



**Northeast Aquatic  
Nuisance Species Panel**  
Resource Digest – June 1, 2004  
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Please send items and postings for the NEANS Panel Digest to [ans@ecologyaction.ca](mailto:ans@ecologyaction.ca).

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## **A. News from the Northeast**

### **Cane Toad Earns Frequent Flier Points**

Even those actively battling invasive species can be unintentional vectors – as Christine Smith of Maine’s Department of Environmental Protection (DEP) knows all too well after a recent trip to Hawai’i to discuss lake watershed issues. In Hawai’i, Christine took a photograph of a cane toad that she happened to see after diving. A while after she arrived home in Portland, she noticed a toad or frog in her living room. On the verge of returning the critter to the wilds, Christine had second thoughts. On closer inspection, it turned out that this was in fact a cane toad, perhaps the very same one she had photographed on her diving trip in Hawai’i. She thinks it probably survived the plane trip from Hawai’i to Portland in her diving gear. The hitchhiking toad is now preserved in alcohol at the DEP.

### **Maine’s Marine Invasion**

A conference held in Maine last month highlighted the threat represented by invasive species to this relatively pristine coastline. At the meeting, the results of New England Rapid Survey for invasives were presented. Attendees were informed that New England is host to between 27 and 34 marine benthic invasive species. The discovery of a new sea slug in Massachusetts last November was also discussed. Invaders that could be on their way to Maine include the rapa welk and the Asian pencillate shore crab that has recently become abundant in Europe. The purpose of the conference, which was co-hosted by Casco Bay Estuary Project and Maine Sea Grant, was to begin to develop a strategy for marine invasive species in

Maine. For more details, please see <http://www.cascobay.usm.maine.edu/invasives.html> and <http://www.phillyburbs.com/pb-dyn/news/247-05062004-295398.html>.

### **Maine Maintains *Hydrilla*-Free Status**

Surveys in a pond near Limerick, on the Maine-New Hampshire border, have revealed that control efforts were successful in limiting the spread of *Hydrilla* into Maine. *A local resident found hydrilla in the pond* in 2002 and fluridone was applied last summer. According to John McPhedran, biologist with the Maine Department of Environmental Protection and NEANS Panel co-chair, only two viable tubers were found after taking 95 samples at 10 locations in the 46-acre pond. McPhedran warns that the weed may have escaped monitoring, and the DEP will continue surveys into June before deciding if another application of the herbicide is needed. For the full story, see [http://www.boston.com/news/local/new\\_hampshire/articles/2004/04/29/hydrilla\\_infestation\\_appears\\_to\\_be\\_on\\_the\\_wane](http://www.boston.com/news/local/new_hampshire/articles/2004/04/29/hydrilla_infestation_appears_to_be_on_the_wane).

### **Taming Wild Chervil**

The cover story of the April 29<sup>th</sup> edition of the *The Herald* of Randolph, Vermont, described eradication experiments occurring in the town for wild chervil, also known as cow parsley. Susan Delattre and Victoria Weber have set up plots where they are treating wild chervil to various control techniques, including cutting (separating the crown from the stem), weeding, stabbing, smothering, and trampling. The amateur scientists are encouraging others to contribute their knowledge to the experiment by performing their own tests of control methods. Wild chervil is on the state's draft watch list of invasive species. For more details, see [http://www.rherald.com/news/2004/0429/Front\\_Page/f03.html](http://www.rherald.com/news/2004/0429/Front_Page/f03.html). Anyone who wants more information or is willing to help in bi-weekly eradication record keeping should contact Victoria Weber at 234-9832. There is also a Wild Chervil Information Center on *The Herald's* website, [www.OurHerald.com](http://www.OurHerald.com).

