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

December 4-5, 2018

Boise, Idaho

**Attendees:** Eric Anderson (Washington Department of Fish and Wildlife), Jennifer Bayer (US Geological Survey), Martina Beck (Ministry of Environment and Climate Change Strategy), Rick Boatner (Oregon Department of Fish and Wildlife), Steve Bollens (Washington State University), Justin Bush (Washington Invasive Species Council), Norbert Cannon (US Bureau of Reclamation), Marcie Clement (Chelan Public Utility District), Tim Counihan (US Geological Survey), Lisa DeBruyckere (Creative Resource Strategies, LLC), Robyn Draheim (Pacific States Marine Fisheries Commission), Leah Elwell (Invasive Species Action Network), Gina Hoff (US Bureau of Reclamation), Betsy Hull (US Army Corps of Engineers), Richard Jackson (US Bureau of Reclamation), Rayola Jacobsen (RJ Consulting LLC), Nicole Kimmel (Alberta Environment and Parks), Lloyd Knight (Idaho State Department of Agriculture), Kristina Lawcynell (US Bureau of Reclamation), Meghan Lyons (National Park Service), Holly McLellan (Colville Tribes), Heidi McMaster (US Bureau of Reclamation), Laura Megill (Nevada Department of Wildlife), Susan Mills (National Park Service), Nate Owens (Utah Division of Wildlife), David Pilliod (US Geological Survey), Stephen Phillips (Pacific States Marine Fisheries Commission), Allen Pleus (Washington Department of Fish and Wildlife), Anthony Prisciandaro (US Bureau of Reclamation), Erin Raney (Arizona Game and Fish Department), Johnna Roy (US Fish and Wildlife Service), Jesse Schultz (Washington Department of Fish and Wildlife), Michael Stephenson (Idaho Power Company), Mark Sytsma (Portland State University), Pam Taylor (Washington Department of Fish and Wildlife), Damian Walter (US Army Corps of Engineers), Bill Whitacre (Western Governors Association), Kate Wilson (Montana Department of Natural Resources and Conservation), Tom Woolf (Montana Fish, Wildlife and Parks), and Nic Zurfluh (Idaho State Department of Agriculture).

## State and Provincial Updates

### **Idaho Aquatic Invasive Species Update (N. Zurfluh/L. Knight, Idaho State Department of Agriculture)**

Idaho water resources include irrigation, hydropower, flood control, municipal water, fisheries and aquaculture, recreation and tourism, property values, navigation, and environment. The invasive species program was established in 2001 via Executive Order 2001-11, which established the Invasive Species Council. In 2017, Executive Order 2017-05 continued the existence of the Council, which coordinates efforts among private industry, local entities, tribes, and state and federal governments; prevents the introduction and spread as well as the control of invasive species, hosts bi-annual meetings, and is chaired by the Director of the Idaho State Department of Agriculture. In 2018, Legislative funding includes \$3,143,300 in ongoing appropriation from the General Fund; \$1,000,000 in one-time federal fund spending authority (WRDA), which funds watercraft inspection and monitoring; \$1,400,000 base spending authority from the Invasive Species Fund; and \$171,300 from Idaho State Police support. 2018 is the 10<sup>th</sup> year of the watercraft inspection program, which currently includes 20 stations (19 administered by cooperators) – including 2 new inspection stations at Kooskia and North Fork; 3 roving crews; extended season duration and night operations, and law enforcement support. Inspection station cooperators include regional commissions, soil and water conservation districts, cities, counties, tribes, and resource conservation and development councils. Watercraft inspection trainings (WIT) occur throughout the state and include 2 days of training. In 2018, over 110,000 inspections performed, 6,884 hotwashes, 352 plants intercepted and removed, and 50 mussel-fouled watercraft. Watercraft Inspection and Decontamination (WID) Data – questions asked include source and destination of watercraft. Because of the popularity and demographics of the River of No Return, which has a wide variety of river users, there is an interest in enhancing outreach and inspection efforts with non-motorized boaters. Night inspection stations were piloted last year at Cotterell - open at 6am and close at midnight – ISDA is currently conducting night inspections at three other stations. AIS Roving Inspection Crews are mostly concerned with launches in Idaho that don't typically interact with WID stations – focused on headwater launches. The Fouled Watercraft Protocol includes calling the hotline, providing detailed information, following up inspections by ISDA staff for all Idaho-destined watercraft, and passing information to partners when needed.

The protocol includes determining mussel viability (Viable mussels are wet, moist, and intact; Dead mussels are dry, brittle and crumbling). If mussels are viable, ISDA will impound and decontaminate the vessel, and law enforcement will be contacted. If mussels are dead, inspectors will perform a hotwash, ISDA will notify states and/or provinces, and information is documented on a high-risk inspection form. 2018/2019 WID site improvements include work shelter/shed, electrical utilizes, water utilities, expanded footprint, pavement, solar panels, permanent signage, electronic message boards, internet, cellphone service, barriers, restroom facilities. Other vectors for AIS that ISDA is concerned with include wildland fire, seaplane, construction barge, navy equipment, and dredges. EDRR – 9<sup>th</sup> year of monitoring in Idaho focused on veliger microscopy – 1,617 plankton samples collected from 80 water bodies, and adult monitoring (reservoir drawdown, substrate, and benthic grab sampling). 2018 analysis is complete; no suspicious detections in Idaho, assistance from partners, survey for other invasives, and activate Idaho rapid response plan if detection occurs. There will be an Idaho Rapid Response exercise in 2019, likely on the Hells Canyon complex. [www.invasivespecies.idaho.gov](http://www.invasivespecies.idaho.gov)

