



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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Informational Memo

Subject: Regional Invasive Species Update #13: April - June 2006

From: Joan Cabreza
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To: R10 ETPA Management Team

ecc: Internal EPA mail group & interested outside parties

These memos originated to update EPA regional management on Pacific northwest invasive species program activity, but readership has now expanded well outside EPA, and even outside the USA (welcome to a new burst of new readers from South Africa this quarter!), so I have expanded the material to provide more universal value. I'm happy to include activities of interest from any reader who submits them. Credit for any errors is entirely mine.

EPA Initiatives and Funded Activities

New EPA Grant Award: OR Rapid Response Plan. EPA R10 has awarded a \$30k Regional Geographic Initiative grant to The Nature Conservancy to develop a three-region pilot *Early Detection and Rapid Response Program in OR*. The project will use existing group networks and volunteers to establish a long-term framework for public and private partners to address new invasions at a project scale (and eventually at the state level). *(To get involved or for more information, contact Mandy Tu at imtu@tnc.org)*

New EPA Grant Award: WA Biodiversity Action Plan. EPA R10 has awarded a \$35k grant to the Nature Mapping Foundation to develop a community stewardship program for the Pierce County Biodiversity Network. Several agencies are collaborating on ecoregional assessments to identify both small sites and large landscapes that are important for conserving biodiversity within the 9 WA ecoregions. The pilot project will be located in the ecoregionally important Lower White River area of the Southwest Cascades. The Network will hold community workshops to educate the community on the results of a field inventory, identify stressors to the habitat and wildlife species, and outline stressor reduction strategies. Field data results, conservation targets, stressors, strategies, and action steps developed by the community will then be compiled into a biodiversity action plan, the primary outreach product of this project. This process will become a template for outreach in other jurisdictions within the Network and statewide

under the Washington Biodiversity Council. (*Contact me for more info, at cabreza.joan@epa.gov*)

HQ Climate Change and Invasive Species Workshop. On June 6, ORD held a national workshop in Washington D.C., to discuss potential impacts of climate and land use change on invasive species. A small group of about 30 people from EPA, academia, and state/federal agencies met to discuss the implications of climate change on invasive species. The Pacific Northwest was well represented, with participants from EPA Regions 8, 9, 10, and states of WA, AK and WY. While we all agreed climate change will have many impacts on invasion range, organism viability, ecosystem change etc., it became obvious that predictions of change will be difficult at this stage because there are still so many basic unknowns about specific invasive species in general (e.g., how can we predict future impact of global warming on a species range, if we still lack good data on the *current* range potential?). Results of the discussions will also feed to a contractor white paper being developed. A follow-up meeting is expected in September. (*For more information, contact Britta Bierwagen at bierwagen.britta@epa.gov*).

Ballast Water Lawsuit Update. (See my previous Updates for background on significance of the lawsuit.) No change from last quarter; EPA is *still* waiting for the judge to issue a final order specifying what EPA is to do in light of her earlier ruling (e.g., send the rule back to EPA for further action, or require EPA to issue NPDES permits and/or final rulemaking by a schedule set by the court, etc). Typically such a decision takes around 60 days, but this case seems to be taking much longer. Following the final order, the government will have 90 days to decide whether to appeal.

Duwamish Earth day Project. On April 22, about 40 EPA staff and Americorps interns joined about 800 people in an Earth Day cleanup on the Duwamish River, WA. We spent 3-4 hours, and removed *truckloads* of invasive pepperweed, blackberry, and other species. Although EPA concentrated on Herring's House Park, there were other groups working at 5 or 6 other restoration sites along the river.

EIS Review & Comment. Staff are currently reviewing US Forest Service (USFS) draft EIS for proposed invasive plant treatments on the Mt. Hood National Forest and the Columbia River Gorge Scenic Area. We also provided comments on Proposed US Geological Survey (USGS) vessel decommissioning Environmental Assessment. Because decommissioned vessels have often been stationary for quite awhile, their hulls are likely to contain a variety of organisms, and they could be an important pathway for new introductions.

Regional Invasion Pathways (RARE Project) Update. The EPA Office of Research and Development (ORD), in collaboration with Regions 9 and 10 and several other partners, has recently completed studies on the European green crab invasion across the west coast. These have included the development of a DNA-based molecular probe for detecting and monitoring green crabs in ship ballast, done in conjunction with a broader study on the use of DNA-based techniques for monitoring aquatic invasive species. Collaborators at Moss Landing Marine Laboratory have now begun sampling another 10+ species across CA, OR and WA for comparison to the work that has been completed on green crabs and

Spartina. Staff are also collaborating with the UW on developing a reference database for DNA bar coding of metazoan aquatic invasive species across CA, OR and WA. Work is being funded under a R 9 and 10 RARE grants. (For additional info contact John Darling of ORD at: darling.john@epa.gov.)

