UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Informational Memo

Subject: Invasive News in a Nutshell #15:
October 2006-January, 2007

From: Joan Cabreza
Regional Invasive Species Coordinator

To: R10 ETPA Management Team
ecc: Internal EPA mail group & interested outside parties

These memos originated to update EPA regional management on the EPA invasive species program activity, but readership has expanded so greatly that I have expanded the material to provide more universal interest, although there is still a strong US Pacific Northwest and special EPA focus. Credit for any errors is entirely mine. Comments? Email me at Cabreza.joan@epa.gov

Interesting Factoid: The Great Lakes 183rd aquatic invader has just been identified. This one is a shrimp. On the average, one new non-native species enters (and I assume, establishes?) in the Great Lakes every 28 weeks.

EPA Initiatives and Funded Activities

Aquatic Pesticide Applications and NPDES Permits. On Nov. 21, 2006, EPA issued a final rule clarifying two specific circumstances in which a Clean Water Act permit is not required before pesticides are applied: (1) when pesticides are applied directly to water to control pests, including mosquito larvae, aquatic weeds and other pests in the water; and (2) when pesticides are applied to control pests that are present over or near water where a portion of the pesticide will unavoidably be deposited to the water in order to target the pests effectively. The final rule replaces EPA's Interpretive Statement on the Application of Pesticides to Waters of the United States in Compliance with FIFRA, published on Feb. 1, 2005, and it became effective January 26, 2006. Four states have already enacted their own aquatic pesticide application permitting systems: WA, OR, CA, and NV. *(For more information go to http://www.epa.gov/npdes/agriculture and http://www.epa.gov/pesticides .)*

EPA Ballast Water Lawsuit (update). Department of Justice has decided EPA will move ahead with the appeal to the 9th Circuit in the NPDES ballast water lawsuit. EPA filed a notice of appeal back on Nov. 16, but it's now official that we are going to pursue that

appeal. The appeal has been authorized "on all issues, but no stay at this time." The "at this time" means that if the court has not ruled by the time the Sept. 2008 deadline is imminent, Department of Justice may authorize seeking a stay at that time.

R10 Invasion Pathway and Genetic Tool Project (update) Genetic analysis of the US west coast green crab (*Carcinus maenas*) indicates San Francisco is likely the sole source for all west coast populations. Genetic continuity between estuaries is relatively high, indicating high levels of propagule exchange. Data collection for the global green crab population is complete, and genetic analysis and manuscript preparation should be complete by the end of the year. A second manuscript, describing the successful development of genetic probes for the detection of green crab larvae in mixed plankton samples should be completed next month. The genetic approach will be adopted to screen approximately 300 ballast water samples collected on the west coast by EPA contractors, and will also provide a starting point for the development of "next generation" DNA-based tools for targeted screening ("lab on a chip" shipboard-accessible technology). Additional west coast invasive species, provided by Moss Landing Marine Labs, will also be genetically analyzed over the next two years to provide a comparative dataset for examining the population connectivity and expansion dynamics of multiple invasive species with overlapping distributions from CA to BC. Analyses have already begun on the invasive tunicate *Styela clava*, and will begin shortly on several invasive amphipod species. The lab has also recently received specimens of roughly 100 established west coast invasives from Jeff Cordell at UW. These samples are being processed for DNA "barcode" sequences, and will be the first to populate a DNA barcode database that ultimately aims to include all known west coast invasive species, and will aid in the future development of DNA-based screening and monitoring tools. A paper on the project will also be presented at the Puget Sound/Georgia Basin conference in March. This multi-partnered project is being conducted for R10 by the EPA Cincinnati, OH, lab. (*For more info, contact John Darling at (513) 569-7865)*

National Tribal Invasive Species Conference. The National Tribal Invasive Species Conference was held on November 7-9, in Reno, NV. The EPA Las Vegas Lab, Jamestown S'Klallam Tribe and EPA R10 jointly developed a poster on the *Buddleia* removal project on the Dungeness River (a R10 grant project) and both the Region and the Lab gave presentations as well. R10 tribes were relatively well represented at the conference as well.

