

DEVELOPING A REGIONAL DEFENSE AGAINST ZEBRA AND QUAGGA MUSSELS WORKSHOP SUMMARY



PACIFIC NORTHWEST
ECONOMIC REGION

SEATTLE, WASHINGTON

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Executive Summary

A total of 46 representatives (42 in person and four via conference call) from Canada and the United States convened in Seattle, Washington (and via phone) on November 21, 2014 to participate in the Pacific Northwest Economic Region (PNWER) Invasive Species Working Group meeting to continue efforts to build a shared regional defense to prevent the introduction of dreissenidae.

The status of the region, upcoming legislation and projects, and a discussion of survey results on shared regional priorities set the stage for workshop attendees to provide recommendations on actions in nine areas: contingency planning, coordinated inspection and decontamination, containment, a consistent approach across the Pacific Northwest, outreach and education, consistent messaging, assessment and monitoring, research and biocontrol and funding. The recommendations will inform future key steps that will be taken to develop a regional framework for dreissenidae in the Pacific Northwest.

Attendees summarized success in one year to include shared interjurisdictional processes and priorities, fewer infested boats intercepted in the Pacific Northwest, expanded outreach and education, an effective regional prevention program, informed political leaders and consistent regional messaging.

Attendees summarized success in five years to include fully developed contingency plans, inspected and decontaminated boats that leave infested waters, effective messaging and state notification programs, performance metrics, a well-funded regional prevention program, and enhanced coordination.

Recommendations were made regarding potential roles and responsibilities for PNWER to assist in regional dreissenidae defense efforts:

- **Funding**—Form a coalition of business/commercial interests to lobby for funding for regional dreissenidae prevention; solicit congressional/parliamentary support for state/provincial actions; contact Western Governors Association to lobby for funding; promote the successes of the Pacific Northwest (PNW) dreissenidae prevention efforts in a variety of venues; and foster national support for regional actions; assist in designating a portion of Water Resources Reform Development Act funds for regional dreissenidae programs.
- **Contingency planning**—Assist in building political will for regional dreissenidae efforts; support the PNWER Invasive Species Working Group meetings/efforts; support registration and permitting of dreissenidae prevention products in Canada; and support the development of international contingency plans.
- **Coordinated inspection and decontamination**—Western governors and provincial leaders—support for inspection and decontamination programs as well as a regional dreissenidae framework.
- **Containment**—Build support for rapid response within and outside the region; influence/educate agency leads with authority to manage source water bodies to obtain more resource for inspection programs; and support federal legislation for mandatory containment.
- **Consistent approach across the Pacific Northwest**—Support additional signatories to the Declaration of Cooperation; request actions from Canada and the United States that will enhance PNW prevention efforts; obtain funding for containment at the source; support the PNWER Water Policy group to address dreissenids and aquatic invasive species (AIS) in the Columbia River Treaty; support consistent messaging in the United States and Canada; help expand National Invasive Species Awareness Week

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to provincial and local governments.

- **Research and biocontrol**—Support prioritization of dreissenidae research agendas in the PNW via a PNWER workshop using GLNCC funding.

Background

About 40 representatives from Canada and the United States gathered in Seattle, Washington on November 21, 2014 to participate in the Invasive Species Working Group at the Pacific Northwest Economic Region winter meeting. The objective of the meeting was to continue to build a shared regional defense approach across the Pacific Northwest region to prevent the introduction and establishment of dreissenids. The workshop was facilitated by Gail Wallin, Executive Director, Invasive Species Council of British Columbia.

Presentations

Status of the Region Snapshot

Stephen Phillips, Pacific States Marine Fisheries Commission

Regional defense definition—using resources in a combined, cost-effective interjurisdictional coordinated response to prevent mussels from entering uninfested areas and to contain AIS at their source.

Water Resources Reform Development Act signed in June of 2015—if WRDDA funds were to come into being, what would we spend them on? What is the perimeter?