### **Sun Sets on *Phragmites* this Earth Day**

Beaver Dam Creek, Long Island, has been dubbed a "Significant Coastal Fish and Wildlife Habitat" because it is one of only five streams in Long Island with significant numbers of sea-run brown trout. This Earth Day, Secretary of State Randy Daniels recognized the efforts of Ducks Unlimited, the Post-Morrow Foundation, and other members of the Beaver Dam Creek Task Force in restoring the creek by removing invasive *Phragmites australis* and dredge spoil. For the whole story, see [http://www.southbaynews.com/news/2004/0428/Community\\_News/010.html](http://www.southbaynews.com/news/2004/0428/Community_News/010.html).

### **A Lion in Water**

At the December meeting of the NEANS Panel, we heard that the lionfish, a native to the Indian and Pacific Oceans, had been spotted in surveys in New York and Massachusetts. Recently, a 17-inch lionfish (weighing 2.5 pounds) was caught by a longline fisherman off North Carolina. This summer, NOAA has announced it will be carrying out research on the abundance and life history of this venomous invader, which is believed to have been introduced via the aquarium trade off Florida in 1990's and has since traveled northward, its eggs and larvae dispersed via the Gulf Stream. For more details, see <http://www.noaanews.noaa.gov/stories2004/s2227.htm> and [http://story.news.yahoo.com/news?tmpl=story&cid=624&ncid=753&e=10&u=/ap/20040521/ap\\_on\\_sc/lionfish\\_invasion](http://story.news.yahoo.com/news?tmpl=story&cid=624&ncid=753&e=10&u=/ap/20040521/ap_on_sc/lionfish_invasion).

### [IAFWA Invasive Species Project Gets off the Ground in the Northeast](#)

The International Association of Fish and Wildlife Agencies is holding regional workshops to assist regions as they develop management measures for invasive species. The intent on the workshops is to provide for a for policy and enforcement actions to be prioritized and coordinated in each region. The Northeast in IAFWA ANS Regulation and Enforcement Workshop was held in Ocean City, Maryland on April 28, 2004. For more details and a copy of the workshop newsletter, please see <http://www.protectyourwaters.com/news/display.php?id=1370>.

### [Before You Dig, Dial](#)

Connecticut's Inland Wetlands Commission has been deliberating how to deal with weeds choking the states' waterways – and the tendency of its citizens to take things into their own hands to clear their properties of the invaders. At the end of April, the Commissioners granted a one-year permit to Mark and Susan Smallwood of Rainwater Farm to remove invasive species on a property near Route 7 using a vinegar-based herbicide. The Smallwoods are looking for volunteers to help them in their experimental treatment of the site. At the same meeting, property owners were cited for clearing invasives like multiflora rose, honeysuckle, and bittersweet - along with some non-invasive trees - that were growing close to waterways. The Commissioners cautioned that property owners are not supposed to mow close to waterways because they may cause erosion and siltation, and that citizens should consult with the Commission before proceeding with control efforts. For a description of the meeting of the Commission, see [http://www.zwire.com/site/news.cfm?newsid=11418009&BRD=1657&PAG=461&dept\\_id=13476&rfti=6](http://www.zwire.com/site/news.cfm?newsid=11418009&BRD=1657&PAG=461&dept_id=13476&rfti=6).

### [B. Coming Soon to a Watershed Near You](#)

#### [National Geographic Zooms in on Aquarium Trade](#)

In an article in the May 20<sup>th</sup> edition of *National Geographic News*, author John Pickrell summarizes recent studies highlighting the link between the aquarium trade and invasive species. While the trade in exotic fish and other species is often seen as an ecologically-friendly way to support the economies in the developing world, the author points out that recent studies have shown that the aquarium trade is a significant vector for invasive species [see “Beyond Ballast: *Frontiers* Looks at the Aquarium Trade,” NEANS Resource Digest, 3 (4), and “Invasion Hotspot Puts Aquarium Trade in Hot Seat,” NEANS Resource Digest, 3 (2)]. The article suggests that the problem of aquarium trade as a vector for invasives can be fixed through public education, creating certification systems for non-invasive organisms, and by telling people not to dump their unwanted pets into the wild. For the full story, please see [http://news.nationalgeographic.com/news/2004/05/0520\\_040520\\_aquariumescapees.html](http://news.nationalgeographic.com/news/2004/05/0520_040520_aquariumescapees.html).