### **Washington Department of Fish and Wildlife (E. Anderson, J. Schulz)**

The Flagship WID station is in Spokane station at the location of a rest area that WSDOT decommissioned it, then leased to county parks. In 2018, WDFW expanded days and hours of operation – Spokane to 7 days/week. At Plymouth, inspections occur in April, May, September and October 4 days per week, and 7 days per week June through August. This represents a 117% increase of check station days, and 172% increase in inspections (469 check station days and 24,645 boats inspected). Additional inspections occurred: Diamond Lake Homeowners Association (110 check station days/1338 inspections/848 volunteer hours); signed an agreement with Lake Roosevelt NPS (7 check station days/476 inspections); conducted WDFW enforcement statewide (396 with boating safety). A total of 28,861 watercraft were inspected in Washington in 2018. Spokane compliance and traffic stops – 386 traffic stops, 2,903 blowbys = 88.25% compliance; 19,343 boats encountered the check station, 17,071 stopped voluntarily, 273 traffic stops. Plymouth = 92.31% compliance, 8,205 encountered, 7,574 stopped, 631 blew by, 113 traffic stops. Additional statistics – 555 commercial inspections, 55 boats from positive waters in the past 30 days, 567 complex inspections (including 276 ballast boats), 208 decontaminations (22 with standing water and 182 with plants). Washington is now using the regional database. In 2019, WDFW will bring expanded abilities re: decontaminations at Spokane; will be getting a mussel canine in March; will be expanding number of check station days – Plymouth will be open February through October 7 days/week; Spokane will be open March through October 7 days/week; will be installing permanent highway signs for the Plymouth station; and will be proposing a new regulation that would add a new level of violation “traffic infraction” for failing to stop for aquatic invasive species inspection station.

Monitoring partners include Chelan, Douglas and Grant Public Utility Districts, the National Park Service, Spokane Tribe, Snohomish Public Utility District and City of Everett. In 2018 a total of 514 vertical and 514 horizontal plankton net tows occurred at 225 sites. In 2019, the goal is 550 vertical and 550 horizontal plankton tows for a total of 1,100 at 250 sites. Two private consultants are analyzing the data (Cameron Lange and Steve Wells). In 2018, 620 artificial substrates and collection plates were placed and monitored at 219 sites. In 2019, there is a goal of 750 artificial substrates and collection plates placed and monitored at 250 sites. In 2018, 706 visual shoreline surveys were conducted at 230 sites. In 2019, there is a goal of 750 visual shoreline surveys at 250 sites.

Water quality parameters include salinity, pH, temperature, DO, and visibility. In 2018, 645 sets measured at 233 sites. In 2019, goal of 750 sets were measured at 250 sites. In 2019, the goal is 750 sets measured at 250 sites.\

- Calcium samples are taken during the summer when calcium is the highest, and in the spring when it is the lowest. Eastern Washington University analyzes the samples. In 2018, 642 samples were taken at 233 sites; in 2019, the goal is 950 samples at 250 sites.
- eDNA – in 2018, 222 samples were taken and there were 222 negatives at 22 sites for both dreissenids and NZMS. In 2019, the goal is 250 samples and 250 negatives at 250 sites for dreissenids, NZMS, and northern pike. Analysis is conducted by WDFW Genetics Lab Sarah Brown. A Smith Root Inc. ANDe backpack filter used.
- Ponar Grab Sampler – Beginning in 2019, there is a goal of collecting 750 ponar grab samples at 250 sites.

In 2019, WDFW will conduct site risk assessments based on information they would like to collect at each site – ownership, boat ramp type, dock at boat ramp, ramp fee, ramp public, availability, watercraft restrictions, marina present, campground present, park present, fishing tournaments allowed, watersport events, high boating effort, in the Columbia River Basin, water body acreage, water body elevation, and calcium.

### **Oregon Department of Fish and Wildlife (Rick Boatner)**

In 2018, ODFW conducted 28,000 WID inspections and detected 11 mussel-fouled watercraft. ODFW will not be using the Burns WID station next year – in 2018, 52 boats traveled through the station, and there were no mussel-fouled boats intercepted. Umatilla – 5,562/0/27; Ontario – 7,242/6/175; Klamath Falls – 2,552/0/8; Gold Beach – 2,998/0/7; Central Point - 9,188/5/126; Burns – 52/0/0. In 2019, the watercraft inspection stations at Central Point and Ontario will remain open all year; the remainder of the stations will open in April. ODFW did not conduct water quality monitoring in 2018. Two state bills will be coming through Oregon State Marine Board to the Oregon Legislature in 2019 – one will make it illegal to have drain plugs on the road; and if someone blows by a station, they must return to the inspection station. There will be a \$15 fee for non-motorized watercraft. Owyhee Reservoir is contemplating opening their own inspection station, but because ODFW inspects at the Ontario station, this proposed new station may duplicate efforts.