Wildhorse Reservoir has had a positive PCR (polymerase chain reaction) hit, as has South Fork Reservoir—both are negative—but veligers in Angostura Reservoir and mussels below Lake Powell cause concern. We need to understand the vector (boats), understand the population entering the PNW, and how best to intercept/prevent this vector.

The source of the majority of fouled watercraft in the PNW is the Great Lakes and Lake Mead. But **the lower Colorado region is the leader in high-risk boats.**

Strategies:

- Education
- Containment at the source
 - Lake Mead—there are no regulations that force boaters to decontaminate their boats, however, Nevada Department of Wildlife decontaminates boats (voluntary) – they have conducted 246 decontaminations to date
 - Lake Powell—agencies are working together, however, there is no rule in place that makes it mandatory to decontaminate boats—Utah will conduct roadside inspection in 2015—there is the hope that Nevada will add these as well
 - Gaps
 - What do we do about the Great Lakes?
 - We need a federal binding decontamination policy for federal waters
 - Action
 - Federal Lands Working Group
 - Push for federal regulations
 - Baird bill
- Prevention at the borders
 - Stations are open when the most traffic occurs (summer, daytime)
 - We assume stations are located at the best locations
 - Gaps and actions

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- Safety and cost concern about night operations
- Oregon Department of Fish and Wildlife and Portland State University (PSU) are working on night camera footage
- We need better temporal and spatial traffic pattern data to inform a risk model for a watercraft inspection station strategy
- Improve coverage at key locations/states: Wibaux, Culbertson, Montana
- Add roadside coverage
- Prevention lakeside (and roving)
 - Lake Tahoe, California, Lake Whatcom, Washington, California rampside, Canada blitzes
 - Gap/Action
 - Identify highest risk and highest priorities—vulnerability assessments in the Columbia River Basin are being conducted, with focus on the highest risk facilities based on calcium

Building Consensus

- 2012— goal to protect the Nation's last wild places from dreissenids will create economies and efficiencies for natural resource agencies
- Model Law (regulation) underway for all states
- Regional AIS program planning efforts have resulted in common classifications/definitions, updating training manuals, protocols and standards documents, regional electronic data sharing system, multi-state reciprocal approach, Federal Land Managers Committee, Education, Boating Partnership (boat design and construction—upcoming summit in Las Vegas, NV)

New approach—Wyoming watercraft inspection requirements: If you bring a boat into Wyoming from March 1 through November 30, you must undergo a mandatory inspection—if you bring a watercraft in from an infested water in the last 30 days, it must be inspected prior to launching.

Matthias Herborg, British Columbia Ministry of Environment

Estimated annual costs of a dreissenidae introduction in Alberta is about \$75 million/year. For British Columbia, an estimated cost of about \$28 million/year (these are not comprehensive costs, just an attempt to characterize some costs, such as hydropower).

Prevention in western Canada in 2015 includes:

- Outreach (all provinces use Clean, Drain, and Dry)
- Legislation—currently in British Columbia, Alberta, and Saskatchewan, and pending federal legislation
- Rapid Response—British Columbia, Alberta, and Saskatchewan have RR plans, but there is no federal Rapid Response (RR) plan
- Impact Assessments—British Columbia has economic and environmental, Alberta has economic, Saskatchewan is refining Fisheries and Oceans Canada Responsible Authority (DFO RA), and Canada has an environmental assessment
- Training—all 3 provinces have training—there is no federal training
- Monitoring—all 3 provinces have monitoring—there is no federal monitoring
- Inspections—likely in British Columbia, yes in Alberta, pilots in Saskatchewan, and no federal inspections

Comments:

- It was suggested that perhaps boats could be tracked using boater registrations. The response was that in the United States, this has not been a popular concept; in Canada, boats are registered federally, and there is very little reliable location information associated with these registrations.
- Information about calcium and specific water bodies is posted on line at <http://www.westernais.org>.