### [The \\$10,000 Fish](#)

Guess who? Yes, the media-savvy snakehead has resurfaced in Pine Lake in Montgomery County, Maryland. Officials spent \$10, 000 draining the lake to make sure there were no snakehead nests on the bottom. Fish found in the lake included bass, sunfish, and trout but—thankfully—no snakeheads. Water from the lake was filtered for fish and fish eggs. Senator Brian Frosh was angered by the discovery; since he thought the “importation, possession or introduction into state waters” of potential invasive aquatic species had been banned in 2002 after the much-vaunted snakehead outbreak in Crofton Pond. Unfortunately, the bill was not promulgated, partially because there are other laws banning the import and dumping of snakeheads and partially because of pressure from the pet industry, who felt they would be unfairly impacted by the ban. Of course, it is also possible that the three-year-old fish was

dumped before the ban was proposed in 2002. Montgomery County Executive Douglas Duncan enacted an emergency ban on owning snakeheads in early May. The ban will expire in 90 days unless approved by County Council. County residents were given 90 days to turn in their prohibited pets to the Montgomery County Humane Society, 14645 Rothgeb Drive, Rockville, 240.773.5960. A state-wide ban on the possession of snakeheads was proposed May 1, four days after the snakehead was found in Pine Lake, and could take effect after 90 to 120 days.

For further details, see

<http://www.baltimoresun.com/news/local/bal-md.snakehead30apr30,0,3524116.story> and

[http://www.baltimoresun.com/news/local/bal-](http://www.baltimoresun.com/news/local/bal-md.snakehead01may01,0,3589652.story?coll=bal-local-headlines)

[md.snakehead01may01,0,3589652.story?coll=bal-local-headlines.](http://www.baltimoresun.com/news/local/bal-md.snakehead01may01,0,3589652.story?coll=bal-local-headlines)

### **Snakehead Stories from Virginia and California**

Four snakeheads were also found in the Potomac River last month, and the Virginia Department of Game and Inland Fisheries (VDGIF) has responded by creating the Snakehead Fish Incident Management Team. On the Pacific coast, a shopkeeper was arrested for selling snakeheads in his store in Glendale, California. For further details see

<http://espn.go.com/outdoors/conservation/news/2004/0519/1804969.html> and

[http://www.dailynews.com/Stories/0,1413,200~20946~2149516,00.html.](http://www.dailynews.com/Stories/0,1413,200~20946~2149516,00.html)

The VDGIF website has a fact sheet with a photo of a snakehead and illustrations of similar looking native species, the bowfin and American eel. Anyone who thinks a snakehead in Virginia is asked not to release it but to contact the VDGIF at 804/367-1258.

### **Dear Sir: NAISA is Cure For Chronic Snakehead Outbreaks**

Senators Carl Levin of Michigan and Susan Collins of **Maine** wrote a letter to *The Washington Post* last month endorsing the adoption of the National Aquatic Invasive Species Act (NAISA). They warn that, until the Act is adopted, incidences such as the repeated discovery of snakeheads in US waterways—not to mention the spread of the green crab, milfoil, and zebra mussels,—will continue to occur. The senators recommend the regulation of pathways such as ballast water, a grant program for states, and funding for research, education, and outreach. For further details, see <http://www.washingtonpost.com/wp-dyn/articles/A28298-2004May14.html>.

### **War of the Waterways: Snakehead Scare May Spark Response**

An editorial in *The Washington Post* explains that while finding four snakeheads in the Potomac River may have fostered tabloid-worthy headlines regarding the “aliens among us,” it may also provide momentum for bills governing the import of potentially invasive species and ballast water treatment. For more details, see <http://www.washingtonpost.com/wp-dyn/articles/A48573-2004May22.html>.