### **Montana Fish, Wildlife & Parks (T. Woolf)**

There were no further mussel detections in 2018 in Tiber and Canyon Ferry reservoirs. eDNA sampling on Tiber indicated no presence of mussels – last year, eDNA samples indicated the presence of mussels. Canyon Ferry was listed as a suspect water body – mandatory inspection after next year – then will request to lift the mandatory inspections at that time. In 2018, MFWP conducted 99,000 WID inspections, detected 16 mussel-fouled vessels (17 last year); contracted WID stations; collected more than 2,100 plankton tow samples; used divers, dogs, eDNA, and substrates to detect mussels; and detected faucet snails. A Rapid Response Exercise was held at Flathead Lake. The scenario included a detection of adult mussels found on a boat in the water. Unified Command consisted of Montana Fish Wildlife and Parks and the Confederated Salish and Kootenai Tribes (CSKT). Tribal biologists planned for a copper treatment in the Flathead Lake Incident. In 2019, MFWP will restructure the AIS program; move stations, consolidate, improve Tiber containment, add a Willow Creek station to Tiber, and expand hours; seek expanded partner participation for station operations; expand partner participation with monitoring and outreach; add 310 permit language, which mandates inspections for boats (helps identify people bringing equipment into the state); and secure a budget and funding. Opportunities exist for enhanced coordination among the Columbia River Basin states, including the use of eDNA use for mussel early detection; seaplane protocols and messaging; strategies to intercept Midwest transports; strategies for public engagement; strategies for inspection station quality control; and coordination/communication relative to mussel-fouled boats.

### **British Columbia Ministry of Environment and Climate Change Strategy (M. Beck)**

The Invasive Mussel Defense Program includes WID, EDRR, and Outreach and Education. In 2018, 12 WID stations with 64 officers conducted 38,000 inspections and 1,700 high-risk inspections, inspected 373 commercially hauled watercraft, conducted 450 decontaminations, received 300 notifications from Border Services, and intercepted 25 mussel fouled boats (of which they received advanced notification for 20). The 25 mussel-fouled watercraft were from Ontario (16), Arizona (3), Manitoba (2), Michigan (2), Nevada (1), and Utah (1). The mussel-fouled watercraft destinations included the Lower Mainland (11), Thompson-Nicola (5), Vancouver Island (4), Okanagan (3), and Kootenays (2). One station operated for 24 hours, 5 stations operated from dawn to dusk, and 6 stations operated for 10 hours/day; inspection season is April to end of September and October. Nighttime operations – Golden is the 24-hour station and intercepts the most mussel-fouled boats – it is a primary commercial hauler route. The nighttime station is open between 10pm and 5am, from May to mid-September. In 2018, the nighttime station conducted 391 inspections and 22 high-risk interceptions, and intercepted 2 mussel-fouled boats – 1 at midnight and one at 5am.

### **Alberta Environment and Parks (N. Kimmel)**

There is a \$310 (Canadian) fine for bypassing a WID station, and a \$172 (Canadian) fine for failing to pull a plug. Alberta is experiencing difficulty getting a national rail line to address Phragmites. Alberta conducted monitoring on 95 lakes and reservoirs – 609 samples for veligers – monitoring for zebra and quagga mussels. In 2019, Alberta will expand monitoring to Eurasian watermilfoil because they intercepted 15 viable plant fragments from British Columbia. In 2018, Alberta had 11 permanent WID stations and 2 roving stations. Three WID stations seek to intercept traffic from British Columbia whereas 3 seek to intercept traffic from Montana and the United States, and 5 seek to intercept eastern traffic. Alberta has improved signage for its WID stations. A total of 32,000 inspections were conducted in 2018 – 31% were considered high risk. A total of 10% of watercraft are bypassing the WID stations. Alberta detected 15 mussel fouled boats – most were from eastern Canada – Ontario.

### **Upper Columbia Conservation Commission Update (K. Wilson)**

Several projects that comprised the 2018 Montana AIS Program Evaluation were discussed in detail. One included a focal point of survey relative to watercraft inspection experiences such as the nature of the experience, location and hours, ease of use, results of inspection, thoroughness, coordination and communication among stations, and suggestions for improvement. Another project, which is focused on outreach and education, is intended to evaluate the exposure/efficacy of advertising. Bureau of Reclamation funding has supported outreach and education (website, promotional materials, and displays), monitoring (expansion of citizen science in the Flathead Basin), response (GIS/mapping of Upper Columbia waterways to complement state EDRR guidelines), and a marina pilot program intended to target key marina operators within the Upper Columbia. An invasive species summit, which was held in Helena November 15-16, 2018, included a law review focus, sessions based on findings, new legislative topics (e.g., penalties for WID bypasses), and the creation of a working group to develop a comprehensive invasive species act. Montana is also working on fire protocols and seaplane AIS prevention efforts. Several new, short 30-second videos were developed focusing on specific target audiences – boaters, anglers, water users, non-motorized boats, and hydro.

### **Lake Roosevelt Recreation Area Update (M. Lyons)**

A total of 476 boats inspected this year during 13 inspection days; notifications of boats destined to Lake Roosevelt are appreciated. Monitoring (veliger tows and substrate sampling) was conducted in cooperation with local partners during the spring-fall—no mussels have been found to date. Future plans include targeted inspection times, mussel dogs for a visit, local boater exemptions, and rapid response exercise planned for 2019.

### **VIDA (A. Pleus)**

The Vessel Incidence Discharge Act players included the states, shipping industry, Environmental Protection Agency, US Coast Guard, International Maritime Organization, and Congress. Ballast Water Discharge Standard (BWDS): A suite of five minimum standards by organism size class or bacteria species and volume of ballast water.