Boat Inspection Video. EPA has funded development of a boat inspection training video as part of the 100th meridian zebra mussel prevention efforts. The Pacific States Marine Fisheries Commission (PSMFC) has hired a contractor to develop a video for watercraft inspection training classes, and we reviewed the first draft in June. The video will be distributed to the 500 + boating enforcement agencies in a 5 state region (CA, NV, WA, OR, ID). The work is funded primarily with EPA discretionary funds. (For more information, contact Stephen Phillips at Stephen_phillips@pmsfc.org or 503/650-5400)

AK Invasive Species Council Establishment. U AK organized the first Alaska Invasive Species Working Group meeting in late April. A listserv was established to announce meetings and distribute information, and an AIS workgroup and Marine Subcommittee are meeting monthly. They continue pursuing support from the state for an Alaska Invasive Species Council, and expect to finalize a multi-agency MOU soon. The Marine Subcommittee is starting development of the Alaska Invasive Species (AIS) Management Plan, and the next workgroup meeting will discuss the format and start chapters for non-aquatic species. A website is being developed that will be maintained by the Cooperative Extension Service. This project is funded under an EPA Regional Geographic Initiative grant. (For more information, contact Michelle Hebert at 907/474-2423)

New *Spartina* Brochure. EPA was one of several partners contributing funds for printing the brochure, *Invasive *Spartina* in Puget Sound*, and a companion laminated beach card, *Identifying *Spartina* in Puget Sound: a Field Guide*, that shows the four invasive species and five additional species that are often confused with *Spartina*. The brochure was developed by People for Puget Sound. (The brochure can be found online at <http://www.pugetsound.org/index/pubs> or contact koconnell@pugetsound.org if interested in a printed copy, or to find out about beach identification cards.)

Other Activity In Pacific Northwest States

Columbia River Zebra Mussel Plan. A final draft of the *Rapid Response Plan for Zebra Mussels in the Columbia River Basin* is now available. The plan outlines response activities, summarizes eradication and control actions, contains a rapid response notification list, and incorporates actions we identified at a large group meeting in Portland last September. The *Bonneville Project response Plan for Zebra Mussels*, which will be an appendix to the plan, is also now in draft form (For copies, contact Paul Heimowitz paul_heimowitz@fws.gov or Stephen Phillips Stephen_phillips@pmsfc.org).

WA Aquatic Plant Permit. The Washington Department of Ecology general permit to cover the application of aquatic herbicides, algaecides, and nutrient inactivation products

to state waters, rescinds and replaces the Nuisance Plant and Algae Control NPDES General Permit (WAG-994000), and provides coverage for any in-lake treatment of state listed noxious weeds or quarantine-list weeds. The WA Toxics Coalition requested a Stay against the permit, but it was not granted, so there is “business as usual” under the new permit. The Pollution Control Hearings Board will hear the appeals in full in November. . *(For more information contact Kelly McLain, at 360/407-6938, or see <http://www1.leg.wa.gov/documents/wsr/2006/05/06-05-105.htm>)*

Invasives Monitoring Forum. On June 13, the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) held an Exploratory Forum in Portland, OR. Presentations covered the detection and monitoring of nonnative aquatic invasive species and potential linkages between this and other forms of aquatic systems monitoring. The target audience for the forum included the PNAMP Steering Committee and key individuals responsible for coordinating research and monitoring across a broad range of species, institutions, and landscapes. *(For more information, contact Jen Bayer at 509/538-229.)*

Aquaculture Regional General Permit. The Army Corps of Engineers intends to publish a *Proposed Regional General Permit for Commercial Molluscan Shellfish Aquaculture Activities on the Pacific Coast (excluding AK)*. Because shellfish are a potential introduction pathway for unwanted species, EPA provided advanced comments on the proposed draft. The Corps is expected to publish the proposed permit soon, so those interested in submitting comments at that time should keep their eyes open for it.