### **Do the Math: Does Globalization = Homogenization?**

In an article assessing the link between the economics of international trade and invasive species, Charles Gerena describes the damage created by invasive species and recommends regulating the treatment of vectors like ballast water and wood packaging, the creation of a list of plants and animals that are safe for trade, tariffs on countries most likely to introduce species, and a liability system where sellers would post a bond if they engage in trade that could result in introductions. The author also discusses the advantages and disadvantages of control versus prevention and the costs and benefits of globalization in the context of invasive species. To read this thought-provoking piece, see <http://www.rich.frb.org/pubs/regionfocus/spring04/global.html>.

### **The Sweet and Sour of Asian Oysters**

Asian oysters (*Crassostrea ariakensis*)—50 of them, some the size of dinner plates—were found growing in the wild by canoeists paddling in Virginia's Northern Neck region last month. Long upheld as a possible replacement for the decimated native oyster (*Crassostrea virginica*), Asian oysters were the subject of research by the Virginia Marine Resources Commission in 2001 and were meant to be grown only in mesh bags while the Army Corps of Engineers studied the impacts of introducing the species. Some, such as Bill Goldsborough of the Chesapeake Bay Foundation and Julie Thompson of U.S. Fish and Wildlife Service, are worried that the oysters will be more destructive than otherwise, while others hope that the growth and sale of the new oyster will help restore Chesapeake Bay. Robert Jensen, who lives next to the cove where the oysters were found, has plans to grow them and use the proceeds to help the Rappahannock Preservation Society. For more details, see <http://www.washingtonpost.com/wp-dyn/articles/A50452-2004May23.html>.

### **C. Reports, Publications, and Resources**

#### **Stoking the Home Fires to Ward Off Invasive Species**

In an essay featured in the US Army's "Professional Writing Collection," Colonel Robert Pratt of the Illinois Army National Guard suggests that the malicious introduction of invasive organisms is a real and significant threat to the security and economy of the United States. He recommends that the United States prepare now to ward off the intentional introduction of invasive species by identifying possible biological threats and preparing responses to these threats. Col. Pratt also recommends implementation of the Invasive Species Council's national system for management and control of invasive species, the clear designation of human disease pathogens in the national invasive species strategy, the participation of Department of Health and Human Services and the Department of Homeland Defense in the National Invasive Species Council, and inclusion of invasive species in Homeland Security strategies. To read the essay, see [http://www.army.mil/professionalwriting/volumes/volume2/april\\_2004/4\\_04\\_2.html](http://www.army.mil/professionalwriting/volumes/volume2/april_2004/4_04_2.html).

#### **Frogs Can Bounce Back From Trout Invasions**

An experiment in the Sierra Nevada area of California has demonstrated that introduced rainbow and brook trout impact native mountain yellow-legged frog populations by preying on tadpoles. On the bright side, experimental removal of the trout from some lakes showed that frog populations bounced back over the experimental period between 1996 and 2002. Vredenburg, V.T. 2004. Reversing introduced species effects: Experimental removal of introduced fish leads to rapid recovery of a declining frog. *Proceedings of the National Academy of Sciences*. 101(20), pp. 7646-7650. <http://www.pnas.org/cgi/content/abstract/101/20/7646?etoc>.

#### **Killing the Killer Algae: Control of *Caulerpa***

In experimental manipulations, researchers have shown that *Caulerpa taxifolia* will be killed at concentrations of chlorine exceeding 50 parts per million (ppm), with a recommended dose of 125 ppm for over half an hour exposure. The recommended dosage should be applied to sediment depths of 15 centimeters. Cold temperatures (below 9°C ) caused death of the plants after 4-6 weeks, whereas heat shock (72°C for 60-120 minutes) caused fragments to die after 2 weeks. Researchers point out that other eradication attempts with *Caulerpa* in California, the *in situ* dosage of chlorine is unknown, as is the relative contribution of companion treatment methods—such as tarping—to the death of the plants. Based on their experiments with



temperature, it is not believed that *Caulerpa taxifolia* will survive in open water areas off California.