VIDA Provisions: No changes/preemptions will occur until new federal standards/requirements are “final, effective, and enforceable.” The Environmental Protection Agency will be the federal lead in establishing water quality standards. The US Coast Guard is the federal lead on monitoring, inspection and enforcement of Discharges Incidental to the Normal Operation of a Vessel (DINOV) standards. The states cannot have more stringent standards/requirements. State authorities retained include: enforcement of federal standards/requirements; Pacific Coast ballast water exchange and other key regional provisions; ability to issue DINOV management fees (with new cap); and regulation of small commercial (<79 feet) and fishing vessels (except by National Pollutant Discharge Elimination System permit). State authorities gained: consultation required during Environmental Protection Agency and US Coast Guard establishment of standards/requirements; states can

petition the federal agencies for higher standards/requirements; no preemption until new federal standards/requirements; enforcement of federal standards/requirements; Pacific Coast ballast water exchange and other key regional provisions; improved dissemination of ballast water reporting data and annual reports; working group formed to develop real-time ballast water data sharing. Quagga mussels are listed as injurious under the US Fish and Wildlife Service.

New \$5 million Coastal AIS Mitigation Grant: Administered through the National Fish and Wildlife Foundation (NFWF); subject to appropriation (25% match); aquatic invasive species in coastal zones or Exclusive Economic Zone (EEZ); states, local government, tribes, nongovernmental organizations, academia are eligible; use is to support ballast water and other AIS management program activities; restore habitat impacted by aquatic invasive species, develop ballast water treatment technologies; develop mitigation measures to protect natural and living cultural resources for aquatic invasive species impacts; develop infrastructure.

Frank LoBiondo Coast Guard Authorization Act of 2018 signed into law December 4. Implementation is the next step:

- EPA & USGC develop consultation/working relationship
- EPA establishes consultation process & timeline for developing/issuing DINO standards
- USCG establishes consultation process & timeline for developing/issuing vessel requirements/enforcement procedures for EPA standards
- EPA/USCG develop state petition process
- Congress appropriates funds for Coastal AIS Mitigation Grant program

### **European Green Crab Transboundary Action Plan (A. Pleus)**

The Puget Sound Partnership, Washington Sea Grant, Canada Fisheries and Oceans, and Washington Department of Fish and Wildlife just completed a white paper on the *Management Status of Invasive European Green Crab in the Salish Sea* and a *Salish Sea Transboundary Action Plan for Invasive European Green Crab*. The IUCN lists the crab on it's 100 of the world's worst alien invasive species, it's a "Species for Control" in Canada, and a Prohibited Level 1 Species (1a – species classified as prohibited level 1 pose a high invasive risk and are a priority for prevention and expedited rapid response management actions) in Washington. Action plan objectives include: Collaboratively manage the response to the crab, prevent human-mediated introduction and spread, detect presence at earliest invasion stage, rapidly eradicate or reduce newly detected populations, control persistent infested site populations to eliminate or minimize environmental, economic and human resource harm, and conduct research to develop increasingly effective adaptive management strategies. Collaborative management is being used to address this species of crab, including Washington Department of Fisheries and Wildlife and Canada Fisheries and Oceans providing context, coordination, and authorities for management; Sea Grant providing species expertise and an early detection infrastructure; Washington Department of Fish and Wildlife providing rapid response coordination and assistance; partners and stakeholders providing energy and main ingredients for an action plan, and everyone owning success. It is important that this crab is detected early (within the first year of settlement) to maximize control/eradication opportunities. About 25% of Washington sites are consistently monitored for European green crab. Solutions include rapid response actions to stop new detections before they spread and start other populations, and response monitoring to conduct intensive trapping investigations of previous detection sites to confirm control levels are maintained. The action plan provides a clear pathway for effective and efficient management of European green crab to prevent their establishment. Next steps include gathering signatures from partners and stakeholders, and securing short- and long-term funding.

### **WGA Biosecurity and Invasive Species Initiative, and Invasive mussel leadership forum (B. Whitacre)**

WGA Chair and Hawaii Gov. David Ige will host and deliver remarks at the fourth and final workshop of the *Western Governors' Biosecurity and Invasive Species Initiative* on the Island of Hawaii. The two-day event (Dec. 9-10) "Biosecurity and Agriculture," will be moderated by California Secretary for Natural Resources John Laird. In January, there will be a WGA Invasive Mussel Leadership Forum January 30–31 in Denver, Colorado. The goal of the forum is to collectively determine

common interagency priorities for the prevention and containment of invasive zebra and quagga mussels in the Western U.S. and identify a shared interagency strategy to address these priorities. A state/federal/tribal planning committee has been meeting to develop the agenda for the event. Many WRP and CRB Team members are involved. The FY 2019 Interior Appropriations bill (not yet passed) contains language to develop state/federal Incident Command System (ICS) specifically mentioning the WGA to work on this. We will be hearing more about this once the interior budget is passed.

