**Session Summaries**

**WGA Invasive Mussel Leadership Forum**

**Springhill Suites by Marriott 2989 Paradise Road**

**Las Vegas, Nevada**

**August 27-28, 2019**

On August 27-28, 2019, the Western Governors’ Association hosted the *WGA Invasive Mussel Leadership Forum* in Las Vegas, NV. The two-day event featured opening remarks by Nevada Governor Steve Sisolak, a site visit to Lake Mead National Recreation Area, and two half-days of moderated discussion with more than 75 participants on strategies for the prevention and containment of invasive zebra and quagga mussels in the West.

Below are the notes for each individual session. These notes aim to capture the comments of the forum participants and general themes emerging from the session’s moderated discussions, as well as the comments of some individual forum participants.

**Session 1: The Issue: Quagga and Zebra Mussels**

* An overview of the threat, impact and prevalence of quagga and zebra mussels in the West. Pre-work and guiding documents were introduced.

**Session 2: Legal Authority**

* The inconsistency of state and federal legal authorities creates logistical and regulatory challenges related to boat inspections, as well as challenges related to outreach and messaging to boaters, especially regarding compliance.
* Opportunities may exist for partnerships between federal and state agencies to enforce state laws on federal water bodies. Department of the Interior (DOI) has received guidance from the Solicitor’s Office that they have this authority.
* DOI’s new unified regional boundaries have led to the creation of a “field special assistant” position in each region. This individual can serve as the facilitator for cross-boundary management projects in specific regions.
* The Building Consensus in the West Workgroup of the WRP included of state aquatic invasive species coordinators and state attorneys general and resulted in the publication of a State Model Framework (co-published by AFWA and NSGLC) which included a tabulation of state authorities and gaps in those authorities across the West.
* California has an exceptional amount of complexity across federal, state, private, and county dams. It could be worth applying a wildland fire-like framework to mussel’s response.
* Many tribes do not have laws regarding aquatic invasive species, so it is often unclear how much enforcement authority exists on tribal lands.

*Action Item:* DOI is exploring the development of categorical exclusions to streamline National Environmental Policy Act (NEPA) compliance for certain invasive species management efforts. DOI needs to show that these proposed categorical exclusion actions can be taken with no adverse impacts. They are soliciting information from federal and state agencies related to actions and impacts of various management options. Contact Hilary Smith, DOI Senior Advisor for Invasive Species, if you would like more information or have case studies to share.

**Session 3: Sustainable Funding and Staffing Capacity**

* Southwestern tribes face many similar funding and capacity challenges as states, and probably to an even greater degree.
* Tribes are not eligible for Pittman-Robertson funds for wildlife conservation and invasive species management projects. Tribes are competing with one another for the US Fish and Wildlife Service (USFWS) grant funding.
* Aquatic invasive species management and watercraft inspection funding varies greatly across the West.
* States struggle with “soft funding” from federal grant sources that carries year-to-year uncertainty. This presents particular challenges with working with or attracting contractors that want to enter multi-year agreements.
* Is there a better process to coordinate and distribute funds to ensure greatest needs are being met? What other models are there (e.g., Wildlife and Sport Fish Restoration Program, Great Lakes Restoration Initiative?)
* There is an appetite to explore the possibility of “rapid response funds” for state and federal agencies. Potential pitfalls exist that the funding could be re-appropriated for alternative purposes.
* The U.S. Forest Service does not include budgetary line items for invasive species management efforts.
* The Bureau of Land Management may receive a budget increase for the Lake Havasu region if appropriated by Congress. DOI tends to invest resources to achieve the greatest risk reduction.
* Congressional representatives appreciate Governors’ and Mayors’ perspectives on appropriations requests. These could be useful partners to increase invasive species funding writ large.

*Possible Action Item:* A participant suggested that WGA investigate the potential for private foundation support for invasive species management.

*Possible Action Item:* A participant suggested that WGA investigate new ways to improve Congressional outreach related to invasive species management concerns and appropriations.

**Session 4: Containing the Colorado River and Southwestern U.S. Infestations**

* The National Park Service (NPS) requires concessionaires to comply with respective states laws regarding boats leaving infested waters. AZ Game and Fish, NV Department of Wildlife and UT Division of Wildlife Resources have worked with concessions and/or private industry to train and decontaminate watercraft, particularly slipped and moored watercraft.
* Employee retention and housing challenges (mostly for remote AIS stations) affect NPS and state operations.
* Changing lake levels have significantly increased mussel risks recently, specifically risks associated with day-users in Lake Powell and other areas.
* NPS has an Invasive Species Regulation Working Group that is awaiting a Solicitor’s Review related to various regulations.
* NPS has authority to enter into agreements with states to deputize staff for inspections.
* States may not have the financial or staff capacity to keep up with increased boating demand.
* States may not have the financial or staff capacity to keep up with increased boating demand. More responsibility may need to be put on boaters soon for conducting their own inspections and inspections and decontaminations.