Activity In Pacific Northwest States

AK Invasive Species Film Festival. This year's Forum on the Environment will be held in Anchorage on February 12-16. It will include an invasive species film festival, and it features several films developed locally! Films include *Invaders From the Sea* (IMO - BBC production); *AK Knotweed Public Service Announcement* (Black Dog Productions); *Don't release a pest* (USC Sea Grant); *Restoring the Balance: Removing the Black Rat from Anacapa Island* (Full Frame productions); a zebra mussel film *It only Takes One* (Pacific States Marine Fisheries Commission); a mitten crab video, *You Ought to Tell*

Somebody (OR Sea Grant); and a roadside weed video *Dangerous Travelers* (USFS). Kudos to Lisa Ka'aihue for thinking up such a great idea!

WA Ballast Water Legislation and Work Group. The Ballast Water Workgroup completed a draft report and recommendations in December 2006, and will submit them to the WA State legislature this month.

Two bills, HB 1738 and SB 5748, which would modify the state Ballast Water Management Act, were also introduced in the Legislature. Among other things, they require the state to: (1) Conduct environmental monitoring to determine the long-term effectiveness of the state's ballast water program, (2) Assess hull fouling and other non-ballast water ship vectors as a source of introduced invasive species, and (3) Extend the 'common waters' definition north to include Southeast Alaskan waters. *(For more information, contact Kevin Anderson at kanderson@psat.wa.gov)*

Other WA Legislation. A number of other invasive species bills have been introduced in the legislature:
- SB 5781 would establish a business and occupation tax rate of 0.2904 percent on the business of performing vegetation management services through the use of goats or sheep
- SB 5923 relates to aquatic invasive species enforcement and control.
- SB 5844 and HB1909 would eliminate a little known provision in current law that could subject a property owner to a fine of $1,000 and a year in jail if they remove more than five pounds of Scotch broom from their property without a special permit.
- HB1946 would establish a pesticide use reporting system
- HB1743 concerns noxious weed control boards

WA Aquatic Pesticide Permits. The WA Department of Ecology (Ecology) has announced that it will continue using permits to control the use of aquatic pesticides in and around Washington waters. Use of the permits came into question when the U.S. Environmental Protection Agency ruled in November 2006 that a pesticide applied according to the federal label is not a pollutant under the federal Clean Water Act and is not subject to NPDES permitting. The EPA ruling has caused legal ambiguity and is being appealed in 11 circuit courts throughout the county. Washington is awaiting the outcomes of these judicial proceedings before changing its practice of controlling aquatic pesticide use with permits. Without permits, the state could not track uses of aquatic pesticides, there would be no requirement for pesticide applicators to notify the public when products are being used, and there would be no environmental monitoring.

After the new EPA rule, Ecology met with interest groups representing each of the permit areas, as well as with agricultural and environmental groups. After a public comment period, most of the feedback Ecology received requested that the state continue its current permitting program, pending the outcome of the EPA rule appeal. *(For more information, contact Kelly McLain, at (360) 407-6938 or kelm461@ecy.wa.gov.)*

Nutria Workshop. A small regional workgroup has been formed to develop a nutria strategy. The workgroup will hold a two-day nutria workshop in Vancouver, WA, in April. A number of local regulators as well as people from eastern states, where nutria are

a significant problem, will be speaking. *(Contact Robyn Draheim for more information, at: draheim@psu.edu.)*

WA Invasive Species Council (update). The new state invasive species council is finally up and running! After an organizational meeting in November, we held the second meeting on January 29. Members of the council include state, federal, tribal, county and NGO representatives. Last meeting was focused primarily on organizational matters and on beginning to get a perspective on the various existing groups. Last meeting, the WA ANS committee, the Noxious Weed Board, the Biodiversity Council and the Invasive Species Coalition each provided informational presentations. The next meeting will be held on March 20. *(For more information, contact Clover Lockhard, council coordinator, at 360/902-3088.)*

ANS Guide to The Columbia Basin (update). Most of the content has been drafted and the design contractor is now working on layout options. Final production is still targeted for early summer. This 40-50 page booklet is intended to promote understanding of ANS already in the Columbia Basin, and make readers more receptive to information on how to avoid future introductions, how to avoid spreading existing species, and how to report new sightings. *(For more information, contact paul_heimowitz@fws.gov.)*