### **A Mixed Bag (L. Elwell)**

Leah Elwell provided a variety of AIS updates:

- Uniform Minimum Protocols and Standards (UMPS) III – UMPS III no longer has any references to chemicals; this information is now included as an UMPS Supplement – “A review of chemical use associated with watercraft decontamination to address aquatic invasive species.” The document corrects online misinformation about watercraft decontamination and chemicals. Outreach is being conducted to notify website owners about any online misinformation on chemicals for decontamination. Leah is exploring ways to work with major partners to adopt a philosophy and/or policy statements relative to the appropriate use of chemicals.
- Western Regional Panel Recap
  - The Coastal Committee is working on best management practices for vessels and biofouling.
  - A sampling workgroup that originated in *Building Consensus in the West* developed recommended sampling protocols.
  - A committee has been created to develop a protocol to inspect and decontaminate seaplanes.
  - The Invasive Mussel Leadership Forum will be held in a few months.
  - A Standard Operating Procedures document will be developed by the Western Regional Panel in 2019.
  - The Western Regional Panel will hold annual meeting in Montana in 2019 – Montana Fish, Wildlife & Parks is hosting – likely in Missoula and Bozeman.
- Rapid Response Exercises in 2018 and 2019: In 2018, an exercise was held in Flathead Lake involving Montana, Fish, Wildlife & Parks and the Confederated Salish and Kootenai Tribes; it began with a Phase 1 Incident Action Plan, a press event, and control technique interviews. In 2019, there will be an exercise in May in Idaho with Idaho Power in Hells Canyon. There is interest from Oregon to do their next exercise in 2020.
- Watercraft decontamination videos will be completed by the end of December 2018. They are short videos with voiceovers – about 3 minutes (General inspection and decontamination, inboard/outboard decontamination, inboard decontamination, ballast decontamination, plant decontamination).

### **Lake Roosevelt and Pacific Northwest Northern Pike Forum and Coordinating Group Update (H. McLellan, J. Bush)**

**Lake Roosevelt North Pike Update:** The suppression/research program uses gillnets (February-May to target spawning fish and June-November to target other areas), boat electrofishing and fyke nets to capture juveniles in the fall, microchemistry to determine spawning locations and new invasions, eDNA monitoring to detect expansion, a DNA study to determine origin of sources, a reward program (\$10/head), and abundance monitoring. In 2018, co-managers removed 2,620 pike (they have removed 8,649 since 2015). The majority of the fish have been in the upper section of the lake. Pike are starting to populate the Spokane River. In 2019, there will be increased effort in the Sanpoil/Spokane Arms to protect Redband/kokanee. The DNA study has demonstrated that pike are coming from upstream sources and people moving them, thus there is a need for increased public awareness. It is unlikely officials will be able to stop the spread of Northern Pike throughout the basin, thus the goal is to reduce the amount going downstream.

**Coordinating Group Update:** There needs to be more harmonized messaging about illegal introductions of sport fish. Pike are currently only 2 dams away (about 58 river miles) from important Columbia River salmon spawning habitat. They are moving downstream within Lake Roosevelt. The Pacific Northwest Economic Region held a transboundary special session in

2018 in Spokane – we need to understand the potential economic impact to the Columbia River Basin, thus the Northwest Power and Conservation Council funded the initiation of a study.

Opportunities for collaboration and regional solutions –

- What’s the potential cost to the economy and environment of the CRB? Study will be completed by May 2019
- What actions can the lower CRB take to prevent impacts to salmonids? Emergency response planning and emergency response funding
- If spread continues, how can BC, OR, and WA quickly respond, and what is the long-term strategy? Transboundary agreement or MOU?
- How can we work together to avoid illegal fish introductions? – harmonized messaging

February 13 meeting – continuation of Forum and coordinating group.

### **CRB CWMA Flowering rush management plan (L Elwell)**

The plant existed in Montana for decades, but it is moving through the Columbia River system. The Columbia Basin Cooperative Weed Management area was formed in 2017 (<http://columbiabasincwma.org>). A summit was held February 27-28, 2018. Target completion date for the management plan is the Spring of 2019 – information in the plan will inform future funding efforts. A total of \$1 million was added to WRDA for flowering rush – for control only, it requires a 50-50 match, and biological opinions have to be completed before the funds can be used. Funds can only be expended on ongoing, current projects.

### **USACE and WRDA Update (D. Walter, S. Phillips)**

- Watercraft inspection stations – FY2018 - \$4.2 million – over half has been expended.
- Monitoring – FY2018 - \$700,000 in agreements; only about \$50k expended.
- Scopes of work from states due for watercraft and monitoring November 30.
- Rapid response ESA consultation process – submitting 2<sup>nd</sup> draft BA to USFWS and NMFS November 9; Changed BA form programmatic to framework programmatic; Response expected December 14.
- Flowering rush – funding processed for ESA and NEPA consultation and developing BA; starting discussions with NMFS, and will be reaching out to USFWS. Working on a decision document, which will allow NWW to request funding based on estimates of work provided by states.