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- At a recent Whistler conference, it was noted that the Lake Winnipeg infestation was treated with potash, and it was noted that the treatment was 100% effective. This is not the case—mussels continue to exist in the southern portion of the lake, and will likely spread to other parts of the lake.

The Near Future: Upcoming Legislation and Projects

Stephen Phillips, Pacific States Marine Fisheries Commission

PLAQ ACT HR 1823: Would add dreissenids to the injurious species list—bill may be introduced again—it had good bipartisan support, but there was concern because many felt that public water systems have an exemption.

Lake Tahoe Restoration Act – HR 3390: Another potential opportunity for listing—may pursue this in the coming Congress. The exemption for water providers is included, and it does include quagga mussels.

National Invasive Species Act: Has not been reauthorized since 1996—we want add more funding to state programs. Includes on \$24,000 for state grant programs—10 years ago, there was \$80,000. (Note: Funding has decreased, in part, because more entities have qualified for funding).

Lacey Act: We are interested in this bill that includes an emergency temporary designation—but didn't apply to established populations of quagga.

WRRDA: Includes funds for watercraft inspections, monitoring, and contingency planning. We will need governors to help secure funds for the states. It is appropriated for \$20 million—PNWER could help here by determining the Corps of Engineers appropriation and determine how a portion of this could go to the states.

Federal Lands Invasive Species Control, Prevention and Management Act, HR 3994: No less than 75% of the funds must be used for on-the-ground control/management. Calls for annual 5% reduction in invasive species.

FY2015 House Interior Appropriations Bill (USFWS): Calls for a consistent standard of inspection and decontamination of recreational watercraft and equipment (we're already doing this).

Policy

Federal Lands Policy Working Group: Solicitors office in Department of Interior has a document that includes snapshot of roles and responsibilities, policy options, actual laws and policies, checklist to address actions of AIS movement. Some products will be released, but it has no teeth. The National Sea Grant Law Center has produced a paper on this topic. States will continue to push for mandatory decontamination.

EPA NPDES Vessel Discharge Permit: There is a moratorium on enforcing this for vessels 79 feet or less. We want to see this extended. To fix this, S2094 was introduced which extended the moratorium but also delved into many ballast water regulations—this bill could impact watercraft decontamination because it seems to negate mandatory state inspections. On November 19, a standalone bill was introduced that focused only on the moratorium extension. A bill was introduced this week—small vessel general permit would be omitted.

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Kate Wilson, Alberta, Canada

Proposed Aquatic Invasive Species Regulations in Canada—a national committee with representations from all territories and provinces—goal to pass regulations:

- List six species—4 species of Asian carp and 2 species of dreissenids—unless the mussels already exist in a province, they would be illegal to possess, import, or transport (dead or alive ban on mussels)
 - Includes genetic material
 - Applies in the geographic area defined (e.g., uninfested provinces)
- Provides provincial authority to treat AIS
- Next steps and implications
 - Regulations are set to be posted
 - Implement new regulations
 - Address response/treatment gaps
 - Conduct risk assessments
 - Listing of new species

BUILDING CONSENSUS

Megan Levy, Pacific NorthWest Economic Region

A survey was conducted regionally to obtain perspectives on the highest priorities for the region: 21 priorities were listed, participants ordered the priorities (43 people started the poll, and 23 people finished the poll), *Questionpro* analyzed the results and arranged priorities by mean placement.

Priority Groupings (not in priority order) of 21 total priorities:

- Consistent approach across PNW
- Containment
- Funding and Political
- Assessment and monitoring
- Coordinated inspection and decontamination
- Standard information
- Outreach and education

What can this group recommend that will help build improved coordination across the PNW? What can we agree on across much of the room that you want to see move forward in a regional framework approach?