New WA Freshwater Algae Program (update). The Ecology freshwater algae program is funded by one dollar from each boat registration fee, and the agency hopes to launch it by April 1, 2007. The focus is on cyanobacteria (blue-green) algae, because these algal blooms are increasing with urbanization, and some species form toxins that are documented to affect human health and kill pets and livestock. Ecology is also establishing a mail-in algal identification and toxicity testing service for lake residents and local health districts. Over time, Ecology will be able to determine which lakes are experiencing algae blooms, and the species, timing, frequency and toxicity of the blooms. This will help them target funds to waters experiencing the greatest problems. The WA Department of Health is concurrently developing statewide guidelines for cyanobacteria that will help local health jurisdictions decide when to close a lake to recreation, and will promote statewide consistency among local governments in handling toxic algae blooms.

From October 1 - November 1, each year, Ecology will offer grants to local governments for algae-related activities starting the following January. Eligible grant projects may include pilot projects for algae control activities, education and outreach, algae control activities, and equipment purchase. *(For more information about the Freshwater Algae Program contact Kathy Hamel, at kham461@ecy.wa.gov or Joan Clark at jcla461@ecy.wa.gov. For more information on the cyanobacteria guidelines, contact Joan Hardy at: joan.hardy@doh.wa.gov.)*

Washington Freshwater Weed Management Grants (update). Ecology has awarded ~$200,000 for a variety of freshwater weed projects in FY 2007. The Chehalis Tribe and Thurston County Noxious Weed Control Board will use their grants to continue removing Brazilian elodea from the Chehalis River, using diver hand removal techniques. The project is important because Brazilian elodea has the potential to block salmon passage. Skagit County will use aquatic herbicides to manage Eurasian water milfoil and Brazilian

elodea in Clear and Beaver Lakes. The WA Department of Fish and Wildlife will be working with the residents of Silver Lake in Spokane County to help them develop an integrated aquatic plant management plan for Eurasian water milfoil. Ecology is also continuing to fund an on-going *Hydrilla* eradication project in Pipe and Lucerne Lakes. Last year, diver and snorkel surveys discovered only two remaining *Hydrilla* plants in Pipe Lake, so the goal of eradication of *Hydrilla* from the Pacific Northwest is within reach! (*For more information about the Aquatic Weeds Program contact Kathy Hamel, at kham461@ecy.wa.gov or Joan Clark at jcla461@ecy.wa.gov)*

Knotweed Biocontrol Workgroup (update). UW biocontrol specialist, Fritzi Grevstad, in partnership with the USFS and OR DOA, has begun initial testing of potential biological control agents for Japanese and giant knotweeds (*Fallopia spp*.). A specialized insect containment facility at OSU was approved for this work and certified by APHIS last summer. Import permits were obtained in November and a knotweed-feeding beetle from northern Japan (*Gallerucida bifasciata*) was brought into the facility in mid-December. *Aphalara itadori* (a sap-sucking psyllid) and *Ostrinia ovalipennis* (a stem-boring moth) will be imported at a later date. The insects will be tested to make sure they will not harm native and economically important North American plants. A majority of the test plants have already been collected. The remainder will be collected this summer.

In October, Cornell U. held a successful knotweed conference in NY, that attracted over 100 attendees. There was much interest in the biocontrol program among East Coast stakeholders. One outcome from the conference will be a continent-wide email list for knotweed biocontrol information. Funding is still an issue, but overall, things are exciting and moving forward. *(For more information on the WA knotweed biocontrol project, contact Fritzi Grevstad at: grevstad@u.washington.edu)*

New Aquatic Invasive Species Permit. Ecology has begun developing a permit to allow the chemical treatment of invasive species such as zebra mussels, spiny water fleas, and marine tunicates. Staff is currently recruiting interested parties for a technical advisory committee. Membership will be limited to approximately 20 people. *(Anybody interested in serving on this committee, should contact Kathy Hamel at kham461@ecy.wa.gov.)*

WA ANS Committee (update): The Committee plans to present the draft Early Detection and Rapid Response Plan and the non-native species Watch List that we developed last year, to the Invasive Species Council this spring, to move these forward. We have also been working to revise the state ANS plan, which was last revised in 2001, and are assisting in various agency activities including the tunicate response (see below) and the invasive species permit (above). The next full committee meeting is being planned for April. *(For more information, contact cabreza.joan@epa.gov.)*