WRDA was originally limited to the four states. S 3021 (America’s Water Infrastructure Act of 2018) was approved in 2018. \$110,000,000 – because of increase in geographic scope. CRB language remains, but reference to four states has been removed. In addition, Upper Missouri River Basin, Upper Colorado River Basin, and South Platte and Arizona River Basins (but there is no such thing as Arizona River Basins – it was supposed to be Arkansas River Basins). This legislation gets authorized every 2 years. Rapid response section includes language relative to “any aquatic invasive species,” but then states, “including quagga or zebra mussel”. In 2017, \$3,7 million was spent on WID and \$373,000 was spent on monitoring. In 2018, \$4.1 million was spent on WID and \$692,000 on monitoring. There is a \$270,000 work plan for flowering rush. In 2019, it is estimated that \$4.0 million will be spent on WID and about \$691,000 on monitoring – flowering rush is unknown. The new basins won’t come online until 2020. In 2018, MFWP received 49% of the funds, ISDA – 25%, WDFW – 11%, and ODFW 13%. In 2018 monitoring – 35% MFWP, PSU – 12%, ISDA 7%, WDFW 18%, WSU 22%. Flowering rush in 2018 – Idaho 41%, Washington 41%, Montana 11%, and PSMFC 7%. Oregon does not qualify (federal waters). We await permits – projects will likely begin in the spring of 2019.

**Endangered Species Act compliance for dreissenid mussel response in the Columbia River Basin states (L. DeBruyckere)**

The draft of the ESA Manual has been submitted to the US Fish and Wildlife Service for review (November 2018). Comments from staff will be incorporated, and the ESA Manual is projected to be completed in February 2019. The water bodies that the states submitted for analysis are now part of the appendix of the document. The document focuses on best management practices overall as well as species-specific best management practices based on the type of control action as well as life history needs and critical habitat of listed threatened and endangered species in each of the four basin states. There is discussion about incorporating the ESA Manual into a new iteration of a Columbia River Basin plan that tailors the Incident Command System to a dreissenid response.

**UT AZ NV – Lower Colorado Updates (N. Owens, E. Raney, L. Megill)**

In Nevada, four stations are operating year-round.

In Arizona, the goals of the AIS program are to increase funding, build consistency within the region through rule and policy changes, build credibility of Arizona's AIS program, increase communication and build partnerships, and implement WID stations. Arizona state funding has been insufficient to implement widespread containment, and there is currently a hiring freeze in state government. The Director's Orders from 2016 were cumbersome and confusing to boaters.

- Day Users—Day users were required to “ensure plugs and devices remain removed or open during transport.” The old protocol recommended vinegar for decontamination – this has now been removed from all materials. The new protocol states that if conveyances cannot be fully drained and will be used in less than 7 days (May-October) or less than 18 days (November-April) at a different water body, it is highly recommended to contact the Arizona Game and Fish Department AIS program to schedule an inspection and to determine if decontamination is necessary.
- Long-term Users—The old protocols required removal of all attached invasive species; where decontamination facilities exist, flush the engine, cooling systems, and any other through hull fittings for 10-30 seconds with hot water exiting those areas at 140°F to kill any hidden invasives. Prior to transport, complete and sign the Arizona Invasive Species Boat Inspection Report (AISBIR) and send to the Arizona Game and Fish Department. The new protocols require contact with the AIS Program or authorized agent to schedule inspection and decontamination; Clean, Drain, Dry; Plugs remain out; Dry completely for 18 days Nov-April and 7 days May-Oct.; Prior to transport, an authorized agent or employee must submit inspection and decontamination information to Arizona Game and Fish Department (via WID mobile database). A seal and receipt will be issued to owner/operator as proof of inspection/decontamination.
- All Users—The new protocol is: If suspected of documented AIS are found, inspection, and decontamination by Arizona Game and Fish Department personnel or authorized agent will be required prior to transport. Authorized agents may perform inspections and decontaminations at Department authorized locations on behalf of Arizona Game and Fish Department. Agents must have current, valid WID Certification from Arizona Game and Fish Department to be authorized by the Department; Subject to quality control and yearly re-certification.

Glen Canyon National Recreation Area Update – Lake Powell:

- Monthly meetings – coordinate on protocols, messaging, troubleshoot issues, align state programs as closely as possible.
- Add Arizona information to local boater program
- Seasonal technician – Representation and education
- Fill in gaps, (e.g., Lee's Ferry and Antelope Point access points in AZ)
- Building rapport with local law enforcement



Lake Mead and Lake Mohave Updates:

Lake Mead National Recreation Area: Meetings with Nevada Department of Wildlife and National Park Service, Safeguarding—Nevada Department of Wildlife is doing the majority of inspections and decontaminations at Lake Mead; New AIS signage for National Park Service to post; Three concessioners in Arizona at Lake Mead/Mohave – Required to perform mussel abatement and follow state AIS laws—Katherine Landing, Willow Beach concessioners WID certified in July, and Temple Bar needs re-certification.

Tonto National Forest (Canyon, Saguaro, Apache) Update: Coordination with US Forest Service and partners for AIS removals, but still a lot of work to do with US Forest Service and marinas for quagga/zebra management; Updated marina language with Forest Service in 2017, likely needs revisiting if possible with new Director's Orders; transporters good at notifying if a boat is leaving these locations and we will send contractor/AIS personnel to inspect and decontaminate; Have been inspecting and decontaminating boats launching from out of state.

Lake Pleasant Update: Two private marinas (Scorpion Bay and Pleasant Harbor); one 10-lane public launch ramp and one 4-lane public launch ramp.

Watercraft decontaminations by Arizona Game and Fish Department and partners: 159 in FY18. More than 100 boats decontaminated were from the Lower Colorado River—mostly Havasu, followed by Pleasant. Most of these boats are long-term moored and many are heavily infested, large, very complex watercraft. Arizona Game and Fish Department is seeking more contractors to expand services/availability.