Yellow Flag Iris Control Study. WA State University (WSU) is conducting a yellow flag iris control study, using chemical treatments of Aquamaster and Habitat, and mechanical controls of plastic, tarp and landscape fabric mulch. Results were measured after 7 and 12 months. All herbicide treatments worked well, although fall treatments appeared slightly better for controlling yellow flag iris than spring treatments. Mechanical control plots also did an excellent-to-fair job of killing yellow flag iris. Control with mulches seemed to depend on how well the mulches held up during the summer; the longer the coverage before the mulch broke down, the better the control. WSU will maintain these plots at least through this summer to get a more complete idea of how well the fall treatments hold up, and will then write an official report. *(Contact Timothy Miller, at 360/848-6138, for more information).*

Columbia Gorge Invasive Species Workshop. Bonneville Dam held a May 6 workshop to provide participants with an awareness of invasive species, the importance of prevention and control, and the steps individuals and groups can take to prevent introduction and spread in their communities within the Columbia River Gorge. The workshop included discussions on riverine invasives such as mudsnails, milfoil, exotic mussels, and noxious weeds, and elicited public input on invasive plant EISs for the Columbia River Gorge National Scenic Area, and Mt. Hood and Gifford Pinchot National Forests.

Puget Sound Cub Tunicate. The solitary club tunicate *Styela clava*, has caused huge problems for shellfish growers on the east coast, and it has now been found covering

boats and docks at three WA Marinas. With \$75k in emergency funds, and an additional \$175k from the Governor's supplemental budget, WA Department of Fish and Wildlife (WDFW) began eradication efforts in May. Two dive contractors and the Skokomish tribe are involved in removals. Global divers removed organisms from 4000 ft² the first day from one area in Pleasant Harbor. NRC has four divers cleaning and surveying densities. The infestation is heavy; the commercial area has an estimated 30-40 individuals/m²; covered docks have 40/m², end of docks 40/m²; inner walkways 5-8/m². There are fewer organisms close to shore. Boats are also infested, and pressure washing, clipping and vacuuming are all variously being used to remove the tunicates. Eradication may not be possible, but we are aiming for containment/control.

An infestation of a second tunicate, *Ciona savignyi* has also been found starting at a depth of 20' and extending deeper than 80'. Due to the depth, the extent of the infestation is still unknown, but they are very thick in some areas. The Tunicate Advisory Workgroup meets monthly to discuss cleanup progress. Unfortunately, WDFW has not budgeted any money for follow-up next year, and a one year effort is not expected to eradicate the problem. (For more information, contact Pam Meacham at meachpmm@dfw.wa.gov.)

US Forest Service (USFS) Plant Management EISs. The USFS has issued Notices of intent to prepare EISs for the invasive plant management in the Umatilla and Malheur National Forests. In Umatilla National Forest, they propose treating approximately 25,000 acres of invasive plants located across the 1.4 million acre site; approximately 4,000 acres of both existing and newly discovered sites would be treated in any given year. Malheur National Forest proposes to treat approximately 3,800 acres of invasive plants across the 1.7 million acre National Forest, and approximately 800 acres of both existing and newly discovered sites would be treated in any given year. Control methods proposed for both forests include manual pulling or use of mechanical hand tools, herbicides, cultural methods such as grazing or mulching, and biological controls, depending on resource protection concerns for a given site. The draft environmental impact statements are both expected in March, 2007, and the final environmental impact statements are expected in September, 2007. [Ed. Note: past USFS EISs have contained a wealth of information on herbicides, risk assessments etc.]

New Brochure for Science Teachers. Local science curricula have been found to be using Brazilian elodea and rusty crayfish (both invasive) as part of a unit on ecology. Once a class completes the unit, these organisms often end up released in the nearest stream. Oregon Sea Grant has developed a brochure *You Can Stop Aquatic Invasive Species*, which educates teachers on the problem and discusses ways to dispose of these organisms. For more information or to obtain a copy, contact Sam Chan at Samuel.chan@oregonstate.edu).

Pacific Northwest Invasive Species Book. After almost a year delay in publication, this multiple-author, UW-published book is now expected to actually be available around December. The book describes 100 of the least-wanted terrestrial and aquatic invasive species in the Pacific Northwest, providing pictures, a range distribution maps, and a description of the organisms, their impacts, habitats, and control measures. (For more information, contact Sarah Reichard at 206/616-5020)

Canadian Monitoring Workshop. Fisheries and Ocean Canada sponsored a workshop on aquatic invasive species (AIS) monitoring on May 23 and 24, 2006 in British Columbia. The purpose of the workshop was to help establish priority AIS and habitats for monitoring in our region and explore collaborative mechanisms with interested groups. Unfortunately, due to a major conflict, many of us from WA could not attend, but the lines of communication have been opened, and we sent them a variety of documents including the Puget Sound monitoring plan and draft WA Unwanted Species list. A subsequent workshop will deal with specific methods for monitoring. A goal of the workshops is to develop an interim AIS monitoring plan for implementation within 2 years. (*Contact Colin Levings for more info at 604/666-7915*)