The group discussed what elements were important that might be missing from the list of 21 survey priorities:

- Research
- Biocontrol
- Permanent decontamination stations (facilities where boats can be decontaminated) – versus finding an inspection station on a roadway
- Political will/support (authorization and funding)
- Building partnership with outside groups to help with outreach
- Coordinated contingency planning (registrations of products) – advanced permitting
- Regional rapid response equipment pool (curtains, barriers)
- Outreach and education
 - Acceptance or buy-in (outreach and education)
 - Need education in the grade schools
 - Tournament participation education

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- More direct information sharing
- We need to disperse information to people through boat vendors, etc.
- Information sharing re: assessment and monitoring
- Consistent terminology
- Monitor/understand federal policies to ensure we're not being preemptive or prohibitive re: regional strategies

All of these were incorporated into the existing nine categories.

Workshop participants then selected breakout sessions to participate in to address the following questions relative to each of the nine categories:

1. What actions can be taken across the region to move forward on each key priority in the next year? In the next five years? (Consider initiatives, strategies, or legislation that would assist). Note: Workshop participants were asked to list key regional actions, timeframe, and who should be involved as well as leads?
2. What is the first step toward this priority?
3. What is the current status or information to be considered – at the state or provincial level – for implementation of a successful regional framework? Note: Workshop participants were asked to list the region, key information/actions/status, and comments.
4. Please describe what would success look like in terms from a regional framework? Success in one year, success in five years, and other/additional comments/suggestions.
5. Would you like to be included in the process moving forward in the development of a regional framework for dreissenids? Who else would you recommend? Note: Workshop attendees were asked to provide their name, title, email, and phone number.

Breakout session recommendations:

A. Contingency Planning—We have to be prepared for an introduction of dreissenids. We need to look at what tools will be available:

- Harmonizing state, federal and provincial protocols
- Active product registrations for mussel control and biocontrols - registering products in Canada (both provincial and federal)—registered products also need to be permitted
- Develop contingency plans for the United States, Canada, and across borders (AERF)
- Achieve product registrations for mussel control tools (AERF, state, federal agencies, provincial governments)

B. Coordinated inspection and decontamination

- Endorsement by governors
- Issues with seasonal workers
- Making the public aware of inspection stations
- Placement of inspection stations
- Protocols
- Convene operational folks annually to ensure everyone is moving forward in a coordinated fashion
- Host this meeting annually (PNWER, 100th Meridian)
- Regional prevention plan governors and premiers sign off on
- Use similar protocols—make these readily available (PSMFC)
- Minimum standards for seasonal workers
- Share information about how each state and province inspects
- Use of dogs

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- Share uniform standards and protocols (ANS Task Force, WRP, Canadians)
- Final regional framework—officially endorsed by political leads—PNWER member states and provinces (PNWER)
- Enforcement

C. Containment

- Improve notification of destination states (privacy issues, optics)
- Source areas, such as Great Lakes, are an entirely different scenario—containment is not an issue there—how do we change that paradigm?
- Can we build a rapid response commitment outside of the Pacific Northwest?
- Difference in issues between day issues and larger boats—how do we contain high-risk boats versus at a large number of day users—how to work with that? Focus on arterial roadways out versus targeting decontamination of day use boats
- Cost-benefit analysis of containment at the source versus rapid response?
- Distribution modeling—East versus West—places with containment efforts versus those that do not
- PNWER use lobbying authority to help influence/educate places with source water bodies to promote funding and inspection—places that need more resources
- SW Region—federal language or leverage for mandatory containment; information sharing and notification reluctance
- Great Lakes—Different scenario—length of infestation—containment not a valid mindset
- Develop federal language that requires concessionaire notification and decontamination/containment

D. Consistent approach across PNW

- Define geographic areas—mussel-free states (PNW plus Wyoming) and adjacent jurisdictions for containment
- Overall framework with signatories for agreement on participation
- Intergovernmental strategy for regional cooperation framework for prevention—use the Declaration of Cooperation and build on that—for mussel-free jurisdictions (PNW plus Wyoming)
- Request specific actions from both governments—similar key messages—legislative issues first, then funding—PNWER and mussel-free jurisdictions can work toward this
- Adjacent infested jurisdictions need incentives—help them get funding through a federal avenue—source decontamination—obtain information from them on noncompliant boats
- Collaborate—one-day meeting to coordinate timing/location of inspection stations to maximize efficiencies
- Incentivize participation of adjacent infested jurisdictions
 - Help get funding for containment at source (e.g., decontamination/inspections @ launches/highways)