Williams, S.L. and S.L. Schroeder. 2004. Eradication of the invasive seaweed *Caulerpa taxifolia* by chlorine bleach. *Marine Ecology Progress Series*. 272: 69-76.

### **Weed Wars: *Caulerpa* vs. *Caulerpa***

A study performed off the coast of Tuscany in the western Mediterranean has shown that two different invasive species of *Caulerpa* are associated with different communities of macroalgae. *Caulerpa racemosa*, which arrived in the Mediterranean in the early 1990s, has a pattern of forming dense mats on the bottom, inhibiting the growth of low-lying algae. Thus, plots containing *C. racemosa* tended to have less encrusting algae than plots where *C. taxifolia* was present. The difference between invaded and non-invaded seaweed assemblages was less striking in this study than demonstrated in other parts of the Mediterranean, a difference attributed to colder, exposed periods when *Caulerpa* abundance was reduced and native plants were allowed to recover. However, the difference between the invaded and non-invaded plots did increase over the three-year research project. The presence of other invasive algae may also have influenced patterns seen. Thus, invasion history and environmental factors may be influencing the effect of invasive algae on native seaweed composition.

Balata, D., L. Piazzini, and F. Cinelli. 2004. A comparison among assemblages in areas invaded by *Caulerpa taxifolia* and *C. racemosa* on a subtidal Mediterranean rocky bottom. *Marine Ecology*. 25: 1- 13.

The *Marine Ecology Progress Series* also has an article on the ability *Caulerpa racemosa* to adapt to highly variable light conditions present in the seaweed canopy in the Mediterranean.

Raniello R., M. Lorenti, C. Brunet, and M.C. Buia. 2004. Photosynthetic plasticity of an invasive variety of *Caulerpa racemosa* in a coastal Mediterranean area: light harvesting capacity and seasonal acclimation. *Marine Ecology Progress Series*. 271: 113-120.

### **The Great Escape: Invaders are More Disease-Free in New Range**

The latest issue of *Frontiers in Ecology and the Environment* is highlighting the role that parasite release plays in invasion impact. The authors argue that invading species escape up to 75% of the pathogens and parasites that plague them in their home range and that invaders are also demonstrably less likely to be infected in their invaded habitat than in their native range. Check out *Frontiers'* cover shot of the Chinese mitten crab.

Torchin, M.E. and C.E. Mitchell. 2004. Parasites, pathogens, and invasions by plants and animals. *Frontiers in Ecology and the Environment*: Vol. 2, No. 4, pp. 183-190.

### **Parasites: Small Architects of Ecological Communities**

Parasites are commonly cited as influencing the outcome and impact of introductions, either by releasing invasive species from the control of parasites present in their home range or by decimating native species that are not resistant to a hitchhiking parasite. Authors of a recent article in *Trends in Ecology and Evolution* emphasize that parasites can influence invasion impacts through more subtle means by determining the outcome of predation and competition interactions. Both lethal and sub-lethal effects of parasites can influence community structure, although these broader impacts are under-analyzed: in a survey of thirty studies describing how parasites influence the outcome of competition between two host species, only two discussed the wider community implications of this effect.

Prenton, J., C. MacNeil, J.T.A. Dick, A.M. Dunn. 2004. Roles of parasites in animal invasions. *Trends in Ecology and Evolution*. 19: 294-299.

### **Global Warming, Toxics Blooming**

In a new analysis of the chemistry that governs the dissolution of atmospheric carbon into aquatic systems, an article in this month's *Ecology Letters* predicts that increased atmospheric carbon will cause an increase in phytoplankton blooms in eutrophic zones, with primary productivity increasing by 40 to 50 percent in some areas. The authors state that this may result in greater sequestration of atmospheric carbon than previously predicted, but they also warn that the frequency of outbreaks of harmful algal blooms may also increase.

Schippers, P., M. Lüring and M. Scheffer. 2004. Increase of atmospheric CO<sub>2</sub> promotes phytoplankton productivity. *Ecology Letters*. 7: 446–451.