New Goby Information Sought. Oregon State University (OSU) has just reported a non-native freshwater goby discovered in the Lewis River in Western Washington. Tentatively identified as the Amur goby, *Rhinogobius brunneus*, it has apparently been unreported for at least a couple of years. The fish are spawning, and effective evaluation of control options requires rapid determination of this species' geographic extent. Please watch for this species in other Pacific Northwest waters, particularly if you are conducting fish surveys. Note that it has been previously misidentified as a native sculpin. If you find this fish:

- Document where/when/etc.
- Take photos if possible.
- Collect/preserve specimen.
- Report to 1-877-STOP ANS

(*For more info, contact Paul Heimowitz, at 503-872-2763; Paul_heimowitz@fws.gov, and see: www.fishbase.org/summary/SpeciesSummary.php?id=23675 for more info on the goby.*)

WA Nutria Trapping. This spring, The Nature Conservancy announced a \$10K challenge grant for nutria trapping in Skagit County, WA. Left unchecked, nutria could devastate the region's marshlands, undermine dikes, and damage crops. The challenge grant raised nearly \$40,000 and the state legislature later authorized another \$75K for nutria control and eradication. USDA Wildlife Services has set up bait stations and traps, and WDFW has established a nutria hotline for Skagit County (360/466-4345 x266). (*For more information, contact Kevin Morse at kmorse@tnc.org or Mike Davison at 360/466-4345 x 280.*)

WA Aquatic Nuisance Species (ANS) Committee. The State ANS Committee held its semiannual meeting in Olympia, on April 17. Director Koenings of WDFW presented awards to Senators Oke and Jacobson for their assistance in invasive species, and we received an update on the new Invasive Species Council and legislation. We discussed the ANS Committee's role in light of the new Council establishment, and heard informational presentations and updates on ballast water treatment approvals, Gray's Harbor *Spartina*, the Aquatic Plant Permit, the Puget Sound tunicate response, and knotweed biocontrol. (*For more information, contact Joan Cabreza at 206/553-7369*)

WA Invasive Species Council Legislation. On March 20, the Governor signed legislation establishing a WA Invasive Species Council. There is currently no single group that

provides policy, direction and coordination for all invasive species, both terrestrial and aquatic. The Council is expected to hold its first meeting in late summer or fall. Once the Council is organized, the ANS Committee expects to brief the Council on our activities, to help them avoid “reinventing the wheel” for aquatics.

ANS Guide To The Columbia Basin. No change: the Columbia River Basin ANS publication is still on track for sometime late in 2006. The 40-50 page booklet is intended to promote understanding of ANS in the basin, and make readers more receptive to information on how to avoid future introductions, avoid spreading existing species, and how to report new sightings. *(For more information, contact Paul Heimowitz at 503/872-2763, or paul-heimowitz@fws.gov.)*

ID Aquatic Nuisance Species (ANS) Plan. ID is currently in the initial phases of Aquatic Nuisance Species Plan development. This is a joint effort of IDOA and IDFG, and if funded by the Pacific States Marine Fisheries Commission, the plan is expected to be completed by the end of the calendar year. *(For more information, contact Fred Partridge at 208/287-2773.)*

WA Employment Opportunity. The Interagency Committee for Outdoor Recreation (IAC) is looking for an experienced professional to fill the Invasive Species Council Coordinator position. This position will be responsible for working with the new Invasive Species Council, which will host its first meeting in early fall, 2006. The Coordinator and Council will develop a statewide vision, protection and prevention strategy, and implementation plan for presentation to the Governor and Legislature by June, 2008. *(If you are interested in this position contact Tammy Owings (360/902-2637) quickly. Application deadline is 5:00 p.m. July 12, 2006.)*

ID Invasive Species Coordinator Position. An ID state Invasive Species Coordinator position, to be located in the Department of Agriculture, has been approved and will be effective July 1, 2006. The IDOA will be looking for applicants to fill the position soon. *(For more information, contact Phil Bandy at 208/332-8552.)*

WA Invasive Species Coordinator Position. WA State ANS Coordinator Scott Smith has left WA Department of Fish and Wildlife to join USGS. The WDFW should be looking for applicants to fill the position soon. *(For more information, contact WDFW).*

ID Eurasian milfoil Control. Legislation to fund a noxious weed control program for Eurasian water milfoil was passed, providing \$4 million in funding for a two year program. Available grant funds will be distributed to as many high-priority projects throughout the state as possible. Applications for grant funds associated with this program were due to ID Department of Agriculture by last may 15 to qualify for consideration. *(For more information, contact Matt Voile at 208/332-8667 or mvoile@idahoag.us)*

AK Loosestrife and Hawkweed Legislation. A bill on orange hawkweed and purple loosestrife passed the Alaska House on April 3, 2006, but died without making it through the Senate. It was felt the state already had authority to regulate these weeds, and

opening up the regulatory process was more expedient than having many single-species legislative pieces. The AK DNR is gearing up to open the regulatory process for an update to the noxious weeds regulatory list later this year.