Additional education and enforcement of the boaters’ responsibility to inspect their watercraft and to be clean, drain and dry needs to occur.

Additionally, in many cases, not all inspection/decontamination work can occur at infested locations, but instead must be dispersed to multiple locations, requiring increased coordination.

* NPS is seeking Office of Management and Budget (OMB) approval to use the Regional Watercraft Inspection Decontamination Data Sharing System (also know as the Colorado database) on boat ramps in western parks. This requires a 60 day DOI public review process and Privacy Threat Assessment which have both been completed and a 30 OMB public review which is expected to be completed this fall.
* AZ Game and Fish is entering into agreements with the AZ Department of Transportation to use existing facilities and rights-of-way for inspection areas.
* Sustained funding is the biggest need to improve facilities and containment efforts.
* There may be a new pilot project soon at Lake Powell – a dip tank for boats to cycle hot water through internal system. This method could be much more efficient than current practices.

*Possible Action Item:* Pursue the creation of a formalized working group of agencies to further the implementation of inspection and decontamination, when necessary*,* of boats leaving infested Colorado River and Southwestern waterbodies.

**Session 5: Protecting Uninfested Waters**

* An USFWS Endangered Species Act manual for invasive mussels in the Columbia River Basin will be finalized soon.
* The Water Resources Development Act (WRDA) has become an important piece of legislation for funding efforts to address mussels including watercraft inspection and decontamination, monitoring, and rapid response:
	+ WRDA 2018 has added more basins to the enacting language. Funding will be spread further across these basins.
	+ Forthcoming authorization language should clarify if WRDA money can be used outside of Congressionally-designated basins if project seeks to protect uninfested basin. Example: using Columbia River Basin-designated funds for projects at Lake Powell because Lake Powell is a high-risk vector.

Raising state boater permit fees was mentioned as a mechanism to support programs. Increased fees could improve funding and capacity. However, not all boaters contribute to problem equally, but fees could be assigned appropriately. Potential for public blowback. There is also the risk of states escalating fees, responding to fee increases in other states. This is especially problematic at interstate waters where reciprocal licenses are being re-examined.

* + 10 western states currently have a State ANS stamp or fee for boaters, in addition to their boat registration (which is governed by US Coast Guard). The price and affected users (in-state, out of state, motorized, non-motorized, sail) varies.
* Need for more proactive discussions of management strategies and public outreach.
* Knowledge, funding and authorities gaps continue to exist in some uninfested western states, thus they are more vulnerable to invasion by watercraft entering from infested waterbodies.

*Possible Action Item*: Investigate the potential for improved coordination and increased capacity between the Reclamation and the Army Corps of Engineers through WRDA 2020.

*Possible Action Item*: Development of a more coordinated inter-agency strategy for the entire Colorado River Basin.

*Possible Action Item: Pursue the creation of formalized working groups of agencies to further the implementation of prevention and containment inspections and decontaminations in the Upper Missouri and Arkansas River Basins.*

 *Possible Action Item: Existing funding opportunities available only to states within specific drainages in the west do not solve funding and response gaps in all western states. Ensure future funding opportunities ensure all gaps in response can be closed for all western states, including Alaska.*

**Session 6: Early Detection Monitoring**

* Watercraft inspection and decontamination procedures for prevention or containment are based on monitoring results from plankton tows, settler checks and shoreline surveys.
	+ Boaters are treated as higher risk and under longer inspections and more decontaminations if the water body is considered inconclusive (eDNA), suspect (veliger), positive (more than one veliger) or infested (reproducing adults).
	+ Boaters are treated as high risk if the water they are coming form is not being monitored.
* WRP published field and lab standards for early detection monitoring in 2018.
* The likelihood of introduction and establishment at specific waterbodies affects monitoring practices. Water quality parameters, boating activity, and other factors affect risk of introduction and establishment.
* Building Consensus in the West developed language that define and provide guidance for reporting and notification in addition to providing information to the public on monitoring results related to mussels.
* Early monitoring helps inform agencies to increase monitoring efforts to hopefully prevent initial introduction and leading to adult, reproducing populations.
* Capacity is the main barrier to early detection monitoring.
	+ Also, there are very few labs to analyze monitoring samples and identify species. There is limited expertise for zooplankton and mollusk taxonomy within state infrastructure.
* The US Geological Survey’s Nonindigenous Aquatic Species (NAS) Alert Risk Mapper is adding environmental DNA (eDNA) to the NAS database next year.
* eDNA – USGS is developing protocol standards.
* USGS and Reclamation are co-leading a WRP workgroup on eDNA and conducting research to evaluate field-based procedures.
* USGS is adding eDNA surveillance to existing USGS stream gaging sites.
* The USGS has recently conducted multiple mussel control research projects in the Midwest examining different chemical treatments. Research is being coordinated nationally through the Invasive Mussel Collaborative.
* Discussion of public communication of eDNA detections. Public doesn’t understand that a detection doesn’t mean there is a live or self-sustaining population.
* The responsibility to release detection or occurrence information is the states.
* How monitoring results for mussels are shared is a complex issue. Communication between researchers and managers is essential, particularly with eDNA results. In some cases, where monitoring work is purely research-focused sampling locations could remain anonymous.