Upcoming priorities are to hire more contractors to perform inspections and decontaminations, continue building partnerships and public support for the AIS Program, moving from voluntary to mandatory inspection stations.

### **Watercraft Inspection Station Strategy 2019; interactive map, discussion (L. DeBruyckere)**

The regional watercraft inspection station online viewer was displayed, and states talked about changes to their stations in 2019. In addition, Montana requested that additional information be captured from infested boats at check stations in 2019, specifically, recording and reporting time in the water, time out of the water and marina / ramp of origin. Collecting this information will be helpful information to determine risk and will help states with mussel impacted waters to better address gaps. These fields will be added to both the mobile app and the online viewer.

### **Idaho Power Hydropower Vulnerability Assessment (M. Stephenson)**

The Snake River is a high-risk state in terms of vulnerability to dreissenid mussels. Five vulnerability assessments have been completed on Idaho Power hydropower facilities – American Falls, Milner, CJ Strike, Swan Falls, Oxbow and Hells Canyon. Facilities that need assessments include: Twin Falls, Shoshone Falls, Upper and Lower Salmon Falls, Bliss, and Brownlee. A vulnerability assessment is an inventory of a hydroelectric plant's infrastructure from intake to tailwater that will be impacted by dreissenids. Anything that touches raw water is subject to fouling – other project-related facilities, such as recreation, hatcheries, and mitigation properties should be included. Idaho Power distilled the complex Bureau of Reclamation Facility VA Assessment Template to a more user-friendly checklist.

What did we find? High risks to cooling system water lines, including turbine cooling and HVAC cooling systems. Instrumentation is also at risk, including headwater and tailwater elevation gauges, piezometers, oil sensors, and sump pump sensors.

Long-term solutions at hydro plants will come from the operators and maintenance staff. Filtration and UV treatment systems are currently still the best options for in-line treatment.

Challenges and successes include scheduling, plant staff have been very engaged and helpful and upper management has been very supportive of the efforts.

### **US Bureau of Reclamation Update (K. Lawcynell and A. Prisciandaro)**

The Bureau of Reclamation provided information on zebra/quagga mussel monitoring in the Pacific Northwest. Reclamation regions have recently been restructured. Standard operating procedures for veliger tows includes vertical tows with 64-micron mesh using cross polarized light microscopy for analysis. Every reservoir is sampled once every three years at a minimum. A total of 27 reservoirs were sampled in 2018. Of the 27 reservoirs, 10 were very low risk, 1 was low risk, 10 were medium risk, and 6 were high risk. A total of 30 reservoirs will be sampled in 2019. Settling plates consist of PVC and Plexiglas and are placed in the water at the surface, at 3 meters and up to 15 meters, in multiple locations on existing or new buoys. A visual/tactile analysis is conducted twice annually. Settling plates are used in medium and high-risk reservoirs that don't frequently completely empty, including Owyhee, Lowell, Walcott, American Falls, Ririe, Palisades, Jackson, and Island Park. Temperature monitoring is used to help determine spawning timeframe; devices are deployed with settling plates at the surface and up to 15 meters. Dive and shoreline surveys are also conducted. The Bureau of Reclamation has an interagency agreement with the US Geological Survey to sample eDNA at US Geological Survey gauging stations. Other activities include vulnerability assessments, boat ramp mapping, and offering assistance to the National Park Service with testing on Lake Roosevelt.

### **City of Portland Invasive Species Strategy Review and Enhancement Project (L. DeBruyckere)**

The Bureau of Environmental Services initiated an effort in early 2018 to audit and revise its *2008 Invasive Plants Strategy*, which resulted in substantial changes to city policy, code, management of natural areas, developed parks, hybrid parks, other city properties, and streets. The strategy identified regional capacity for managing invasive plants and made recommendations for implementation, including cost estimates and 10-year goals. The city sought to review the *2008 Invasive Plants Strategy* and develop *Invasives 2.0*, a new strategy that addresses key gaps, builds on lessons learned, incorporates updated best management practices based on emerging science and technology, and articulates a cohesive, coordinated, collaborative effort across all city bureaus. Managing Portland's natural resource assets using an integrated multi-jurisdictional approach (both within city bureaus and with stakeholders in the region) for both plants and animals are intended cornerstones of *Invasives 2.0*. An audit conducted in 2018 incorporated a 10-year retrospective that documented key program accomplishments as well as key gaps and shortcomings identified through strategy implementation. The *2008 Invasive Plant Strategy* had 4 goals: Program Development; Outreach, Education, and Coordination; Inventory and Assessment; and Invasive Species Control. Of the 44 actions listed under these goals, 27 were completed, 13 were partially completed, and four were not completed. Those activities that remain relevant moving forward were incorporated into *Invasives 2.0* goals and actions. Priority shortcomings and gaps described in the *2008 Invasive Plants Strategy* that are addressed and incorporated into *Invasives 2.0* include funding and resources, fully integrating green assets into the city's asset management plan, establishment of performance metrics to assess progress in achieving levels of service, use of a comprehensive invasive species database or portal, long-term monitoring of green assets, community engagement, a multi-taxa approach to invasive species prevention and management efforts, establishment of continual improvement processes, consensus regarding the philosophy and approaches to invasive species prevention and management efforts, prioritization based on risk assessments and pathways of introduction, enhanced clarity of invasive species regulations, improved timeliness in addressing invasive species eradication efforts on private land, development of rapid response plans and prevention strategies, and improved community stewardship engagement activities. *Invasives 2.0* is the city's next 10-year invasive species strategy, which identifies a set of 17 strategies grouped into seven goals that address the key takeaways, lessons learned, and priority gaps from implementing the *2008 Invasive Plant Strategy* as well as actions that address emerging invasive species issues and pathways. The National Sea Grant Law Center was instrumental in developing out the pathways and recommendations in the document.