ID Mudsnaill Meeting. On May 4-5, the USFWS held a meeting on New Zealand mudsnail (NZMS) control strategies for fish hatcheries in Hagerman, ID. Two primary goals were to share information on progress that has been made in methods to reduce the impact and spread of NZMS from hatcheries, and to examine further research needs and collaboration opportunities. Timing was also relevant because of the pending submittal of the national New Zealand Mudsnail Management Plan to the national Aquatic Nuisance Species Task Force, and the possible subsequent additional research funds. (For more info, contact Paul Heimowitz at 503/736-4722)

OR Non-Native Invasive Pest Intervention Team (NIPITS) Update. A mock drill for responding to *Trapa natans* and *Lagarosiphon* will be completed this summer. The final product will be a report on recommendations for Rapid Response Action Teams for these species that will include contacts, a proposed sequence of notifications and suggested means to obtain authorities to act. (Contact Robyn Draheim for more info at draheim@pdx.edu)

New Mudsnail Guide. Oregon Sea Grant, PSU, USFWS and USDA have developed a colorful and informative 8-page *Guide for the prevention and spread of New Zealand mudsnails through field gear*. (Contact Sam Chan at 1-800-375-9360 or email Samuel.chan@oregonstate.edu to obtain copies.)

Ballast Water

WA Environmental Soundness Workgroup. WDFW established the Soundness Workgroup to provide WA DFW with an assessment of environmental soundness on proposed ballast water treatment systems that use biocides. WDFW then considers the group's assessment when making a determination on whether to grant interim state approval as a ballast water technology. The workgroup met on June 29 to evaluate the *Ecochlor™ Ballast Water Treatment System*, a ballast treatment system based on use of chlorine dioxide to treat incoming ballast water. After presentations on the system, the group determined more data on efficacy and toxicity was needed before making a final recommendation. Ecology has also previously developed recommendations for use of BalPur and the PERACLEAN® Ocean Ballast Water Treatment System.

IMO Ballast Water Documentary. The IMO released a film "*Invaders from the Sea*" on March 23. The film shows harmful organisms that may be transported in ballast water and the progress made in reducing the risk of invasive species through ballast water technology and management. It captures the impact of the ballast water issue on the lives of millions of people, using examples of three harmful organisms which have been spread via ballast water: the North American comb jelly (that contributed significantly to the collapse of fisheries in the Black and Azov Seas in the 1990s), the golden mussel

(devastating impact on fishing and hydro-electric power stations and on the local ecosystem in Brazil); and toxic algae blooms (red tides that can cause massive marine life kills through oxygen depletion and release of toxins and/or mucus). The documentary will be distributed by IMO through the United Nations film distribution channels in developing countries and by BBC Worldwide elsewhere. BBC Worldwide has the exclusive rights to distribute the film in the developed countries, but I have had no luck in trying to find out when it will be aired. So keep your eyes open for it.

Canadian Ballast Water Regulations. The Canadian Ballast Water Control and Management Regulations were published in The Canada Gazette, Part II on June 28, 2006. The ballast water regulations make several of the existing voluntary measures mandatory, and were harmonized as much as possible with the U.S. Coast Guard requirements and with the International Convention for the Control and Management of Ship's Ballast Water and Sediments. All ship operators will have to develop ballast water management plans outlining the measures and procedures to ensure that ballast water is being managed safely and effectively. When ships do not travel beyond 200 miles from shore, or when ships cannot exchange ballast water in mid-ocean because of weather or other related safety issues, they will be required to follow other best management practices, including treating or retaining the ballast water on-board. The regulations also specify need for alternative ballast water exchange areas (ABWEAs), within Canadian waters where ballast water can be exchanged when use of a normal exchange area is not feasible.

