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# COLUMBIA RIVER BASIN 100<sup>TH</sup> MERIDIAN TEAM

## MEETING

December 6–7, 2016  
Portland, Oregon

**Attendees:** Eric Anderson (WDFW), Leslie Bach (NWPC), Martina Beck (BC Ministry of Environment), Rick Boatner (ODFW), Stephen Bollens (WSU), Tom Boos (MFWP), Justin Bush (WA Recreation and Conservation Office), Jim Capurso (US Forest Service), Tim Counihan (USGS), Lisa DeBruyckere (Creative Resource Strategies), Glenn Dolphin (OSMB), Robyn Draheim, Leah Elwell (Invasive Species Action Network), Kendall Farley (NWPC), Rebecca Flitcroft (USFS), Bruce Hansen (USFS), Keith Hatch (BIA), Patrick Hayden (ODFW), Matthias Herborg (BC Ministry of Environment), Rian Hooff (ODEQ), Rayola Jacobsen (RJ JConsulting), Alexander Kain (Spokane Tribal Fisheries), Chas Kyger (Douglas County PUD), Madelyn Martinez (USACE), Justin Maschhoff (WDFW), Ken Merrill (Kalispel Natural Resources), Christine Moffitt (U Idaho), Alan Monek (USBOR), Jenifer Parsons (WDOE), Brooke Penaluna (USFS), Stephen Phillips (PSMFC), Christine Pratt (Seattle City Light), Stevan Raye (USBOR), Jim Ruff (JRC), Cindy Sawchuk (Alberta Environment & Parks), Mark Sytsma (PSU), Richard Turner (USACE), Damian Walter (USACE), Teagan Ward (City of Bellingham), Steve Wells (PSU), and Tom Woolf (ISDA).

**Remotely:** Nate Owens (Utah), Michael Stevenson (Idaho Power Company), Jim Ruff (NWPC contractor), Marcy (Chelan PUC) GCNRA, Kim Johnson (BPA), Joanne Grady (USFWS), Bryce Christiaens (MISAC), Theresa Thom (Lake Mead), Bryce Christiaens (MISAC), Colleen Allen (GCNRA, NPS), Mark Anderson (GCNRA, NPS), Nate Owens (UTDWR), Karen Vargas (NDOW), Bob Kibler (USFWS)

## I. Montana Response to Tiber/Canyon Ferry Incident

*(T. BOOS, MTFWP AIS COORDINATOR)*

Montana has been working on a strategic framework. An all-taxa invasive species council formed two years ago – a strategic framework was developed. Tom shared the status of the mussel response in Montana, showing the locations of developed and undeveloped boat ramps at Tiber Reservoir and Canyon Ferry. Tom shared the background information on detections to date (Tiber – 5 organisms, 1-BOR, 3-FWP from summer, 1-FWP from October) (Canyon Ferry – 1 organism, 1 – FWP from summer), (Missouri River upstream of Canyon Ferry - 1 organism), and (Milk River - 1 organism). MT is calling Tiber Reservoir positive, and the remaining bodies are considered suspect at this time. MT has prioritized the analysis of samples collected to date, conducted visual searches, used sniffing dogs and snorkelers/divers, implemented watercraft restrictions on both Tiber and Canyon Ferry (the water bodies will be closed until they are iced over), and launched an Incident Command System. The emergency declaration provided for funding to initiate rapid response. The Incident Command team is discussing a potential drawdown. Staff will be focusing on containment relative to inspection stations. A laboratory in Colorado will be assisting Montana with analyzing the samples, so that by the end of this week, all samples will be analyzed. Currently, Fort Peck, Fresno and several other water bodies have come back negative. What and how Montana monitors will change moving forward – this will include some restructuring of Tom’s program. Currently, the species (quagga or zebra) has not been determined. MT can inspect boats exiting the reservoirs.

The Incident Command decided yesterday that MISAC would be tasked with the long-range planning effort. January 11 is a budget deadline (FWP and Budget Appropriations Committee). From now until January 11, MT will be bringing in experts to inform the budget and containment options. The Incident Command structure will be used to develop task forces associated with Outreach, Monitoring and Sampling, Watercraft Inspection and Decontamination, Access to Water Bodies, etc. A Joint Information Center has been set up, which includes a Facebook page <https://www.facebook.com/MTMusselResponse>

launched yesterday, briefing calls has been set up for every Thursday at noon, there is a mussel response email that people can send their contact information to relative to daily/weekly summary reports and press releases <http://bit.ly/mtmussel>. The economic impact of these mussels and control measures moving forward is an unknown – the Department of Commerce is providing a scope of work today to take next steps in identifying costs. MT is considering the goal of mandatory inspection and decontamination for these water bodies. There was a suggestion for Montana to consider a one-year drawdown. A representative from the Kalispell tribe commented on the importance of sharing boater information associated with infested and suspect water bodies. **ACTION ITEM:** The CRB 100<sup>th</sup> Meridian will propose to the MAC a decision about ensuring all requests from Montana come through the MAC as official requests, versus individuals from Montana making requests to the states and provinces.

## II. WATERCRAFT STATION INSPECTION REVIEW 2016 AND PLANNING SESSION FOR 2017 – WRDA

*(T. Woolf, L. DeBruyckere)*

- Alberta has asked for an additional million for WID in 2017 – an additional 3 WID stations; two will be open 24 hours/day, and experts will be enhanced. Alberta will strengthen its monitoring efforts, as well.
- British Columbia will work closely with the Canadian Border Service Agency, which will help everyone else. BC is considering running the one southern station on the Montana border from dusk to dawn. BC is assessing boater movement from Montana and is considering modifying monitoring efforts. We should consider another call or two, perhaps in January, for the AIS coordinators to discuss.
- The Oregon I-84 station has a list of infested water bodies, but Oregon will tell their inspectors. Oregon will likely put an inspection station at Umatilla.
- Idaho intercepted 77 boats from Lake Mead this year – one was quarantined because of suspected live mussels. A total of 43% of them had been inspected. We need to identify gaps where we can do better.