There is also a press release associated with this article at [http://www.eurekalert.org/pub\\_releases/2004-05/bpl-iac051304.php](http://www.eurekalert.org/pub_releases/2004-05/bpl-iac051304.php).

### **Native and Non-native Competition: the Plot Thickens**

Invasive species are often believed to do well in introduced ecosystems because they can out-compete native species for resources or because they are tolerant of conditions of low resource availability. In experiments performed on native and non-native grass plants that are present in oak savanna ecosystems, Andrew MacDougall and Roy Turkington tested how non-native species compete with native species with changing resource availability and phase of succession. During the first stage of succession, the exotic species that was better at obtaining resources than native plant species became dominant, regardless of resource level of the experimental treatment. However, in the long-term, the exotic species capable of tolerating low resource availability obtained dominance in the plots, but only when the experimental plots were treated conditions of low fertility and limited disturbance. When these factors were manipulated, the relative species abundance changed. Thus, although exotic plants exhibit a tolerance of resource limitation, this competitive edge is contingent on resource availability and disturbance frequency, indicating the importance of studying the ecosystem context as well as interspecific competition in determining factors that give invaders the competitive edge.

MacDougall, A.S. and R. Turkington. 2004. Relative importance of suppression-based and tolerance-based competition in an invaded oak savanna. *Journal of Ecology*. 92, 422–434.

### **Crying 'Uncle': Do Invasive Plants Have the Competitive Edge?**

In an article published in the journal *Oikos*, scientists reviewed the findings of 36 studies of plant invasions to determine if invasive species do tend to have a greater impact on the growth and size of native plants than vice versa. On average, the studies showed that invaders reduced the biomass or size of native plants by 47%, whereas the presence of native plants in plots reduced the size of biomass of invaders by 17%. The competitive edge of invasive plants could be due to greater ability to obtain resources or to non-resource related factors like allelopathy (the suppression of one plant species by another through chemical secretions). The authors offer suggestions to improve the experimental testing of competitive abilities of native versus non-native plants, including experiments comparing the effects of invasive and non-invasive species on intact native plant communities.

Vilà, M. and J. Weiner. 2004. Are invasive plant species better competitors than native plant species? - evidence from pair-wise experiments. *Oikos*. 105: 229\_ 238.

### **The Function of Functional Groups in Invasion Outcomes**

In a complex series of experiments, Betsy Von Holle and Daniel Simberloff tested whether the hypothesis that the absence of a particular functional group in an invaded system makes it more likely to be invaded by a species possessing the "missing" functional traits (known as Fox's assembly rule). In their experiments, plots were planted with 10 species randomly



selected from native and non-native plants present in the floodplains of Big Stony Creek, Virginia. They found that removing some or all species within a functional group did not influence the survivorship of introduced species possessing the functional traits that had been removed, nor did plants grow more quickly when placed in a plot lacking their function group type. However, the researchers did find that the functional groups removed from plots did affect the fate of the functional groups added to a plot, indicating that plant community assembly does influence the growth of introduced plants.

Von Holle, B. and Daniel Simberloff. 2004. Testing Fox's assembly rule: does plant invasion depend on recipient community structure? *Oikos*. 105: 551-563.

### **Bits and Bytes and Bioinvaders: The USFWS E-Field Trip**

The US Fish and Wildlife Service is offering e-field trips on invasive species between April – June 2004. The program is free to schools and includes an opportunity to ask experts questions and also provides field trip journal for students to complete. The guide is directed toward 4<sup>th</sup> to 6<sup>th</sup> grade students. For more details, see <http://www.efieldtrips.org/invasives>.

### **D. Policy and Legislation**

#### **Five Hundred Million Ways to Stop Invaders**

A bill before the House Parks Sub-committee would allocate \$500 million over five years to eradicating weeds from park lands. The bill, entitled the “Noxious Weed Control Act of 2003” [S. 144], was proposed by Senator Larry Craig of Idaho and has been approved by the senate. For details and the full text of the bill, check out <http://indaba.iucn.org/archives/aliens-l/2004-04/00005774.htm>.