ID Aquatic Nuisance Species (ANS) Plan. IDOA and IDFG are drafting an Aquatic Nuisance Species Plan, that is now under review by the technical review committee. We expect a draft to be available for public review in March. *(For more information, contact Amy Ferriter at aferriter@idahoag.us)*

ID Coeur d'Alene Tribe Eurasian Milfoil Control Program. Using grants from EPA and Avista Utilities, the Coeur d'Alene Tribe began aquatic vegetation surveys in parts of Lake Coeur d'Alene and the lateral lakes located along the St. Joe River at the south end of Lake Coeur d'Alene. The surveys involved shoreline transects, diver collection of submersed plant assemblage samples, and analysis of biomass and nutrient content. Very little Eurasian water milfoil was found in Coeur d'Alene Lake samples, but it was found to be widely distributed within the lateral lakes. The Tribe then began development of an Integrated Aquatic Vegetation Management Plan to guide future milfoil control work.

The actual milfoil treatment in Coeur d'Alene Lake began earlier than expected, thanks to a Legislative allocation of $4 million for state-wide milfoil control in early 2006. The Tribal program included diver surveys, GPS / GIS mapping of milfoil locations, herbicide treatments using liquid 2, 4-D over approximately 300 acres of the densest milfoil growth, and diver suction and hand removal of sparser growths of milfoil in high-recreational use areas. This initial program was considered a success and project details were incorporated into a report which was submitted to the ID Department of Agriculture. *(Contact Dave Lamb at dlamb@cdatribe-nsn.gov or 208-686-6206, for more information)*

Oregon Gets Graded! In January, the OR Invasive Species Council gave the state a grade of A-minus for its overall successful efforts in 2006 against unwanted exotic organisms. The grade matches the A-minus of 2005 and remains the highest mark issued since the council was established nearly five years ago. Previous grades on the annual report card included a "B" in 2004 and a "B-minus" in 2003. (This sounds like something other councils should do!)

OR Feral Swine Plan. The Oregon Feral Swine Action Plan is finished and available for download at www.clr.pdx.edu/publications/index.html *(From Mark Sytsma)*

Richland Integrated Aquatic Plant Management Plan. Eurasian milfoil (*Myriophyllum spicatum*) first arrived in the Columbia River in the 1970's, but until recently, there was relatively little response to it in the Tri-Cities area. Now the City of Richland has been offered a grant from Ecology, and is working with WSU to develop an Integrated Aquatic Plant Management Plan for parks along the Columbia River. The overall goal is to manage nuisance vegetation to improve recreational and commercial use of Richland's waterfront, and maintain habitat diversity for fish and wildlife. The Benton County Noxious Weed Control Board, two WSU graduate students, and Tri-Cities are conducting experiments to understand how much nitrogen and phosphorus milfoil can take from the water, and testing the use of bottom cloth barriers to kill it. After about 8 weeks, the bottom barriers remain in place and they have kept milfoil and other aquatic vegetation under control. *(For more information, contact Dr. Steven Link at 509-948-0054 or by e-mail at slink@wsu.edu.)*

Whirling Disease (WD) Study**:** Whirling disease is a fish neurological disorder caused by the parasite, *Myxobolus cerebralis,* that can produce mortality rates as high as 100 percent in some salmonids. The disease has been spread within the US primarily through the movement of infected fish through hatcheries, but it has increasingly begun to appear

in streams not stocked with infected fish. A new study at the Coastal Oregon Marine Experiment Station at OSU in Newport, OR, has found that the parasite causing WD in juvenile trout and other salmonids can be transmitted from one fishing hole or stream to another on fishing boots and waders. Researchers wearing waders found that stepping into mud containing infected tubifex worms (the alternate host) caused release of parasite spores, which then attached to the waders. Wearing the waders in a separate clean tank with healthy rainbow trout was enough to infect the fish. Even after the waders were left to dry for several hours, enough infectious material remained to infect new hosts. *(Summary of a news release; for more information, contact Paul Reno at 541/867-0147)*