## **Discussion of Columbia River Basin Quagga Zebra Mussel Rapid Response Plan (L. DeBruyckere, S. Phillips)**

The current Columbia River Basin Quagga Zebra Mussel Rapid Response Plan was initially developed in 2007, and since that time, there has been a maturation process in each state and throughout the basin relative to implementation of rapid response exercises, coordination among the states, online tools to document and share information about watercraft inspections and monitoring, etc. The current plan has not kept pace with these changes. A proposal was shared with the states to incorporate the content of the new ESA Manual, and streamline and modify, for dreissenid response purposes, an Incident Command System, as well as include a new template for state rapid response plans. The recommendations made by people in attendance at the meeting included: Create a model template for states, incorporate regional aspects, incorporate the ESA Manual, incorporate a regional approach, don't lose what is needed from the Incident Command System, create a decision tree and communication outline with stakeholders, look at the basin-wide plan as a model, recognize there is internal communication within each state as well as external communication, work with British Columbia (they are doing a rewrite of their provincial plan), consider a Memorandum of Understanding with the tribes so there is clarity. The next steps in the process are to develop an outline of the new CRB plan and share it with the states.

## **Legislative Update (S. Phillips)**

- FY2019 Federal appropriations – 10/1/18 – President signs “minibus” including defense spending bill and continuing resolution. Will pass another continuing resolution Friday that will get us to December 21.
- HR 5895 – Energy and Water, Legislative Branch, and Military Construction and Veterans Affairs Appropriations – Includes USACE WRDA funding signed into law 9/21/18.
  - Includes \$1,000,000 for flowering rush control nationwide
  - \$5,000,000 for Aquatic Plant Control Program for nationwide research and development to address invasive aquatic plants
  - \$5,000,000 (a \$1,000,000 increase from 2018) for Q/Z watercraft inspection stations
  - \$1,000,000 for Q/Z monitoring
- Department of the Interior, Environment, and Related Agencies Appropriations Bill, 2019 – Report Language – not yet passed. USFWS – Senate includes \$22,348,000 for aquatic invasive species and \$21,748,000 in the House for AIS. BOR Energy/Water Budget includes an increase of \$4.3 million for mussels. National Park Service - \$3,000,000 for QZ containment, prevention, and enforcement.
- A joint Federal/State incident command system that would allow for cooperative and rapid response to new detections of invasive mussels in the West – it will identify pre-arranged mechanisms for the Federal/State partners to fund rapid response actions.
- All AIS-related legislation is updated on the [www.westernais.org](http://www.westernais.org) website.
- Passed legislation in 2018:
  - S. 3021 – WRDA passed.
  - S. 756 – Marine Debris act was passed to promote international action to reduce marine debris
  - S. 140 – Frank LoBiondo Coast Guard Authorization Act of 2018 – includes VIDA – signed by the President on 12/4. Quagga mussels are listed under the Lacey Act.
- Bills that are likely dead:
  - Con Aquaculture bills – most are related to Alaska and finfish (prohibit sale of food that contains genetically engineered fish, prevents the escapement of genetically altered salmon, and prohibits commercial finfish aquaculture operations).
  - Pro Aquaculture bills – establish a regulatory system for marine aquaculture (S. 3138) and amend the Lacey Act amendments of 1981 to provide an exception for a de minimus amount of fish or wildlife included in interstate commercial shipments (HR 3041).
  - HR 6362 is the Invasive Fish and Wildlife Prevention Act – the Director of the USFWS may immediately and temporarily make an emergency temporary designation of any wildlife as injurious wildlife.

- S 340 reduces the regulatory burden – amends FIFRA to prohibit the EPA or a state from requiring a permit under the NPDES.
- S 3270 – The Securing and Revitalizing Aviation Action of 2018 – to mitigate the spread of aquatic species by aircraft – includes completion of an online course, inspection information, and a seaplane that is inspected elsewhere is not subject to further regulatory or enforcement action related to AIS.
- HR 4647 – Recovering America’s Wildlife Act - \$1.3 billion from energy and mineral resources for the Wildlife Conservation Restoration Program – to manage, control, and prevent invasive and nuisance species. There is a companion bill in the Senate.
- S 826 – Wildlife Innovation and Longevity Drive Act or WILD Act – includes most of HR 1330 – includes Theodore Roosevelt Genius Prizes (includes invasives).
- S 789 – Public Water Supply Invasive Species Compliance Act – exempts certain water transfers between public water supplies located on, along, or across the boundaries of TX, LA, and AR.
- S 2194 – Fishing and Small Vessel Relief Act – 79 feet in length or a fishing vessel – is included in VIDA.

**Updates (All participants)**

- The Bureau of Reclamation has submitted a proposal to do a basin-wide model using Calcium and boater traffic.
- An economic analysis of the effects of dreissenids to Montana has been completed and will result in a peer-reviewed article.
- The next meeting of the Columbia River Basin team is May-June in Spokane, WA.