**ACTION ITEM:** Lisa will send AIS coordinators the annual request for them to update their 2017 WID station locations using the PSMFC database in late January. Tom Boos will work with neighboring/PNW states and provinces to coordinate the locations of WID stations.

## III. WATER RESOURCES REFORM AND DEVELOPMENT ACT

*(S. Phillips)*

We will soon learn if we'll have a 2016 WRDA Bill. The USACE implementation guidance/letter report notes that the secretary may establish watercraft inspection stations in the CRB, but it is only for within the basin. In 2016, PNWER, PSMFC and NWPC worked with the NW congressional delegation to add “operate and maintain” WID I the CRB, and it has since been amended to include the Platte River Basin and the Arkansas River Basin, which would help keep stations funded in all of those places. The WRDA house bill has “new” or “existing” WID stations included for all four states within the boundary of the states. Yesterday, the WRDA compromise language called it the WIN Act – it has the house language (new or existing WIDS) in the four states, it has rapid response and early detection language. WRDA “ornaments” include the Lake Tahoe Restoration Act and the Great Lakes Restoration Initiative. What was not included was a review of the implementation and effectiveness of watercraft inspection station or the Platte and Arkansas River Basins.

FY2017 Appropriations – there is funding for monitoring in the Senate Bill (\$1 million). Continuing resolution may occur through 4/28/17. The hope is that the Colorado language gets added in to WRDA.

## IV. CANADA WATERCRAFT STATION INSPECTION PROCESSES AND NOTIFICATIONS WITHIN THE BASIN

*(M. Herborg)*

There is a signed MOU between BC, Alberta, Saskatchewan, Manitoba and Yukon.

The 2016/17 work plan includes engaging with federal agencies to contribute to the boat inspection programs, increase availability of control products, internal coordination of watercraft inspections, rapid response exercise, data sharing/app, consistent messaging, live bait in Manitoba and EDRR fund.

Internal coordination of watercraft inspection stations has a focus on high risk boats (boats from a contaminated province/state that has been out of the water 30 days or less).

Overall, BC, AB, and MB have similar programs – SK and YK need to catch up.

The major challenges from the 2016 boating season can be relatively easily addressed:

- Testing of mussels and standing water – different messaging
- Partial decontaminations only for wet areas – full or no decontaminations instead
- Third party decontaminations – work collaboratively on standards
- Biggest challenge how to treat SK boats – BC changed legislation

There are questions about when provinces and states notify one another. **ACTION ITEM:** Before we do Building Consensus in Albuquerque, we'll work with the provinces and incorporate Matthias' presentation.

## V. BUILDING CONSENSUS IN THE WEST

*(L. Ehwel)*

The goal is to address the pathway and prevent spread of mussels while keeping boaters boating. There are numerous partners involved. In 2012, there was a co-learning workshop in Phoenix with AIS coordinators, assistant attorneys general, law enforcement supervisors, and natural resource agency attorneys. A 26-point action plan was developed to minimize the spread of invasive mussels through watercraft movements.

The AIS coordinators have been meeting annually to develop watercraft inspection, decontamination definitions, protocols, and standards.

Regional WID data sharing is important to the states and provinces. Goal is to have States, Provinces, NPS and other entities performing WID participating by end of year 2018. Highest priority – Providing timely electronic watercraft movement from infested waters to negative locations. States are currently receiving email notifications from Nevada Department of Wildlife as of June 2016. Eventually will replace WEST911. Secondary priority – Overall improved WID operations, reporting, management and customer service through rapid, standardized data collection and risk assessment.

<http://www.westernais.org> was created to house all the information and products associated with the many consortiums doing work on aquatic invasive species in the West.

The National Sea Grant Law Center developed model legislative provisions associated with watercraft inspection and decontamination. A total of 62% of states have legal provisions addressing the trailered recreational watercraft vector. They are now working on model regulations for state watercraft inspection and decontamination programs.

The Western Regional Panel is working with the boat industry on design and construction of boats in consideration of AIS.

The work continues:

- Finalizing & AFWA approval of model regulations
- Database/sharing
- Additional consensus needed on dry time
- Phase III: Model “Cooperative Agreement”
- Next BC Meeting: April 5-6, Albuquerque, New Mexico

## VI. WRDA CRB WATERCRAFT INSPECTION STATION IMPLEMENTATION

(R. Turner)

WRRDA Authority – can only cost-share with WIDs, not monitoring.

There are actions considered in the report:

- No action
- Expansion of WID
  - Adding locations
  - Extending daylight hours
  - Adding nighttime inspections
  - Site improvements
  - Utility connections
  - Canine detection capabilities
  - Improved signage
- Inspection at source waters
- Monitoring to ID water chemistry parameters and early detection (looking for mussels)
- Contingency planning and rapid response plan

Economic considerations – federal and non-federal infrastructure impacts

- Hydropower facilities
- Navigation locks
- Fish passage and hatchery facilities
- Water supply and treatment facilities
- Boating and marine infrastructure
- Recreation and tourism

USACE conducted a benefit to cost ratio – the benefits are defined as delaying the increased operation and maintenance costs due to an infestation compared to the costs of running the WIDs. The current ratio inside the basin is about 60:1; outside the basin it is in the 30's.

Programmatic environmental assessment analyzes the existing environmental conditions in the basin and the resources. The environmental consequences compare the No Action alternative and Proposed Expansion of the Program – and what effects, if any, would happen. The assessment also examines compliance with laws and regulations.