AK Invasive Species Council. The AK Commissioner's Natural Resources Council approved development of an MOU for establishment of the AK Invasive Species Working Group. On October 24, the workgroup met in Anchorage to identify and prioritize a plan of work for the next 6 months. A website has also been established (http://www.uaf.edu/ces/aiswg/) and monthly statewide audios and a quarterly newsletter are being produced. *(For more information, visit the website or contact Michelle Hebert at: ffmah@uaf.edu).*

Recent Pacific Northwest Invasions

Quagga Mussels Cross the 100th Meridian. On January 6, the first quagga mussel population established west of the 100th Meridian was found near the NV/AZ border at the Las Vegas Boat Harbor, at the southern end of Lake Mead. This is 1,000 miles farther west than any previously known infestation. Additional mussel populations were subsequently found in California at Lake Havasu, in a Los Angeles water reservoir, and in the Lake Mead fish hatchery. Fish and water from the hatchery have been transported elsewhere, including to the Wild Horse Reservoir in Northeast NV. The reservoir is part of the Owyhee watershed, which drains to the Snake River, which drains to the Columbia River.

Quagga and zebra mussels are both in the genus *Dreisenna*, and are equally highly invasive. Zebra mussels or quagga mussels, the implications are the same: Bad News. Zebra mussel densities of over 700,000 individuals per M^2 have been reported in the Midwest, and monitoring and control of zebra mussels costs facilities in the Great Lakes and the Mississippi River Basin millions of dollars annually. Originally from Eastern Europe, the mussels clog water intake pipes, negatively affect hydroelectric power operations, ruin boat engines, and impact water delivery systems. The Great Lakes are considered to be the source of the Lake Mead mussels.

Limited boat inspections in Washington State have also found seven confirmed findings on commercial vessels since 2000, with the most recent occurring just this December. Although not yet actually found in WA waters, Allen Pleus, the WA ANS Coordinator, has developed a nice briefing sheet for WDFW, and the 100th Meridian Workgroup is also updating the draft Columbia River Zebra Mussel Plan to include quagga mussels. (*Seethe current draft Columbia Basin Response Plan (on-line at*

http://100thmeridian.org/ColumbiaRT.asp). A newer version will be posted in March. *(For more information see the USGS fact sheet at: http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=95.*

For how CA is handling the new discovery, see the CA quagga mussel Incident Command system website at: http://www.dfg.ca.gov/OSPR/spills/signif%20events/q_mussel/q_mussel_incident.html)

New WA Milfoil Species. Ecology has determined that the nuisance milfoil growing in Blue Lake, Thurston County is *Myriophyllum heterophyllum.* This may be the first confirmed record for this species in Washington. A specimen is being sent to the UW herbarium for their records. This species is native to parts of Eastern North America, a listed rare plant in a few states, and a listed noxious weed in some northeast states. It has caused a good deal of alarm to the people who live in the community around Blue Lake, and appears capable of becoming invasive here, so eradication would be an appropriate goal for this plant in this lake. Apparently, pet store milfoils often turn out to be *M. heterophyllum*, so adding this species to the quarantine list next time Ag opens the list may be appropriate. *(For more information, contact Jennifer Parsons, at jpar461@ecy.wa.gov)*

Amur Goby (update). No additional Amur goby sightings have occurred since last spring, but the coming field season offers new opportunities for detection. Genetic analysis from one of the La Center fish indicated that it is derived from the "Shinjiko Lake type" population, which is thought to originate in the areas facing to the East China Sea, including the Sea of Japan side of Kyushu Island, the most southern part of Honshu Island, Japan, and the Sea of Japan side of Korea and China. We are still awaiting gut content and egg analysis of La Center samples taken by OSU researchers. No conclusive information has emerged regarding the introduction source, and so far there is no evidence that the Amur goby is common within the aquarium trade. Continue to watch for this species in other Pacific Northwest waters and note that it has been previously misidentified as a native sculpin. If you find this fish, report it to 1-877-STOP ANS. *(Contact Paul_heimowitz@fws.gov, for more info, and for more goby info, go to: ww.fishbase.org/summary/SpeciesSummary.php?id=23675.)*