E. Standard information

- Develop list of standard questions for boater interviews (expand/update 100th meridian list) (states, provinces, WRP)
- Explore other groups and avenues for acquiring boater information outside of mandatory boater interviews (states, provinces, NGOs)
- Mine and analyze existing data to profile boaters that have different risks or educational needs (states, provinces)
- Encourage research into boat traffic movement outside of current boat inspection windows—research on night and winter movements (states, provinces, universities)
- Explore connections and better sharing of data with non-fish and wildlife agencies that may be sharing data for boat imports and exports for customs or commerce purposes—are there other entities that have boat movement information that we are not accessing? (states, provinces, customs agencies)

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F. Assessment and monitoring

- Sharing information
 - Coordination to develop legislation and contracting
- Address areas not being served or looked at (Federal lead, USACE, 100th Meridian)—100th Meridian could potentially summarize issues for PNWER, which could then assist in regional coordination
- Monitoring—more monitoring by other stakeholders
- Success—county commissioners and elected officials be aware of the problem and include it in their responsibilities

G. Outreach and education

- Consistent messaging
 - AIS versus ANS, nuisance, invasive, alien, exotic—preference is INVASIVE—encourage ANS task force to change name—kickoff changed name nationally
 - Don't Move a Mussel makes more sense at infested areas versus Clean, Drain, Dry for uninfested areas
- Expand education to kids (Kindergarten-12), next generation of voters (states, provinces)
- Get people educated before they buy a boat or before they engage in an activity
- Demographics—who are we educating re: perimeter defense? People moving boats across state and international lines are the priority—how do we identify those people?
- Signage at every entry point—borders—explain the rules/laws for the state or province
- Continuation of the concept of a regional passport/or each state have their own passport but with similar messaging—movement between states, passport would include information for all states
- Consistent messaging—Stop Aquatic Hitchhikers and Clean, Drain, Dry—sharing programs across jurisdictions (states, provinces, WRP-building consensus outreach committee)
- Outreach tools that explain what has been going on—regional or consistent place where all of the information is contained
- National Invasive Species Awareness Week—how do we do that in Canada, too, or the region? Can we expand that concept on a regional basis by informing local jurisdictions?
- Sharing and consistency with protocols among fish and game agencies and other groups that use boating and fishing equipment—best management practices (states that have completed—share with provinces starting their programs)
- Sharing information about what education programs/tools/efforts that have been successful and effective versus those that have not been effective
- Prioritize logos/messaging with those who may want to use them, e.g., municipalities, to incentivize the use of consistent messaging
- Educate elected official about the issue
- Erect signs at every entry point, e.g., “Entering mussel-free zone)—consistency in signage
- Passport—Boaters could turn in at the end of the year—we could track—a regional password is a way to incentivize (\$ off of registration, e.g.)
- Convene all of the regional outreach and education folks to ensure regional messaging is consistent—choose regional outreach emphases—annual coordination meeting

H. Research and biocontrol

- Great Northern LCC has funding and have been talking to agencies to prioritize regional research agendas (PNWER can support)
- Research needs for PNW specific to contingency planning:
 - Look at Quagga-Zebra Mussel Action Plan research needs and build on them
 - Ensure we build participants appropriately—move away from Western Regional Panel on ANS exclusively—include more participants—those that signed the Declaration of Cooperation—add

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the science researchers and statisticians who could deal with the data issues as well as funding entities