The recommendations in the letter report:

- **WID** - Inside the basin, develop partnerships to expand the WID program
- **WID** - Outside the basin, develop partnerships to expand the WID program
- **Containment at the source** – Utah, Nevada, and California should implement similar laws (AZ Fish and Game Directors Order 3 R05/15); mandatory inspections at infested federal lakes, and regional inspection stations leaving Great Lakes traveling to CRB.

- **Monitoring** – for early detection and identifying high risk areas with similar water characteristics
- **Contingency Planning and Rapid Response Plans**
- **Public Awareness** – outreach, education, ad campaigns
- **Establish Regional AIS Advisory Committee**

USACE will conduct a regional review and a technical and policy review. It will be submitted to USACE HQ – late January 2017; draft agreements and scope of work – watercraft inspection locations and costs.

## VII. COLUMBIA RIVER BASIN QUAGGA/ZEBRA MUSSEL PREVENTION FORUM

*(J. Ruff)*

At the November meeting, the NWPC's F and W Committee draft charter – Regional Invasive Mussel Prevention Forum – to gauge interest on this proposal. This concept had input from PNWER. The Forum would focus on the dissemination of funding to NW states to develop a regional prevention program, including monitoring as well as assessing the effectiveness of the cost-share program each year. The Forum would meet a few times each year. The NWPC thought it important regional organizations convene and collaborate to provide oversight to the regional program.

## VIII. LOWER COLORADO UPDATES

### A. Quagga Mussel Management at Glen Canyon *(C. Allen, M. Anderson)*

Veligers have been expanding throughout Lake Powell from 2012 through 2015. No places on Lake Powell did not have veligers. The veligers around Bullfrog have expanded significantly, likely because of houseboats and other vectors. It took 4 years for veligers to move entirely across Lake Powell. The GLCA Containment Program follows the 2007 response planning guide, which includes 4 objectives. Administrative and agency controls include contracts and agreements to prevent new AIS in Lake Powell via *Clean, Drain, Dry* emphasis, vessel reporting, and HACCP (for all commercial use authorizations). Concessioner-contract limitations include letters to slip/moored customers, advertisements in brochures, posters in marina facilities, and attendance at WID training. 2016 was the 2<sup>nd</sup> year of an MOU with Utah – hoping to have Arizona sign on in 2017 – bring jurisdictions, resources and abilities to the table (existing decontamination use, designated inspection, screening and tagging areas, etc.). Boat inspections are a collaborative effort – multiple locations lake-wide, Utah checkpoints and receiving waters; boater education – 4 WIT/WID Level II trainings for commercial use authorizations, agencies and concessions staff, 16 SUP meetings; boat decontamination – NPS and Utah coordination. NPS outreach and education includes specific audiences, focused AIS messages, park messages, and formal and informal programs. 2016 AIS program highlights include 113 informal table programs, 3 special events, 16 special use permit meetings, 6 media attendances, 57,738 people, and 79,761 vessels. Interagency goals with Utah and Arizona include 100% decontamination compliance, coordinated outreach, consistent boater requirements, uniform approach to vessel tracking, and pulling drain plugs.

### B. **Utah DWR** *(N. Owens)*

2016 Lake Powell numbers – 34,315 inspections and 1,645 decontaminations

2015 Lake Powell numbers – 15,838 inspections and 190 decontaminations (did not start decontaminating boats in 2015 until the end of the summer)

Interstate 15 Port of entry was in operation 224 days; 4,590 interdictions with 74 decons; nearly 50% had last been used in a uninfested water in the lower Colorado River system; about 25% of all boats were headed to another state.

2016 was the first-year mussel-encrusted boats were encountered (41 boats on Lake Powell alone); weekend boats with anchors also had attached mussels. Utah quarantined several boats, including house boats.

New efforts in 2016 — a local boater sticker program (helped staff divert resources to higher risk boats), targeted outreach, collaborative WID trainings in Page and Bullfrog, certificate of registration for rafting companies, and enlistment of 2 private businesses for decontamination services.

#### Looking ahead

Rule changes – plug rule (WAFWA), mandatory dry time for mussel boats, and all mussel-encrusted boats must be cleaned and decontaminated at owner’s expense

Utah AIS Program Rebuild – More focus at Powell: (e.g., staffing lake ramps), staffing port of entry stations 24 hours per day from March through November; and integration of private business

Deer Creek – One sample was positive for veligers – never found any adults; will no longer be suspect in 2018 if they continue to monitor and do not find veligers in samples.

#### C. Lake Mead (*T. Thom*)

- 2 states, 1.5 million acres, 2 reservoirs, 7.2 million visitors
- Partnerships include NDOW, AZGFD, Great Basin Institute, NPS park units and regions, other federal agencies, and state, municipal, university and NGO partners
- Ongoing research includes veliger sampling (interagency), inter-agency monitoring action plan (IMAP), targeted work on BMPs for treatment effectiveness
- Ongoing study on outboard engine veliger transport viability. Without any treatment, staff are not seeing any viable veligers in the outboard engine water; there is very little water in the motors themselves.
- Ongoing study to determine how long it takes a mussel to dry up and die after leaving the lake – hopefully to contribute to dreissenids mussel quarantine table refinements to test UMPS protocols. Scuba teams collected rock substrate from Lake Mead (a minimum of 20 individuals were alive on each rock) – hung in bags on screens with air flow. After 48 hours, nothing was found alive on the rocks. Not much is alive after 6 hours – after 12 hours, even in September.
- **Future research:** Test a wider variety of engine manufactures and types, test larger and more complex engines, use Flowcam/staining protocols to assess viability, and conduct dessication experiments in other climates and through different seasons.
- AIS on-ramp outreach and education is ongoing.

