ecosystem Restoration. Abstracts for presentations are due July 1, 2004. For more information see <http://conference.ifas.ufl.edu/ecosystem>.

F. Other

Show McNeely the Money

Jeffrey McNeely would like your help in preparing a short paper on the costs of controlling invasive species for the United Nations Development Program. He has been asked to explore why the control of invasive species should be considered a global public good, and what it actually costs to address invasive species problems. Budget information on allocations for specific projects or departments would be extremely helpful. If you have any information on these matters, please contact Jeffrey McNeely at jam@iucn.org.

Special to the Digest: *The Aquatic Plant Trade and the State of Maine*

Karen Hahnel, ME Department of Environmental Protection

Too often progress is measured only in quantity, not quality. Thanks to the diligence of a summer intern and the clout of a three-year old law, however, Maine can report in 2004 progress on both fronts in its efforts to reign in trade of invasive aquatic plants.

First, a review of the law: In 2000, the Maine state legislature listed 11 aquatic plants as invasive, making it illegal to sell or introduce to Maine waters these plants (see side box for list). The law reads “A person may not possess, import, cultivate, transport or distribute any invasive aquatic plant or parts of any invasive aquatic plant, including roots, rhizomes, stems, leaves or seeds, in a manner that could cause the plant to get into any state waters; or, after September 1, 2000, sell or offer for sale in this State any invasive aquatic plant.”

Armed with this law, the Maine Department of Environmental Protection (DEP) in 2002 began collaborating with the Maine Department of Agriculture (DOA) to reach industries that trade in invasive

plants, namely garden centers and pet stores as well as their suppliers. That summer DEP mailed 1283 notices to garden centers and pet stores in the state of Maine, informing them of Maine’s new law.

But this was just the first step to educating the buying public.

For the summer of 2003, DEP hired an industrious intern, Kristina Fugate, to visit aquatic plant retail stores. Kristina cultivated DOA’s extensive database of licensed nurseries and pet stores to yield 260 retailers as potential aquatic plant vendors.

That was just some the outcome of Kristina’s efforts. The quality of her work was borne by interviewing plant buyers, inspecting inventories, and acquiring names of wholesalers. Ultimately, 62 Maine stores were culled as selling aquatic plants. All of these stores were visited by either the intern or by DOA inspectors throughout the summer.

Here are the results of the 2003 summer work:

- The majority of the 62 stores already knew about the ban on the sale of 11 invasive plants thanks to the 2002 mailing. In fact, nearly half the stores had the Portland Water District's Poster *Maine's 11 Most Unwanted* visible, and over 35 stores had some knowledge of Maine's law.
- Three of the 11 banned aquatic plants were discovered in five stores. The three invasive plants were *Egeria densa* (Brazilian Waterweed), *Cabomba* (Fanwort), and *Myriophyllum aquaticum* (Parrot Feather).
- One stem of *Hydrilla verticillata* was found "hitchhiking" with the other plants.
- None of these stores actually ordered the plants by name but, as is common, simply ordered 'oxygenating' plants and relied on their supplier to provide them with the appropriate material.
- Twenty-one aquatic plant suppliers from all over the nation were identified as selling aquatic plants to Maine stores. Only four of them were from New England but they supply 40% of the Maine businesses. All of the identified suppliers were contacted and informed of Maine's law. They were also sent the list of 11 banned aquatic plants along with the known alternate names.

When time allowed Internet searches were conducted for sources of aquatic plant sales. The results showed:

- Thirty-five web sites and six major biological supply companies sold aquatic plants. Thirty-two of the 35 web site companies were selling at least one invasive plant banned in Maine!

ILLEGAL FOR SALE IN MAINE

- ***Cabomba caroliniana***
Fanwort
Carolina fanwort
- ***Egeria densa***
Brazilian elodea
Anacharis
Anacharis densa
Anacharis canadensis gigantea
Elodea
Elodea densa
Elodea canadensis gigantea
Brazilian waterweed
Common waterweed
Leafy elodea
- ***Hydrilla verticillata***
Hydrilla
Water thyme
- ***Hydrocharis morsus-ranae***
Frogbit, European Frogbit
- ***Myriophyllum aquaticum***
Parrot Feather
Myriophyllum proserpinacoides
Myriophyllum aquatica
Brazilian Watermilfoil
- ***Myriophyllum heterophyllum***
Variable-leaf watermilfoil
Myriophyllum sp. (or spp.)
Myriophyllum pinnatum
Two-leaf watermilfoil
- ***Myriophyllum spicatum***
Eurasian watermilfoil
Myriophyllum sp. (or spp.)
Spiked watermilfoil
 - ***Najas minor***
European naiad,
Brittle water-nymph
 - ***Nymphoides peltata***
Yellow floating heart
 - ***Potamogeton crispus***
Curly-leaf pondweed
 - ***Trapa natans***
Water chestnut

- 19/35 sell *Cabomba caroliniana*
25/35 sell *Egeria densa*
3/35 sell *Hydrocharis morsus-ranae*
25/35 sell *Myriophyllum aquaticum*
10/35 sell *Myriophyllum heterophyllum*
14/35 sell *Nymphoides peltata*
- Seventeen out of 35 Internet sites indicated that there was a state law (not necessarily Maine's) regulating the sale of certain plants. Quite often, this information was not clearly evident.

- Four sites identified that Maine had a law banning certain aquatic plants.

One very important result of this work was the confirmation that some of these plants, in particular *Egeria densa*, have alternate common names frequently used in the aquatic plant sales industry. Some of these names were known to us and some of them were not. *Egeria densa*, for example, is commonly referred to as either *Anacharis* or *Elodea*, both of which were former names for this plant before the scientific community changed it. This is confusing, especially since Maine has two native *Elodea* plants: *Elodea canadensis* and *Elodea nuttallii*. As a result, we encourage people to insist on knowing the full scientific name before purchasing any aquatic plant.

So where does Maine go from here? Obviously more work needs to be done: continue the Internet search for aquatic plant vendors as well as continue to inspect the garden centers and pet stores, perhaps even hiring another summer intern for 2004. Other possibilities include offering plant identification training to retail store buyers, reviewing seller plant lists, and sending out surveys with the annual licensing applications to identify who is selling aquatic plants for the current year. While DEP expects this to continue to be a work-in-progress, our efforts have clearly been a tremendous success at raising awareness among the plant trade industry.

If anyone knows of additional alternate names to add to the plant list or would like to discuss these findings further, please contact the Maine Department of Environmental Protection's Karen Hahnel at karen.a.hahnel@maine.gov or 207-287-7732.