*Possible Action Item: Consider the development of a training, certification and accreditation program for field staff and laboratory staff performing early detection monitoring for invasive mussels.*

*Possible Action Item: Clarify roles and responsibilities between state and federal agencies with respect to early detection monitoring results for management, including communications, notifications, and public release of information, and that which is taking place for research.*

**Session: Discussion on Alternatives and Solutions**

WGA hosted a facilitated discussion with leadership and attendees on the issues presented during the forum. The discussion focused on identifying next steps and developing coordination mechanisms and a shared interagency strategy. WGA attempted to capture the conversation as accurately as possible. A digestible summary of the conversation is transcribed below.

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Watercraft inspection and decontamination (WID) has been an on-going management strategy that requires significant funding and staff. WID works to stop the spread of invasives on watercraft. Can we do it better so that it is sustainable in the long-term? More proactive, high-reward methods are desired.

Cost of WID stations - need to think about where to strategically locate, possibly state borders or outside infested basins. Inherent risk with moving current WID stations to new locations. Need a multi-phased approach with WIDS at containment and prevention waters and along heavily used transportation corridors.

* What does this look like? Cost transfers, agency shift of practices?
* Look at all of the above. Question of moving infrastructure out, further down the road.
	+ If transferring to state or other party, the workload is the same. We need to look at how to optimize those resources.
	+ A perimeter approach – network across entire US could be explored. Continue efforts at infested areas like Lake Mead, but then couple this with systems at main access points. That’s where states can step in with their network. Next layer is neighboring state, catching those who slip through. Each party needs to have its own designated responsibility. Need strategic approach and increased coordination at regional level, across multiple jurisdictions.
		- Need to keep high-risk boaters in mind, especially as areas become busier. Direct funds to those areas/at those boaters.
		- Challenge of differing capacity across states. Some states have no designated staff, funding, or authority.
	+ Only so much money, more strategic approach could lead to better use of funds. Example of Colorado risk assessment based on water body.
	+ Many states on differing pages with funding and authorities, which makes sustainable funding mechanism even more important. Predictable funding makes creating layers of defense more feasible.
	+ Lakes Mead, Powell, and Havasu require a different approach due to existing mussel infestations. The situation is different at other water bodies. Need to maintain multi-layer defense with Lower Colorado.

Does forum exist for supporting states that need additional assistance? Is this it?

* This is it.
* Per WGA, the goal of this meeting was 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.
* This meeting was needed to bring decision makers together and create a dialogue for adoption of standards and allocation of resources to further the collaborative implementation of WIDS and protect the uninfested west from mussels.
* There is coordination happening in the West on mussels, but none at the decision maker level. WRP and WISCE consist of program managers. WAFWA and AFWA are mainly Fish Chiefs.
* The weakest link in any partnership can bring it down. What do others need from CA? New CA governor – first executive order was about water resilience. What message do I need to take back to CA? Gov. Newsom focused on water projects, how do invasive mussels fit in?
	+ To Governor of CA – if you’re interested in protecting water supply for Los Angeles and San Diego, you need to know that invasive mussels will affect that.
		- Ex: stable electric rates.
		- Clean beaches.
		- Less regulation under ESA.
			* Invasive mussels – 20 new listings in Great Lakes. Similar effects projected in Columbia River Basin.
		- Rural economies impacts on water infrastructure.
		- Significant impacts on irrigated agriculture.

The collective West needs CA to prevent boats with mussels or other AIS from leaving the state and infesting other water supplies elsewhere.

We know WIDs work. Know that many areas facing capacity challenges. We also know that we can be more strategic with locations of WIDs and further adoption of standards across jurisdictions.

* Where is redundancy most important? Where can we live without it?

Many forums currently discuss, strategize and collaborate on invasive mussel management, such as WGA, Western Regional Panel on Aquatic Nuisance Species (WRP), Western Invasive Species Coordination Effort (WISCE), Western Association of Fish and Wildlife Agencies (WAFWA), Association of Fish and Wildlife Agencies (AFWA) coordination. State coordination efforts at the program level sometimes struggle to elevate the importance of these issues to leadership levels. Some states have been able to evolve with changing conditions. There’s a missing link related to priority of this work in consistent fashion.