#### D. Nevada (*K. Vargas*)

Operated 13 WID stations, 60,000 inspections, 1,000 decontaminations; no new detections of quagga or zebra mussels in the state. Operating 3–4 stations in cooperation with NPS.

Lake Mead – 9,800 inspections and 600 decontaminations

Started visiting boat dealers in Las Vegas Valley – inspected 40–50 boats and found 2 with dead mussels. One major boat dealer will not allow access to inspect boats (needs a search warrant).

Nevada drain plug rules – two public meetings – December 21

#### E. Oregon’s Aquatic Invasive Species Prevention Program (*R. Boatner, G. Dolphin*)

##### 2016

2016 inspected almost 17,000 boats and intercepted 391 with AIS; Ontario and Central Point stations were opened in March; Gold Beach and Lakeview opened in mid-May; Klamath Falls didn’t open until July because of personnel issues. A total of 17 boats were intercepted with dreissenids. Half of the boats came out of the Lower Colorado System; the other half came from the Great Lakes and other regions of the country.

Central Point is not closing down this season – most of the boats currently being inspected are from California or Washington.

## **2017**

Will open Ontario and Central Point in February. Interested in having a station in Basque or Burns, but there are two-lane roads with no pull-offs, so they would require infrastructure improvements. Desire to put one at Umatilla after the Montana incidents. Over 40% of the boats have been decontaminated in other states, some with inspection seals, and many with visible mussels.

Highest enforcement at boat inspection stations since they were created. 2014 - 91 pullovers for not stopping. 2015 – 41 pullovers for not stopping. 2016 – 244 pullovers for not stopping. Some agencies do 100% citations; some do 100% warnings. Continue to see enforcement actions taken on Oregon waters for no permits. During the past 3 years, averaging 1,200 annual enforcement actions – primarily non-motorized boaters and out-of-state boaters (700 warnings and 350 tickets written). Permits sold – motorized renewal of registration is consistent. Non-motorized – 50,000 permits sold. Revenue is about \$700,000 per fiscal year – about \$500,000 goes to Rick to run the inspection stations. WRRDA funds will significantly enhance WID efforts in Oregon.

ODFW mandates killing northern pike if caught – they are a prohibited species.

Bill next session will update statutes (good support within the legislature – legislative champions):

- Require draining of all standing water, travel down roadways with all valves and plugs open.
- All non-motorized boats will be required to have a permit. Boaters “shall” cooperate with a decontamination order.
- Law enforcement may require a boater to return to an inspection station if they do not stop, and it will be proposed as a misdemeanor for a fine.
- General housekeeping.

## F. **Montana** (*T. Boos*)

37,500 boats inspected, including the Flathead Basin Commission (2 stations) and volunteer inspections at Swan Lake. A total of 241 boats were fouled (mostly standing water and aquatic plants - 7 fouled mussel boats). 12 tickets were issued. Montana conducted a raffle again – each time you enter an inspection station, you go online and complete a feedback survey, and you get entered again. About 7-8,000 people entered, \$9,000 in donations that were disbursed to the public. Purchased more readerboards – now have 5 signs – greatly improves compliance to stop at inspection stations. Supposed to have 17 stations open – 1 roving station out of Billings never opened. The Culbertson station did not open until early August because of lack of personnel. The Eureka station did not open until the end of August, and the worker quit after 3 weeks. Inspectors wages increased in 2016. Their HR department will take the lead on hiring in 2017. Montana will begin contracting with the conservation districts and the counties to staff the stations. In May, a drain pull removal bill passed (along with removing vegetation). Mandatory inspection prior to launch will likely be proposed for the Flathead Basin. 175 water bodies were sampled in 2016; 540 samples.

## G. **Washington Department of Fish and Wildlife Watercraft Inspection Stations** (*J. Maschhoff, A. Pleus*)

Historical check station efforts included 3 roadside check stations per region (there are six regions in the state) and 3 boat launch check stations per region. Directed patrol included boat launch inspections, patrol checks, inspection requests from out-of-state boaters, and vessel safety contacts.

2015 inspection data – inspected about 933 boats.

2016 paradigm shift – Conducted scheduled check stations around the state. Hired 2 dedicated personnel, one on the east side, and one on the west side of the state. Focused on interstate travel versus boat launch inspections. Prioritized water bodies, most heavily used ports of entry and primary intrastate travel routes, and large boating events. June 15 to September 30, Thursday-Saturday.

2016 – 221 check station days in Washington – significant increase from 2015. 3,115 vessels inspected.

Operating Dark Crossing – Conducted daytime and nighttime inspections at same locations. 6 daytime and 4 nighttime inspection stations among eastern and western side of state. Majority of inspections occurred during the daytime. Half a boat per hour on the east side and 1.5 per hour on the west side. Conclusion: It is not cost-effective to staff the nighttime stations - \$780/boat versus daytime operations - \$65 per boat.

Conclusions – More than 4 technicians are needed for 2017; increase partnership with WSP to staff POEs; increase WDFW check station days to 4 per week; 4 officers are not needed at nighttime stations; recurring training for CVD troopers; equipment needs include reader boards, signs, balloon lights, and signs

#### WA AIS Program Update:

- WID Program
- Infested site management/Rapid response
  - European green crab – have been on the West Coast since the late 80s – first detected in California, distribution is via larvae (persists for 50-70 days in the water column); 2012 detection on Vancouver Island; 2 detections in 2016 in the interior of Puget Sound – they decimate eelgrass, consume shellfish, and they destabilize estuarine shorelines. Larvae modeling shows larvae transport from Sooke Harbor, Vancouver Island into Puget Sound. Regional stakeholder meeting last week to develop buy-in on risk, solicit management recommendations, solicit cooperative management interest, and identify challenges to management. The perception is that they are not really a threat or risk because they have been in Willapa Bay since the 1980s.
  - African clawed frogs – 2 sites - (collected about 5,000 from 3 ponds) – received permission to use salt on one of the ponds to raise the salinity to 16 parts per thousand (storm water ponds), but record rainfall in October and November – all three of the ponds are contained – silt fence barrier (about 1 mile)
- Ballast water management program – two major reports
  - Biofouling management report was issued for 30-day review to stakeholder work group
  - Another six-year strategic plan will be available in early 2017
- State AIS legislative funding request: \$3.8 million
  - General fund 50%
  - User fees 50% (“small” vessel, i.e., non-motorized; non-resident, which includes commercial vessels and vessel haulers; shipping)
- Federal VIDA legislation

#### H. Idaho Invasive Species Program Update (*T. Woolf*)

8th year of watercraft inspection – 16 stations, February through October.