- Investigate potential research partners for universities
- Uncertainties—growth and survival at low calcium/data—are we accurately classifying risk? River reach-specific data would be necessary to persuade facility operations and water users—regionally—driven research priorities
- Cost analysis of containment at source versus interception
- Better understanding of populations of boaters (spatial/temporal movement data)
- Prioritize regional research agenda for PNW audience—what are the research needs, especially for perimeter defense? Ask facility operators and industry representatives who have not been at the table or who are underrepresented
- Develop a list of critical uncertainties, e.g., biocontrol, genetics, other issues, new product registration, pathways, growth/survival of dreissenids—even in low calcium waters, reach-specific information, who pays for research, how to overcome fragmentation—create research agenda that serves many masters (Invasive species councils, independent science groups, 100th Meridian)
- Better inventory of boats coming into region
- Need a workshop on research priorities—who develops the plan? How is it funded? Potentially PNWER could host with GLNCC funding
- States—request a list of critical uncertainties from invasive species councils
- States—request from NWPC—critical uncertainties list when they revise their research plan (2014-2015)
- Clearly identify what research is ongoing, who is doing it, and where it is occurring
- Define the questions from different entities—dam operators, PUDs, scientists, irrigators, other water users

I. Funding

- Form a coalition of business and commercial interests to lobby for funding (PNWER)
- Solicit congressional and parliamentary support for state and provincial actions (PNWER, individual Members of the Legislative Assembly, Pacific States Marine Fisheries Commission)
- Include inspection stations in USACE budget as a line item (Madelyn Martinez)
- Contact WGA chair to lobby for funding to ensure flexibility in use of funds (PNWER)
- Feature success of PNW actions at NISAW (PNWER, PSMFC, Invasive species councils)
- Develop national support for a regional strategy (e.g., ballast water legislation that passes that negates state laws)—national support for regional actions (PNWER)
- Ask for status of vulnerability assessments quarterly (North West Power and Conservation Council)
- Surcharge on licenses in perpetuity for boaters and sportsmen
- Surcharge on lake/river use, power users (frame the reason for the needed funding)

Additional nuggets and ideas

- Columbia River Treaty (bi-national and it is now considering ecological factors) (PNWER Water Policy Group)
- Animal disease biosecurity for livestock—they can match with any of those programs in states or provinces—same equipment—timing—potential avenues for inspection stations that do more than inspect boats
- PNWER tasks—create a packet of key messages and information PNWER representatives can use to discuss dreissenidae and AIS issues with legislators.
- Schedule this meeting as a part of PNWER, but help to ensure legislators and others participate by avoiding conflicts with other meetings/events to the degree possible, and hosting a full day meeting, to help justify international travel.
- Connect this meeting with the Columbia River Basin 100th Meridian meeting.

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Success in one year:

- Process developed and expanded to United States and Canada
- List of regional priorities
- Fewer boats stopped at PNW inspection stations be decontaminated/intercepted in Southwest, e.g., Utah covers Powell, etc.
- Information spreading to the public—continue education
- An effective prevention program in the PNW
- County commissioners and elected officials are knowledgeable of AIS and care about the problem—put it in their regime of responsibilities
- Set of standard questions that can be used to begin implementation. How do we implement it in new areas? What is the information that needs to be collected? We can engage people and have information that is useful to us and for a broader sense.
- Consistent messaging throughout the region.

Success in five years:

- Contingency plans fully developed for region and products registered for use by U.S. and Canadian partners.
- Completed projects, results used to buy-in/persuade participation
- All boats leaving infested waters are inspected/decontaminated and destination states are notified
- Funding accounts/project status reports show public what is working and what needs adjusting
- 100th Meridian reports out—more information for eradication
- A well-funded prevention program
- Good coordination and collaboration, information sharing, building on current monitoring efforts
- We know when/where boats are generally moving and have profiles for boating groups. We've improved our efficiencies and coordination. Action has been taken to focus education. Inspections are covering the right places at the right times.
- Targeted groups/profiles identified with specific messaging. Measured quantitative success (do more people know about invasives?)



Meeting summary prepared by
Creative Resource Strategies, LLC