ABWEA workshop. Because ballast water is a major introduction pathway for nonindigenous species, ballast water exchange is now required. However, sometimes safety reasons preclude exchange from being accomplished in line with the regulations. On June 20-22, the PSMFC, USCG and NOAA hosted a three day Seattle workshop on physical and biological oceanographic considerations of ABWEAs to generate discussion and recommendations concerning the establishment of alternative ballast water exchange areas on the West Coast. Twenty six of us, primarily from federal and state agencies and academia, listened to a number of presentations on West Coast biological and physical oceanography and then, based upon these, discussed potential ABWEA locations relative to the likelihood of onshore transport of organisms, spatial/temporal patterns of water movement on, off and alongshore at various proposed distances, etc. Presentations from the workshop and recommendations for choosing ABWEAs will be summarized in a paper and made available on the PSMFC website at www.aquaticnuisancespecies.org

USCG Ballast Water Phone Changes. Many of the phone numbers at U.S. Coast Guard Headquarters have changed; the new phone number for the ballast water information line (now the environmental standards information line) has changed to 202-372-1402. (*Visit their website at:* <http://www.uscg.mil/hq/g-m/mso/estandards.htm>)

New Tools / Publications / Reports

National Nutria Management Plan. In May, the national ANS Task Force approved the creation of a working group to develop a national plan to manage nutria. APHIS will lead the planning process, and a plan is expected next year. This will be useful to both WA and OR, which both have growing nutria concerns.

Didymosphenia Video. *Didymosphenia geminate*, otherwise known as "Rock Snot," is a good example of how an aquatic invasive species can be aesthetically unpleasing as well as ecologically damaging. This diatom invader has negatively impacted some of the most popular kayaking and fishing rivers in New Zealand, and is projected to cost \$285M over the next six years. It also threatens cold-water streams in North America, and has been found throughout the U.S., including the Methow and Chewuch Rivers in WA. The first global scientific conference on *Didymo* was recently held in Bozeman, MT. Download the DivX media player to view some disgusting video footage of *Didymo* from NZ Game and Fish at <http://www.southlandfishgame.co.nz/didymo.htm>. (From *USFWS Stop Aquatic Hitchhikers*)

Asian Longhorned Beetle (ALB) Information. The longhorned beetle has the potential to destroy millions of acres of hardwood trees including elm, maple, box elder, birch, horse chestnut, poplar, willow, mimosa, and hackberry. Infestations in New York, Illinois, and New Jersey resulted in the removal of thousands of trees and cost state and federal governments in excess of \$168 million, and in 2005, ALB was found in a warehouse in Sacramento. Government organizations have now combined resources to develop a PowerPoint slide show, a Web page, and informational flyers on how to detect and report suspected infestations of ALB. (Visit the website, at www.wripmc.org/alerts/.)

More ALB Information. Rutgers University Cooperative Extension has produced a very nice DVD on the longhorned beetle. It has 2 different Power Point presentations (one with film clips), a 30-minute video, photos for use (with credit), PDF posters and alerts. While it is focused on the ALB outbreak in NJ, the educational materials are useful for anyone concerned about this beetle. (Obtain a free copy of the DVD from Dr. William Hlubik, at 732-398-5262 or Hlubik@aesop.rutgers.edu.)

Sudden Oak Death (SOD). Presentations from the March, 2006, Sudden Oak Death Spring Research update meeting are now available. They include updates on SOD in WA, OR and CA, along with an update on federal regulations, and presentations on survivability and infectivity of *P. ramorum* chlamydospores in soil, and distribution and survival of soilborne inoculum. (View the presentations online at <http://www.suddenoakdeath.org>.)

Invasive Exotic Plant Management Tutorial. The PA Department of Conservation and Natural Resources has developed a new tool for land managers dealing with invasive plant problems. The *Invasive Exotic Plant (IEP) Management Tutorial for Natural Lands Managers: A Comprehensive Tool for Addressing Your IEP Needs* is designed as a "one-stop-shop" for users. Users are provided with background information on exotic

plant problems and a standard management approach to help them more effectively apply the information to their specific problem. The tutorial can be found on-line at <http://www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm> or www.ma-eppc.org (From Lisa Smith (wildflower@laurelweb.net) via theTNC invasive species listserve)

CA Aquatic Non-Native Organism Database (CANOD). This database tracks information relating to the introduction of non-native species by vessels traveling into CA. It contains species information including the pathway, introduction date, locations observed, and native region. It also serves as a resource for addressing questions regarding species that have arrived via ballast water, the rate of new introductions, the effects of ballast water regulations, and how humans have redistributed plants and animals within CA. The database is revised periodically as taxonomic identifications are refined and/or more surveys for non-native aquatic species are completed. (Ed. Note: *The only way I was able to get in was via Google. For questions regarding the database, contact: Steve Foss at 916-341-6958, or sfoss@ospr.dfg.ca.gov.* From Martha Ashe, CDFG)

Roadside Weeds Video. The USFS video *Dangerous Travelers - Controlling Invasive Plants Along America's Roadways* is now available on DVD. I ordered copies for our EPA R10 offices, and it's very good. (To request a free copy, call 909/599-1267 x 235).