- 89,390 inspections, a 41% increase from 2015 (extended hours, dawn to dusk).
- 19 mussel-fouled boats – first drift boat (Michigan), and first with mussels on an anchor (Lake Havasu).
- 480 boats with weeds
- 1,200 recently visited mussel waters.

Most of the boats are coming from the Lower Colorado region; they are coming to the CRB and Canada. Hebgen Lake in the lower part of Montana receives a lot of boats from the Lower Colorado Region.

Monitoring – 889 samples processed – over 70 water bodies. No suspicious detections. Considering using PCR in 2017.

Considerations for 2017: **ACTION:** Data on mussel fouled vessels – record how long the vessel was out of water; 58% Idaho mussel boats in 2017 out of the water for more than 30 days. Record previous/inspection/notification.

Prioritize efforts to address risk – focus on moored watercraft.

#### Regional Strategy to Address the Highest Risk

- Consistent effort directed at locations where vessels with live mussels originate.
- Directed effort targeting boat brokers, auctions, marinas, and small independent haulers.
- Allocate regional resources based on risk.
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#### I. British Columbia (M. Beck)

Went from 12 to 32 inspectors from 2015 to 2016. Went from 6 to 8 auxiliary conservation officers. Stations were 7 days/ week and 10hrs/ day in 2016. In 2016, a Dawson Creek was added as well as a crew in the Lower Mainland. Most of the mussel-fouled boats were coming from Golden. A challenge in BC is the 14 border crossings. In 2015, there was a roving assessment done to determine where best to site the inspection stations. In May of 2015, the Federal AIS regulation was passed, which provided for federal agent support (Canadian border service agents). Inspectors are auxiliary conservation officers, asking source and destination, and if they have been to a prior inspection station, and if so, if in the past 30 days. Prevention is focused on roadside inspections, education/outreach, early detection monitoring and collaboration

In 2016, improved signage included the use of reader boards in interstates. BC also added small pictures to their inspection station signs. All boats are required to stop. Attempted to increase social media presence and development of a new provincial *Clean, Drain, Dry* logo. Total watercraft inspected – 24,500. Crews interacted with 50,000 people. 684 boats came from high risk jurisdictions. 17 mussel fouled boats, of which 5 had been in mussel fouled boats in the last 30 days. BC received notification on 10 of the boats from other locations. Boats came from 58 different jurisdictions. Four of the 17 infested boats were intercepted in April. Larger cabin cruisers and speed boats were the most common type of infested boat.

BC conducted Operation Nightcraft – One Wednesday night in August at Golden station on Trans Hwy 1. It was open from 10pm to 5am, all of which were from Alberta. 3 boats came through, all from Alberta. 4 inspectors, 1 full-time conservation officer.

2016 compliance and program effectiveness – saw a compliance rate of 81% - an increase of 9% from 2015. A total of 46 tickets and 36 warnings were issued to motorists for failing to stop. 419 people voluntarily stopped to get information. 62% of people that stopped at inspection stations knew about *Clean, Drain, Dry*.

2016 monitoring – 200 samples from 78 lakes

#### J. Alberta (C. Samchuk)

Whirling disease – the first ever detection in Canada this summer in Johnson Lake in Banff National Park. Used the mussel EDRR plan (still in draft form) – implemented in the Incident Command structure; monitored 200 water bodies in six different watersheds. Current status – 13 positive samples in Banff, 4

private aquaculture facilities and 15 wild in the Bow River. All positive facilities have been quarantined. Lab analysis is complex, and there is a backlog of samples. This will lead to mandatory decontamination.

Monitoring – only monitoring for invasive mussels. Not prioritizing high risk waters; only 3 sites per water body 3 x per season. Proposed to expand, more frequently, and multi-taxa approach.

Legislation – Pull the Plug; Looking for specified penalties for pull the plug.

Inspections – 19,003; 17 interceptions (13 from east, 4 from south); 8 were in late Fall, 8 BC bound; SMRID enhance government program; secret boater

Received an innovation grant that trains dogs to find a terrestrial plant, *Thesium arvense*.

#### K. Whatcom Boat Inspections: 2016 Program Update (*T. Ward*)

**Lake Whatcom:** 5,000-acre lake; open, multi-use lake, drinking water source for more than 95,000 people; watershed is home to 15,000 residents; popular recreational site for visitors and residents; lots of aquatic plants in the lake

**Lake Samish:** Fragrant water lily is the only aquatic plant there

In 2016:

- 9,571 inspections, most (7,217) at Lake Whatcom
- 16 inspectors at 4 launches
- 2,145 visitors
- 201 boats carried standing water that had to be drained
- 140 boats carried aquatic plants that had to be removed

On-site watercraft inspection also occurred – about 1,500 inspections

Monitoring – doing shoreline surveys for Asian clams; found five more sites at Lake Whatcom; began assessing densities of clams in 2016. Did not find Asian clams in Lake Samish, but did find a fragment of watermilfoil. Conducted an aquatic plant survey to find more fragments.