#### **Rhode Island Releases White Paper on Ballast**

Rhode Island has completed a white paper on ballast water issues. As well as summarizing economic, policy, technological, and ecological issues pertaining to ballast water, the document recommends that the state support federal initiatives to regulate the technology-based management of ballast water. In the absence of federal legislation, the authors of the paper recommend, amongst other things, that the state develop regulations for ballast water, state monitoring of ballast water management, cooperation with other states on ballast water management, and monitoring for bioinvasions through the Coastal Institute of Rhode Island. The white paper was written as part of the requirements of a state law on ballast water management (Chapter 46-17.3). For a copy of the white paper, please see <http://www.nbep.org/pubs>.

#### **Filling the Void**

In an editorial entitled “The largest void on Earth?” published in the journal *Science*, Robert Gagosian, president and director of the Wood's Hole Oceanographic Institution, highlights the need for research and monitoring to address marine issues, including invasive species. Lack of investment in oceanic research, he claims, has created what may be the United States' “largest policy void.” Gagosian recommends fulfilling the recommendations of *the US Commission on Ocean Policy* as a means of addressing this problem.

Gagosian, R. B. 2004. The largest void on Earth? *Science*. 304: 795.

### **E. Upcoming Conferences and Events**

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 4 – 5, 2004, Kingston, Rhode Island

### **[Working Together to Protect Our New England Waters](#)**

The New England Chapter of the North American Lake Management Society and the New England Cooperative Extension Water Quality Program are offering two days of workshops centered on volunteer monitoring, watershed and lake protection, and restoration. Highlights on the roster include sessions by NH Department of Environmental Services staffer Amy Smagula (also NEANS Panel Communication, Education, and Outreach Committee tri-chair) on identifying, controlling, and preventing the spread on invasives and a course on benthic macroinvertebrates provided by MA Department of Recreation and Conservation staffers Jim Straub (also NEANS Panel Science and Technology Committee Co-chair) and Anne Monnelly (also NEANS Panel Policy and Legislation Committee Co-chair). There are also sessions offered on the control and ecology of nuisance algae and humane methods of controlling geese populations. For more details, see <http://www.uri.edu/ce/wq/ww/html/nec-2004.htm>.

June 8-10, 2004, Muskegon, Michigan

### **[Great Lakes Invasive Species Workshops and Lake Michigan Monitoring Meetings \\*\\*\\* Rapid Response Workshop Postponed](#)**

A workshop devoted to developing a rapid response plan for the potential invader, *Hydrilla verticillata*, originally scheduled for June 7, has been postponed. An Internet web conferencing service is expected to be available for participants unable to travel to the rescheduled workshop. Please contact Kevin Walters ([kwalters@glc.org](mailto:kwalters@glc.org)) with feedback regarding your availability for the rescheduled one-day meeting between the dates of July 19-23 or July 26-30. The remaining Great Lakes meetings are proceeding as follows: June 8 - Workshop: AIS Early Detection and Monitoring: A Pilot Project for the Lake Michigan Basin; June 9 - Spring 2004 Meeting of the Lake Michigan Monitoring Coordination Council; and June 10 - Lake Michigan Tributary Monitoring Workshop. For information on the June 8-10 events, please contact Kevin Walters ([kwalters@glc.org](mailto:kwalters@glc.org)) or John Hummer ([jhummer@glc.org](mailto:jhummer@glc.org)). The phone number for information on both events is 734-971-9135. Please see <http://www.glc.org/events/> for more information.