Citizens Monitoring Guide. For the last two years, the Massachusetts Coastal Zone Management Program has had a citizen monitoring program for detecting seven different marine invasive species. The program is similar to the volunteer green crab monitoring program, and has a dedicated volunteer coordinator/trainer. Download a copy of marine invasive species monitoring protocol volunteer handbook at [http://www.salemsound.org/SSCW MIS Monitoring Guide.pdf](http://www.salemsound.org/SSCW_MIS_Monitoring_Guide.pdf). Additional monitoring resources can also be found on the Salem Sound Coastwatch web page at <http://www.salemsound.org/mis/miscenter.htm>. (Contact Jason Baker for more information at Jason.Baker@state.ma.us)

Other Happenings

Invasive Species Merit Badge? The USFWS is building an application packet for submission to the Boy Scouts of America (BSA) proposing a merit badge dedicated to invasive species management. The goal of this effort is to provide resource management professionals with an avenue to inform young adults and their families about the importance of invasive species management through hands-on activities. The badge will emphasize local plant, animal, aquatic and terrestrial invasive species identification, current treatment and mapping techniques, and promote future careers. The BSA vision is that the badge would have national significance, make a substantial contribution to the community, and be desired by the Scouts themselves over other established badges. Supporters believe this badge will also provide a tool for land management professionals to inform the public about the invasive species found in their own backyards.

Successful Zebra Mussel Eradication. The VA Department of Game and Inland Fisheries (VDGIF) confirmed eradication of their only infestation of zebra mussels. Eradication

from the 12-acre, 93-foot-deep abandoned Millbrook quarry is believed to be the first successful eradication of zebra mussels from a large, open body of water in North America, and perhaps even in the world. The 3 ½ year effort involved establishing an interagency workgroup; investigating the hydrologic, geochemical, and biological characteristics of the quarry and infestation; inspecting other popular dive sites and reservoirs for zebra mussel infestations; evaluating potential eradication avenues; surveying nearby waters to ensure that zebra mussels had not escaped into them; securing funding for the eradication; selecting a process and contractor to conduct the eradication; and surveying the area for occurrence of native mussels or other species that might be impacted by treatment. The entire quarry was injected with 174,000 gallons of potassium chloride solution over a 3-week period. The target concentration was 100 mg potassium per liter of water, far below the level triggering environmental or human health concerns, but more than twice the minimum concentration needed to kill all the zebra mussels. Potassium levels in the quarry are expected to remain lethal to zebra mussels for decades, thus preventing reinfestation. (*For more information about the eradication effort, visit www.dgif.virginia.gov*).

Final Great Lakes Regional Strategy. The final report on *The Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes* is now available. The invasive species appendix is 88-pages long. This report refers to Bush's May, 2004, Executive Order to create an interagency task force for more effective federal interagency work on restoring the Great Lakes. (*See the report at <http://glrc.us/>*.)

International Aquatic Invasive Species (AIS) Conference. The 14th international AIS conference was held in Key Biscayne, Florida, on May 14–19, 2006. There were a number of sessions relevant to the Pacific Northwest, including sessions on zebra mussels, shellfish, and ballast water. The international nature of the invasives problem was interestingly illustrated in one session, when an American presentation on problems caused by the New Zealand mudsnail was followed by a New Zealand presentation on problems caused by an American freshwater algae. About 400 people from at least 28 nations attended.

Legislation and Requests For Comment

National Legislation. On March 28, H.R. 5030, the Prevention of Aquatic Invasive Species Act of 2006 was introduced to amend the current Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. It would codify and expand various regulatory provisions, establish vessel ballast water management requirements, and other actions. Another abbreviated version, S363, the Ballast Water Management Act, focuses primarily on ballast water issues. While everyone is in agreement on the need for more for invasive species legislation, people do not seem to be able to agree on either bill, and both bills seem mired down at the moment.