Puget Sound Tunicates (Update). WDFW hopes to resume tunicate removals by the end of April, before tunicates begin spawning. Some funding from DFW, PSAT and DNR is available at this point for the remainder of the biennium. There is also $.5 million in the Governor's 07-09 budget, that will be available in July, and some recreational boat funds will be available for tunicates or other species. One question now under consideration is how to balance the available money with the expanding needs. The state agency workgroup met February 6 to discuss next steps and other topics, and Allen Pleus has developed a draft outline for an interagency Tunicate Management Plan. *(For more information, contact Allen at pleusaep@dfw.wa.gov)*

State Activity Elsewhere

CA: Outer Coast Survey Results. The Marine Invasive Species Act of 2003 required the CA Department of Fish & Game (CDFG) to survey subtidal and intertidal sites along the outer coast for the presence of non-indigenous species. Moss Landing Marine Laboratories conducted the field investigations in 2004/05 and coordinated the taxonomic identification and database development for CDFG. A total of 1265 species were identified in the study; 26 were classified as introduced, 127 were classified as cryptogenic, and 1112 were classified as native to CA. Six of the introduced species were apparently previously unknown from CA. A final report detailing sites visited, sampling methods and a listing of all identified species, is available at: http://www.dfg.ca.gov/ospr/organizational/scientific/exotic/MISMP.htm (*For questions regarding the report, contact: Steve Foss, at sfoss@ospr.dfg.ca.gov.)*

IL: Carp Barrier. The Asian carp is migrating up the Mississippi River and threatening to enter Lake Michigan through the Chicago Sanitary and Ship Canal. In January, Congress introduced legislation to fund an electric barrier as the last line of defense to keep Asian carp from entering the Great Lakes. The electric barrier on the canal is designed to repel the carp and prevent further migration toward Lake Michigan. Fisheries biologists believe that if the carp enter the Great Lakes they will out-compete native fish for food and habitat, further disrupt the ecosystem, and crash the region's $4.5 billion fishery. The Great Lakes Asian Carp Barrier Act (HR553 and S336) will provide approximately $9 million to construct and maintain a permanent electric barrier. *(For more information, visit: http://www.healthylakes.org.)*

MI: Ballast Water General Permit. Michigan has developed a General Permit for Ballast Water Control that became effective on January 1, 2007, and expires January 1, 2012. The permit authorizes oceangoing vessels to engage in port operations including fueling, loading and off-loading cargo, and loading and un-loading passengers. The permit covers effluent limitations, monitoring and reporting requirements, and penalties, and describes effluent limitations for treatment systems that use hypochlorite, chlorine dioxide, UV and filtration, deoxygenation, and other ballast water additives. Permit coverage authorizes ballast water discharges provided the discharge is in compliance with one or more of the ballast water treatment conditions and all other requirements contained in the permit. View it at http://www.michigan.gov/deq and then click on Water - Surface Water – Permits.

MO: Live bait Regulation (?) Missouri is considering drafting a regulation to restrict/eliminate the use of aquatic live bait on three lakes that serve as water supply for three warm water fish hatcheries. This is being proposed to reduce the potential threat of bait bucket transfer of veligers, invasive crayfish, invasive fish, aquatic plants, etc. The use of private boats on those lakes is already prohibited, and the lakes provide boats for the public for a nominal daily fee. *(If anyone knows about any similar regulations elsewhere, contact Brian Canaday, the MO Invasive Species Coordinator, at 573-522-4115 x3371.)*

On The National Level…

Ballast Water Reporting. The US Coast Guard is seeking comments on its current ballast water management reporting and recordkeeping requirements. Public meetings are planned for the week of March 12, 2007 in the Great Lakes area (Chicago) and the Gulf of Mexico area (New Orleans). *(Learn more at http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2006/pdf/E6-18903.pdf)*

USDA Economic Studies. On October 6, the Agriculture Secretary announced that universities in seven states will receive $1.1 million to study the economic implications of preventing, controlling, or eradicating invasive pests and diseases. The agreements are administered by USDA's Economic Research Service and will provide funding to universities in AZ, MI, MN, MT, OH, TX, and WA. Subjects these projects will examine include development of systems to help public and private land managers identify priorities and select efficient prevention, detection, and control strategies; benefits and costs of strategies to slow the spread of the emerald ash borer in MI and OH; benefits and costs of policy options to manage animal diseases that spread between livestock and wildlife; economic effectiveness of mitigation strategies against avian influenza in the poultry industry, including prevention and response; and economic and trade effects on U.S. and global livestock markets of animal disease outbreaks. *(More information about these projects is on the web at: www.ers.usda.gov/briefing/invasivespecies.)*

Online Invasive Plants Workshop. The Center for Invasive Plant Management held an online invasive plant online workshop for land managers from January 15 - February 16, 2007. The framework guided participants interested in developing weed management plans, and focused on developing and prioritizing strategies and considering land management goals, ecological principles and processes, and contemporary assessment techniques. The workshop also provided a great opportunity for exchange of information and ideas. For information about the online workshop, contact mmcfadzen@montana.edu.