Education and outreach occurs primarily at the launch sites (one-on-one).

## IX. KCL TOXICITY – TESTING OF DREISSENID MUSSELS

(*C. Moffitt*)

Is KCL a RR control tool? It has been used on some occasions successfully in some places; unsuccessfully in others (likely due to lack of containment)

Protocols

- Edwards - ~750 mg/L for 1 hours followed for 2 hours by formalin.
- Byssal successful treatment at Millbrook Quarry, VA; Unsuccessful long-term treatment at Christmas Lake and Lake Winnipeg (lack of containment)

Christine discussed the studies she conducted in 2015 (see the meeting minutes from the last CRB meeting)

Conclusions:

- Response of veligers can be a model for adult response
- It's less expensive

Went to Mississippi in August of 2016 using static exposure to KCL with veliger studies – 960 mg/L

We did not see the mortality we expected to see in the Colorado River water because the specific conductivity is so high – high sodium and calcium. Low sodium in the Mississippi River system. If sodium is the driver that offsets the toxicity of calcium (spiked it with NaCl).

Montana RR treatment options. Conductivity range of Tiber Reservoir from water quality reports ranges from 0.3-0.45 mS/cm. Treatment looks plausible with KCl; recommend metals profile sampling. Veligers should be tested in the Tiber and Canyon Ferry reservoir waters.

## X. IDAHO AQUATIC NOXIOUS WEED UPDATE

*(Tom Woolf, Idaho)*

**Flowering Rush** – It's distribution is in northern Idaho (Pond Oreille) and southeastern Idaho (Idaho Falls, but not below American Falls):

- Lane Pend Oreille – dry ground imazapyr treatments (USACE, Bonner Co); in water diquat treatments (USACE), and hand removal (POBC and USFWS)
- Blackfoot, ID: Rose Ponds – in water diquat treatments; dry ground imazapyr, imazamox and flumioxazen (ISDA & Bingham Co)
- Idaho Falls, ID: Canal treatments – dry ground Diuron (labeled for canal systems – a soil sterilant) and flumioxazen (Bonneville Co)

**Eurasian watermilfoil** – not found in the eastern part of Idaho; also have a hybrid watermilfoil, that is difficult to identify, and difficult to kill.

**Hybrid milfoil** – The plan in 2017 is to use contact herbicides (Diquat and Endothal), perform diver removal in low density areas, and continue to evaluate hybrids in cooperation with MSU, USACE, and the Coeur d'Alene Tribe.

**Hydrilla** – Bruno River (97% reduction in hydrilla – nothing but hand removal), small canal in Boise (no plants found in 2016), new population in Hagerman area in 2015. All of the hydrilla species overlap ESA snail species.

## XI. WILLAMETTE AND COLUMBIA RIVER AQUATIC PLANT SURVEYS

*(M. SYTSMA)*

### **Flowering rush**

2014-2016 Mid-Columbia Flowering Rush Survey Area – 37 sites (Umatilla) plus additional sites

2016 – no flowering rush in lower Columbia below Bonneville Dam

**Numerous other invasive species discovered as part of overall survey work** – backwater habits are excellent habitat

**Bacopa rotundifolia** – native to the Midwest, and is expanding westward – Oregon is considering listing this as a noxious weed at their February 2017 meeting

### **Willamette Riverkeepers – Willamette River surveys – focused on Ludwigia**

Can form emergent stands 6-feet tall; occupies Oregon chub habitat – backwater.

Found water hyacinth in the lower Tualatin River in 2016. Introduced in water gardening.

## XII. WASHINGTON UPDATE – FLOWERING RUSH

(J. PARSONS)

2015 Survey and control – **Pend Oreille River** – hand pulled about 4.5 tons from 12 miles – sprayed all emergent growth – first plan was discovered in 2010. In Lake Spokane and the Spokane River – holding their own where Avista divers are hand pulling (parts of Spokane and 9-mile). Down river populations are not being controlled.

**Yakima River** – have been spraying emergent growth (glyphosate 1.5% tank mix, surfactant and dye) – treated about 25 river miles in 4-plus days in July and September.

**Columbia River** – Tri-cities area – it is more of a submerged plan in deeper water – surveyed much of Lake Wallula upriver of McNary Dam – found many new sites, some more than 5 acres

**Lake Roosevelt** – no flowering rush found in the Spokane Arm and Kettle Falls area (but that is a small percentage of the Lake Roosevelt area)

**Treatment Trial** – Silver Lake (Whatcom County) – had a population of flowering rush in several embayments – treated the same 10-acre plot in 2012 (2x) and 2014 (1x) and with Diquat. Results: lake-wide decline in flowering rush occurrence and biomass – some native plants have declined, others have increased.

**Genetic work** – John Gaskin – USDA-ARS – all plants from westerns US and Canada are genetically identical except for Bouchie Lake, British Columbia. Samples from Europe are genetically diverse, none so far match ours. He is working on ploidy analysis this year.

**Biocontrol research** – consortium formed in 2012 – multiple funding partners – contract with CABI Switzerland – promising weevil that mines the rhizomes – very host specific; additional research on another weevil, fly and pathogen; USACE scientists have been searching for any native herbivores/pathogens

## XIII. COLUMBIA BASIN STATES COOPERATIVE WEED MANAGEMENT AREA

(J. Busb)

CRB CWMA – Washington ISC developed a proposal in collaboration with multiple stakeholders to prioritize activities. CWMA's are informal collaborative groups that focus on a geographic area, involve a broad cross-section of landowners and natural resource managers, led by steering committee, long-term commitment to cooperation (e.g., MOU), have a comprehensive plan for invasive plant management, and facilitate cooperation across jurisdictional boundaries.

No one comprehensive data set that shares flowering rush distribution. The northern pike is a similar story.