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](mailto: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, Newfoundland

**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 10 - 11, 2004, Vermont *and* August 21 - 22, Maine

**Blockbusting Weekends for Filling IPANE Data Gaps**

Are you ready to bio-blitz? The Invasive Plant Atlas of New England (IPANE) is holding invasive blockbusting weekends in Vermont and Maine (precise locations to be identified). The idea is to use IPANE forms and methods to map out invasive species in under-surveyed areas in the region. Organizers need estimates of how many people will be participating and if they are camping over (campsite accommodations are covered). For more details, please see <http://invasives.eeb.uconn.edu/ipane/calendar/calendar.htm>.

July 11 - 14, 2004, Tampa, Florida

**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 was April 15, 2004. For more information see <http://www.apms.org/2004/2004.htm>.

July 18 - 23, 2004, Kailua-Kona, Hawai'i

**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 1 – 6, 2004, Portland, Oregon

**89th Meeting of the Ecological Society of America**

The theme of this year's meeting is "Lessons of Lewis & Clark: Ecological Exploration of Inhabited Landscapes." There are several invasion-related events, including sessions entitled: "Natural Enemy Escape as a Mode of Exotic Species Invasions: Theory, Evidence, and Implications" and "Biological Invasions: Species Exchanges Between Eastern Asia and North America." For more details, see <http://www.esa.org/portland/proposal.html>.

August 22 – 26, 2004, Madison, Wisconsin

**134th Annual Meeting of the American Fisheries Association**

The theme of this year's meeting, held at the Frank Lloyd Wright-designed Monona Terrace, is "The Gathering: Leopold's Legacy for Fisheries." The theme honors the origin of the word Wisconsin (which means "gathering of waters") and Aldo Leopold's concept of encouraging others to see earth as "all interlocking in one humming community of cooperations and competitions, one biota." The meeting will include a session on introduced fishes, which already has a proposed talk posted on bighead and silver carp in the Mississippi River and Great Lakes, to be given by Phil Moy of Sea Grant. For more details, see <http://www.afs2004madison.org/index.shtml>.

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](http://bio-eco.eis.ynu.ac.jp/jpn/top/topic_sheet/symposium20040827/eng.html).

August 31 – September 2, 2004, Dijon, France

**XII<sup>th</sup> International Conference on Weed Biology**

The XII<sup>th</sup> 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

**2<sup>nd</sup> 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

**13<sup>th</sup> International Conference on Aquatic Invasive Species**

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 Jay Baker, 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 20 – 24, 2004, Denver, Colorado

**Monitoring Science and Technology Symposium**

This interdisciplinary symposium will bring together policy makers, managers, and scientists to tackle the topic of the monitoring for sustainable economic development. The theme of the meeting is *Unifying Knowledge for Sustainability in the Western Hemisphere*. The purpose of the symposium is to identify the most important information that should be communicated for sustainable development. For more details see <http://www.monitoringsymposium.com/index.cfm>.

September 30 – October 1, 2004, Bern, Switzerland

**3<sup>rd</sup> International Conference on Biological Invasions NEOBIOTA - From Ecology to Control**

The topics covered at the upcoming meeting of NEOBIOTA 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 on a variety of ecological policy issues, including invasive species. Proposals and questions should be directed to: Wil Burns, conference coordinator at email: [jiwlp@internationalwildlifelaw.org](mailto:jiwlp@internationalwildlifelaw.org), phone: 650.281.9126. For further details, see <http://www.internationalwildlifelaw.org/index.shtml>. Presentations will be recorded in the *Journal of International Wildlife Law and Policy*.

October 26-29, 2004, St. Andrews, New Brunswick

**[The Gulf of Maine Summit: Committing to Change](#)**

The summit of the Gulf of Maine Council will mark 15 years of partnerships enabled through the Council. The agenda includes setting priorities for the Gulf of Maine Council's 2006-2011 Action Plan, developing tools to help communities act to protect and restore the Gulf of Maine watershed, improving reporting mechanisms and indicators, setting priorities for research, integrating environmental monitoring and ocean observing via the Gulf of Maine Ocean Observing System, and improvements to state, provincial, and federal regulatory and planning programs. For more information, see <http://www.gulfofmainesummit.org/about.html>.

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 was 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>.