National Mudsnail and Carp Management Plans. The notice of availability and request for comments for the Draft National Control and Management Plans for New Zealand Mud Snails and Asian Carp were published in the October 19 and 24 Federal Registers, respectively. Both plans are available for viewing and download from the ANSTF homepage at: http://anstaskforce.gov/default.php.

U.S. Forest Service(USFS) Proposed Rule on Piscicide Applications. On November 16, the USFS published a proposed rule that if finalized, would provide a standardized national approach for the application of piscicides (fish control agents) by state agencies on National Forest lands. Comments were due 1/16/07. *(Check for the PDF Version at: http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/pdf/E6-19197.pdf)*

Invasive Species Research Legislation. H.R.260, "To establish marine and freshwater research, development, and demonstration programs to support efforts to prevent, control, and eradicate invasive species, as well as to educate citizens and stakeholders and restore ecosystems" was introduced on January 5, 2007. It has been referred to the Committees

on Science and Technology, Transportation and Infrastructure, Natural Resources, and House Administration, for further consideration.

New Information Sources

Global Invasive Species Website Change. The Global Invasive Species Database (GISD) launched a new website on September 25, 2006, that has improved content and functions. The GISD has been on-line at *www.issg.org/database* since 2000, and currently receives more than 50,000 hits per day. The database is also available in CD-ROM format, allowing people to access up-to-date, comprehensive invasive species information where internet access is restricted or non-existent. *(For more information, contact Michael Browne at issg@auckland.ac.nz).* It is mirrored by the USGS National Biological Information Infrastructure (NBII) at *www.invasivespecies.net/database.*

New Handbook on Targeted Grazing for Weed Management . A new handbook was released in December that outlines the basics of applying targeted grazing for vegetation management. It represents a compilation of the latest research on harnessing livestock to graze targeted vegetation in ways that improve the function and appearance of a wide variety of landscapes. The 18-chapter handbook is available on-line at: http://www.cnr.uidaho.edu/rx-grazing/Handbook.htm. Printed copies of the handbook will be available at info@sheepusa.org for $25, in March, 2007. *(For more information, contact Karen Launchbaugh, at (208) 885-4394 or www.uidaho.edu/range.)*

Interesting Website: Take a look at the invasive species issue from the other side of the Atlantic, in Northern Europe and the Baltic areas. The invasive species fact sheets are also very informative. http://www.nobanis.org/

NAS Alert System Expansion. The NAS alert system is now active for plants. Login to view and/or modify your alert subscriptions (or if you are a first time user, to receive alerts of new species sightings in your area).http://nas.er.usgs.gov/AlertSystem/alerts.asp)

Great Lakes Listserve. For information in the Great Lakes area, the Great Lakes Information Network (GLIN) hosts glin-announce, at http://www.great-lakes.net. To subscribe: http://www.glin.net/forms/glin-announce_form.html. *(Thanks to Vacys Saulys, Great Lakes Program Office, for a tip on this database.)*

National Invasive Weed Awareness Week. . This event is hosted by the Invasive Weed Awareness Coalition (IWAC) and is in its eighth year. This year, it is February 25 - March 2, 2007. Both Mike Johanns, Secretary of Agriculture, and Dirk Kempthorne, Secretary of the Interior, have been invited to address attendees at special briefings. Attendees come from varying backgrounds and professions, but share a common goal: to control invasive weeds in the United States and protect our native ecosystems. NIWAW focuses on sharing invasive weed information with federal officials at the highest levels and collaborating with experts to address what has become a national and global environmental concern. *(Thanks to Barb Okorn. For more information, go to: http://www.nawma.org/niwaw/niwaw_index.htm)*