Requested \$65,000 from the NFWF (*Pulling Together Initiative* program) – Should hear about funding in January.

- **Project Outcomes**
  - Create a sustainable coordinating regional body
  - Flowering rush regional summit
  - Regional flowering rush management plan
  - Adaptive management and data sharing

## XIV. Q/Z MONITORING LAB PROTOCOLS (NEW WESTERN REGIONAL PANEL COMMITTEE)

(S. Wells, PSU; group)

Goal: Review lab protocols for zebra and quagga mussel veligers. Develop BMPs.

Timeline: 1–2 conference calls prior to WRP October 2016; completed by WRP October 2017

Objectives:

- Review and discuss existing protocols
- Guidance document – Quality Management Report
  - Equipment decontamination – CPLM and molecular
  - QA/QC, e.g., blind matrix spike samples
  - Data reporting – Vol. particulate analyzed, scope, filter sizes
  - Preservation – [EtOH], pH, temperature and holding times

Committee members from several companies, agencies, etc.—they want all microscopy labs represented.

## XV. UMPS IV/?2017? RAPID RESPONSE EXERCISE/WRP WRAP-UP/2017 WRP MEETING

(L. Elwell)

**Chemicals and boat decontamination**—Removed information relating to chemicals in UMPS III – hot water is recommended. Suggestions will be made relative to chemicals, but . . .

- There are environmental concerns associated with disposition
- Are we certain what we are killing with those chemicals?
- How are these products labeled?

A white paper will examine the most common chemicals (e.g., vinegar, bleach, quats) – laws of labeling will be explored – exceptions. Consider separating the public from the scientific community.

**Rapid Response Exercise**—Should the CRB do a rapid response exercise in 2017?

Albany Falls may be a location to have an exercise. Grand Coulee could be another possible location.

**Western Regional Panel**—Anyone is welcome to participate on a committee. If you are not on the WRP listserv and you want to be, contact Leah Elwell @ [leah@stopans.org](mailto:leah@stopans.org).

**Rapid Response Exercise** at Jackson Hole, Wyoming went well – about 150 people in attendance.

WAFWA AIS Committee talked with the state fish chiefs.

September 13-15, 2017 – WRP meeting, San Diego, California; suggestions for presentations for the agenda are welcomed.

**ACTION ITEM:** NISC staff in DC will call in to the next CRB meeting.

## XVI. INVASIVE SPECIES AND PLANKTON DYNAMICS OF THE COLUMBIA RIVER ESTUARY

(S. Bollens, WSU)

In 7 West Coast estuaries where the copepod *P. inopinus* is present, it dominates the community. Invasive copepods from Asia have established themselves within the Columbia River estuary. Competition with native copepods is likely. Invasive copepods are consumed by predators, although some predators prefer native plankton. Overall effects on the food web will likely be substantial.

Ongoing and future studies:

- Why do some populations persist while others are temporal? Scientists are investigating the phylogeography of *P. inopinus* using next-generation genetic sequencing protocols. This species is likely transmitted via ballast water – a large massive invasion versus a slow dispersal pattern.
- How are population invasions affected by temporally varying community-level dynamics and abiotic environmental factors? The need is for long-term (multi-decadal) data and a research approach that combines observation, modeling and experimental manipulation.

## XVII. FOREST SERVICE AIS MONITORING

(J. Capurso, USFS; B. Penaluna, USFS)

Aquatic Invasive Species Inventory and Monitoring Proposal – USFS PNW Region

USFS staff discussed their proposal to conduct regional AIS monitoring via a pilot study to visit high risk locations on 2 west-side (Siuslaw and Willamette NF's) forests to develop eDNA monitoring techniques for 26 USFS R6 AIS Focal Species in non-wadeable freshwater locations. AREMP has agreed to facilitate data collection on these forests. The goals are to 1) evaluate eDNA field techniques for use in high risk locations; 2) develop appropriate sample designs for large water bodies (lakes and non-wadeable rivers); 3) evaluate the probability of detection for different species from water volume processing; and 4) develop community-scale eDNA sequences targeting aquatic invasive species.

This pilot study is intended to inform a regional aquatic invasive species monitoring program. The new technology being used in this monitoring design requires investigation of effectiveness and evaluation of survey design. The pilot project is anticipated to answer some questions about both elements that are necessary for a successful invasive species monitoring design.

## XVIII. FINAL REPORT – BPA TI PROJECT: FIELD EVALUATION OF THE SERVICE LIFE OF FOUL-RELEASE COATINGS IN THE COLUMBIA RIVER

(S. Wells, PSU)

Steve provided the details on the final report for this project (see previous CRB meeting minutes for details on the actual project).

- Recommend the Intersleek system – it is susceptible to gouging – affects deploy location
- The Hempasil failed based on blistering
- Fuji failed based on blistering with concrete
- Application is expensive (\$9.93/ft square in case study example)

- Longer term deployment would provide additional information on longevity and cost amortization
- Fish avoidance tests are required

## XVIV. KCL FOR DREISSENIID CONTROL/STATUS OF FEDERAL DISCUSSIONS, VULNERABILITY ASSESSMENT WORK GROUP, HAULER OUTREACH PROJECT, WEBSITE UPDATES, WESTERN AIS WEBINAR SERIES, MONITORING DATABASE AND PROCEDURES, WATERCRAFT INSPECTION AND DECONTAMINATION STATIONS

(L. DeBruyckere)

**KCL**—Currently, KCL is the choice chemical for dreissenid control efforts because of the effects of copper and cupric ion products on salmonids. Discussions with NMFS and the USFWS stalled in 2016 because of vacancies in the USFWS – these discussions will resume in January 2017 as two key positions will be filled. Once the discussions resume, the action document will continue to be constructed to identify a potential control action, including effects analysis, permitting issues, etc.