Tamarisk and Russian Olive Bill (HR2720). Tamarisk (salt cedar) and Russian olive trees are estimated to occupy up to 1.6 million acres in the West. According to the Tamarisk Coalition, the western U.S. probably loses from 2 to 4.5 million acre-feet of

water per year due to tamarisk trees; annually, it has been estimated to use enough water to supply 20 million people. A bill aimed at tackling water-thirsty tamarisk cleared a major hurdle on May 2, passing the U.S. House of Representatives. The Salt Cedar and Russian Olive Control Demonstration Act would authorize \$80 million over the next five years (\$20 million in FY 2006 and \$15 million for each fiscal year between 2007 and 2010). It also would set aside \$4 million for assessment, \$2 million in grants, \$7 million for demonstration (including costs of planning, design, implementation, maintenance, and monitoring), and \$3 million for analysis.

Phytosanitary Certificates for Imported Fruit and Vegetables. On May 24, APHIS published a Federal Register notice regarding a proposed rule with a risk assessment, and request for comment on phytosanitary certificates for fruit and vegetables imported in air passenger baggage.

Gall Mites as Possible Bio-control Agents. On May 23, APHIS published a Federal Register notice, requesting comments on an environmental assessment proposing use of a gall mite as a possible bio-control agent for control of old world climbing fern (*Lygodium microphyllum*).

Grants Available

Research Grant Program and Requests for Proposals (RFP). A Research Grant Program RFP has been issued by the new Wildlife Habitat Policy Research Program of the National Council for Science and the Environment. Grants will be made only for the projects specifically defined in the RFPs that have the general goal of improving implementation of State Wildlife Action Plans. Proposals could include invasive species considerations. Letters of intent are due July 10, 2006. (See <http://www.whprp.org> or contact Christina Zarrella at czarrella@ncseonline.org for more information.)

Upcoming Invasive Species Conferences

Seattle Invasive Plant Conference. The UW Botanic Gardens, PNW Research Station, USFS, and The Nature Conservancy will host *Meeting the Challenge; Invasive Plants in Pacific Northwest Ecosystems*, on September 19 and 20, at the UW Center for Urban Horticulture. The conference will present the latest findings on current and emerging problem species; share effective prevention and control techniques; and foster the creation of strategies and partnerships for managing invasive plants in forest, rangeland, and urban environments. (For more information, contact jrobins@u.washington.edu or visit the website at <http://depts.washington.edu/urbhort/html/invasives/homepage.htm>)

Tamarisk Research Conference. The 2006 Tamarisk Research Conference will be held in Fort Collins, CO, October 3-4, 2006. The purpose is to bring tamarisk researchers together to share results, promote dialogue, and identify future research needs. Abstracts are due August 15, 2006. (For more information, see <http://www.tamarisk.colostate.edu>)

Aquatic Plant Management Society (APMS). The 46th annual meeting of the APMS will be held in Portland, OR, on July 16-19, 2006. This is always a good meeting for those interested in the biology and management of aquatic plants. (*For more information, go to: www.apms.org*)

National Tribal Invasive Species Conference. A National Tribal Invasive Species Conference will be held on November 7-9, in Reno, Nevada. (*For more info now, contact Robin Powell of the Pyramid Lake Paiute Tribe 775/574-0101 x 34 or email her at Rpowell@plpt.nsn.us*.)

The Western Regional Panel. The Western Regional Panel of the Aquatic Nuisance Species Task Force will hold its annual meeting in Portland, OR, September 13 – 15, 2006. The Panel includes approximately 55 state and federal members from 17 states, Canada and Mexico, as well as industry. Meetings generally focus on updates and information sharing, allocation of grant money, and similar issues. (*Contact Kevin Anderson at (360) 725-5452, for more information.*)

Aquatic Animal Health Symposium. The 5th International Symposium on Aquatic Animal Health will be held September 2-6, in San Francisco, CA. (*For more information, contact Linda Beck at 406/994-9947.*)

Asian Carp Symposium. *Invasive Asian Carps in North America: A Forum to Understand the Biology and Manage the Problem* will be held August 22-23, 2006, in Peoria, IL. (*For more information Visit <http://www.asiancarp.org>*)

And Last But Not Least....An Interesting Paper:

Invaders Adaptation Over Time. We don't have cane toads (*Bufo marinus*) in the Pacific Northwest (I hope!), but I couldn't resist adding this in as an indication of the ability of a species to change over time in a new environment. Cane toads, introduced into Australia in 1935, are apparently getting faster. Researchers attached radio-transmitters to the toads leading the current invasion front near Darwin, and found toads leading the charge are now longer-legged and faster than typical cane toads. The toads are now traveling five times faster (approximately 50 km per year) than when they were first introduced to Australia! A cane toad can hop up to 1.8 km in a single night (presumably by many small hops and not just one large one). (*See the whole article by Phillips et. al in Nature 439: 803. (From the TNC listserv)*)