Invasive Species Conferences

Puget Sound Georgia Basin Research Conference. This year's conference will be held **March 26-29, 2007,** in Vancouver, BC. There will be several presentations on invasive species, and EPA will be involved in at least two presentations (one on the EPA/USGS PCEIS database and one on the R10 invasion pathways project). *(For more information, go to http://www.engr.washington.edu/epp/psgb/call.html*

Marine Bioinvasions Conference. The Fifth International Marine Bioinvasions Conference will be held at Massachusetts Institute of Technology in Cambridge, MA, **May 21-24, 2007**. The conference will examine marine bioinvasion vectors, patterns, ecological and evolutionary consequences, economic impacts, biosecurity approaches, and natural and invasion impacts on biodiversity. *(For more information, see http://web.mit.edu/seagrant/bioinvasion2007/index.html)*

International Invasive Species Conference. The 15th International Conference on Aquatic Invasive Species will be held **September 23-27, 2007**, in Nijmegen, The Netherlands. *(For more info, contact Elizabeth@theprofessionaledge.com)*

International Symposium on Managing Vertebrate Invasive Species. USDA APHIS will host *Managing Vertebrate Invasive Species* in Fort Collins, CO, on **August 7-9, 2007**. Topics include Early Detection and Rapid Response, Pathways Analysis, Prevention, Management or Eradication, Invasions and Impacts, Economics, Resource Recovery, Public Education, Research Needs, and Global Initiatives. *(For more info, contact kathleen.a.fagerstone@aphis.usda.gov)*

WA Weed Conferences. The Washington State Weed Association held its 56th Annual Weed Conference on November 1-3, 2006 in Yakima, WA. Next year's conference will also be held in Yakima, on **November 7-9, 2007**. For more information on either the 2006 or 2007 conferences, go to www.weedconference.org.

New Zealand Mud Snail (NZMS) Conference. The 5th USA NZMS Conference will be held **June 26-28, 2007** at UC-Davis, CA. The conference information will be available soon via the NZMS website (http://www.esg.montana.edu/aim/mollusca/nzms).

Western Society of Weed Science (WSWS) Annual Conference. The 2007 WSWS conference will be held in Portland, OR, on **March 13-15, 2007**. WSWS is also sponsoring a special Invasive **Knotweed Symposium** on **March 15-16, 2007.** Several renowned international experts will discuss the biology, physiology, ecological impact and management of several problematic knotweed species. (Additional program and registration information is available on the WSWS website at http://www.wsweedscience.org/.)

Workshop: Communicating Effectively About Aquatic Nuisance Species. A special day-long workshop will be held on **March 19, 2007**, in conjunction with the 72nd North

American Wildlife and Natural Resources Conference, being held **March 20-24, 2007,** in Portland, OR. The workshop will provide an opportunity to specifically address communication efforts around aquatic nuisance species, and is intended for state, federal and tribal agencies, universities, non-governmental organizations and corporations. In order to participate or attend the workshop you are required to register for the North American Wildlife and Natural Resource Conference. Registration information can be found at http://www.wildlifemanagementinstitute.org/index.cfm

Grants

Restoration Project Grants. The W.WA USFWS Office is soliciting proposals for habitat restoration projects throughout western WA. These project proposals will compete for fiscal year 2008 funding through the National Fish Passage Program and the Western Native Trout Initiative. Typical projects include culvert and tide gate removal or replacement, dam removal, levee breaching, riparian planting, **invasive species control**, and large wood placement (maximum $80,000 requested funds per project). An emphasis will be placed on dam removal projects in 2008 (maximum $250,000 requested funds per project). All projects should strive for approximately 25-50% cost share. General program information is available at:
http://www.fws.gov/fisheries/fwma/fishpassage/ or
http://www.fishhabitat.org/documents/WNTIFactSheet.pdf

Weed Eradication Grants. The WA State Noxious Weed Control Board is soliciting project proposals from local, county or state agencies or non-profit organizations for Class A Noxious Weed eradications. A total of $15,000 was made available last fiscal year, and the Board anticipates providing a similar amount in the fiscal year ending June 30, 2008. The **due date for proposals is March 8, 2007**. *(For more information, contact Steve McGonigal at SMcGonigal@agr.wa.gov, or call him at (360) 902-2053.)*