**Vulnerability Assessment Team**—The VAT continues to conduct vulnerability assessments within the CRB. A graph was shown (can be found on this web page: <http://www.westernais.org/crb-vulnerability-assessment-team>) that compared the number of VATs that had been completed in 2013 versus the number as of July 2016.

**Hauler Outreach Project**—A committee formed that included Stephen Phillips, Tom Woolf, Dennis Zagalbo, and Beth Bear to conduct outreach associated with boat haulers. The committee provided overall guidance and direction. A database was compiled on boat haulers, auctioneers, marinas, etc. with a focus on the Lower Colorado River and Great Lakes regions, but nationally, and some provinces as well. A two-page brochure was developed, and was distributed via email and mail to all of these entities during early December 2016. An email survey will be conducted in February to ascertain whether or not people remember receiving the brochure, and if they have any feedback, questions, etc. We also provided the document to Karen Vargas (NDOW) and members of the ANS Task Force to modify and distribute within their jurisdictions.

**Western AIS Webinar Series**—We conducted 4 webinars on western AIS in 2016. The topics of the webinars and links to the actual webinars themselves can be accessed here: <http://www.westernais.org/western-ais-webinar-series>. We plan on hosting four webinars in 2017.

**Monitoring Database and Procedures**—All entities collecting monitoring data in the CRB (and beyond) provided their monitoring information via excel spreadsheets in October 2016. Lisa compiled the information and is working with PSMFC staff to upload the information to the monitoring map that can be accessed here: <http://www.westernais.org/monitoring>. In addition, with the assistance of Karen Vargas (NDOW), we have posted Quagga/Zebra Mussel sampling methods used by western organizations as well as Quagga/Zebra Mussel Field and Laboratory Protocols from the states and provinces.

**Watercraft Inspection and Decontamination Station database**—The shared station database on westernais.org is working well, with AIS coordinators updating their information annually. Lisa will send the request for 2017 stations in mid- to late January to give Montana time to work with neighboring jurisdictions to address the recent infested and suspect water bodies.

## XX. USFWS PACIFIC REGION POLICY MINIMIZING THE INTRODUCTION OF INVASIVE SPECIES BY SERVICE ACTIVITIES

*(B. Kibler)*

The USFWS has a new Region 1 (ID, WA, OR, HI, Pacific Islands) policy for all FWS program that covers aquatic and terrestrial invasive species with a high priority on prevention. The policy is intended to minimize introductions by service employees, other parties carrying out actions with Service funding, and actions of other parties where the Service has regulatory, permitting, coordination, or other authority or influence. Some form of risk evaluation will be required for activities or situations that are novel, or have an uncertain level of risk related to invasive species. Further assessment must occur before proceeding to develop effective prevention guidelines. The cost of invasive species prevention can quickly outpace the return (risk reduction) on the investment (cost). The policy recommends developing several levels of effort/method commensurate to levels of risk of exposure or accidental transfer. The programs will develop guidelines in 2017; project leaders and division chiefs will designate invasive species leads; programs have 2 years (October 2018) until full implementation of all guidelines.

## XXI. VESSEL INCIDENT DISCHARGE ACT (VIDA)

*(A. Pleus)*

### Senate Commerce Committee Discussion Draft

- The Secretary “may” . . .
- No permit shall be required or prohibition enforced under any provision of law for commercial vessels less than 79 feet in length or a fishing vessel – this would completely exempt these kinds of vessels from any discharge laws. Recreation boats were included in this, but are now not included.

### Next Steps

- Likely proposed by industry in 2017
- Propose “redline” of most recent industry VIDA version
- Create democratic forum for collaborative legislation – ground up
- Propose alternative compromise – try to hit middle target with real compromises

## XXII. NATIONAL AIS LEGISLATIVE UPDATE

*(S. Phillips)*

- State AIS plans may be put into a separate line item, which will make it easier to provide added support
- WRRDA is teetering
- Lionfish elimination and prevention act of 2015 is dead
- Lacey Act: Invasive Fish and Wildlife Prevention Act is dead
- Healthy Habitats bill – dead
- Quagga mussel legislative listing (tied up in Lacey Act) – 2017 unlikely
- Center for Invasive Species Prevention – proposed to list 43 species in September
- State plan funding – current at \$2 million – can go up to \$4 million
- USFWS: WRP supported at \$40K for the panel and coordinator – the six panels want this increased
- QZAP Grant Program

Continuing Resolution likely will continue through 4/28/17

## XXIII. LAKE WHATCOM: USING TECHNOLOGY TO BUILD A BETTER AIS PROGRAM

*(T. Ward)*

Lake Whatcom is addressing many challenges associated with scheduling, crew engagement, community outreach, information sharing, and technology. Teagan shared some of the approaches they are using to address technological issues. They have created a [story map](#), an inspection web application, and an inspection risk assessment.

## XXIV. OREGON DEQ

*(R. Hooff)*

- The state needs to maintain its authority to address its local issues. Oregon is working on legislation.
- Concern about upstream transport from the Lower Columbia River; one potential pathway is barge operators. DEQ does not address river barge transport.
- Rian has been serving as the OISC chair – they are working on an all-taxa strategic plan for the State of Oregon. Hoping to finalize and adopt the plan at next weeks' meeting.
- Nominations for OISC Council members are due December 10, 2016.

## XXV. UPDATES

British Columbia – PNW Invasive Species Conference – Kamloops – June 20-22, 2017 – a research conference.

USACE – Portland office - Shelley retired – there is currently no wildlife biologist/invasive species person; that position will not be filled. Tim Dykstra is coming back in January.

Montana – FWP will be developing a short and long-term management plan for dreissenids within the next two weeks.

PNWER meeting in Portland in mid-July.