* Need to think about the shared highest-value assets. For example, Flaming Gorge is not in CO, but it is high priority for CO. There is missing link with regional WID strategies and strategic placement of resources. Sometimes programs compete with each other, so we need to look at ways to come up with shared priorities.

Need to know what the specific deliverable is. That will point to who needs to be involved. WGA could recommend policy outcomes related to mussels.

* Provide ammunition to governors related to policy outcomes to address invasive mussels.
	+ WGA could take lead amending Dingell-Johnson for funding invasive mussel control. Coordinate with WAFWA, and possibly industry.
	+ WRDA 2020, increased appropriations and improved agency coordination for mussel WID, monitoring, and rapid response.
	+ Can the federal to state grant funding opportunities/processes be refined to improve the support of mussel management programs? Is there a way to make it simpler? More coordination (dates, common forms, etc.)? Multi-year grant awards.

Education – not just telling folks what we’re doing. Message not complete. Better education can increase capacity. What is the outcome we’re searching for? What is the message we’re not communicating? We can help motivate governors, legislators, and other leaders to address this issue and prioritize it. Education is being coordinated through the Western Regional Panel’s Education Committee and the ANS Task Force, both of which struggle with the education of key decision makers versus end users or the public. More engagement is needed in these workgroups on this topic. Messaging, education and outreach is a focus of the national Aquatic Nuisance Species Task Force’s new strategic plan.

Possible follow-up: Consistent and repeated education to leadership on invasive mussel management issue is needed. WGA could incorporate information at upcoming WGA related events such as WGA Lands Forum, etc.

Fundamental outcome - How do we prevent new waters from being infested?

* Could spend more time on that. More robust strategy should be developed around prevention to new areas. Spend a bit of money to prevent further infestations and massive cost later on.
* Goal: contain where we are, then start pushing species back.
	+ Weakness: states supporting each other. Can the federal government be the glue? We’re (CA) now at point where we can support AZ and NV, but governors haven’t identified that opportunity. CA and others have huge needs for water resiliency, big opportunity to work together. Now is the time to invest more resources. There are probably strategic areas that we could go after.
	+ Example to model invasive mussel response is sage grouse response. Serious threat across landscape. Lots of administration involvement with that effort. With mussels, there could be an emphasis on effects on water users, electricity costs. Don’t hear enough about practical costs to average Americans.
* Challenge of giving answer, this is first time that this collection of representatives has met. Program-level people meet regularly and have been for the last decade. WRP isn’t right venue for lobbying Congress strategies given that it is a subcommittee of the ANS Task Force. This venue can add that perspective.
	+ Diverse mix of states with differing mussel situations also complicates consensus answer. This is not be-all, end-all meeting.
	+ Need to get on same page when we all do Congressional visits or talk to federal agencies.
* Strategic focus in Lower Colorado, need to involve AZ, CA and municipalities/counties. DOI will step up funding in Lake Havasu if appropriated.
* Amending WRDA, Dingell-Johnson, etc. Recovering America’s Wildlife Act – has invasive species and aquatic invasive species provisions. The bill is gaining traction. WGA could support those efforts.
* Lower Colorado – need to think about high-risk areas strategically. Band-aid approaches may not have effects we want to see. Strategic approach needed to have broader effect. Shift thinking towards that sort of approach. Move towards improving communications strategy, then we can apply that to other regions. Very early in that process. First step is all coming together and brainstorming.
* Think about this differently. You can sell anything if you have a good story. This message seems to lack clarity. If we shift thinking a bit, it could help us tell story more effectively to higher-ups. If we all tell story together, then that can really help us move the needle and start getting more dollars and bodies.
	+ We need to think about who the audience is. Challenging. Have public, elected officials, different states, etc. Electric rates, farming, have suite of issues to hook to. Water quality, fish. Give main talking points to each of those. Provides suite to choose from for different audiences/states. Involve public affairs specialists in process.
		- National Marine Manufacturers Association, Watersports Industry Association, American Boating and Yachting Council, American Sportfishing Association are engaged with WRP and ANS Task Force and are helping with messaging to boaters and anglers.
	+ Messaging questions. We have struggled with this, we have nuggets to complete message, but haven’t packaged it together perfectly yet. A WRP committee is looking at this question. We need to reach multiple levels of government.

Does there need to be a study about ideal locations for WIDs? A study not related to capacity.

* Looked at it in 2010
* There are state risk assessments.
* USGS, Reclamation researching risk assessments on a regional level currently.
* Quagga Zebra Action Plan for Western U.S. Waters, Reclamation, Safeguarding the West: formed six committees, including state participation, in 2017 to inform actions in Safeguarding the West.
	+ DOI is implementing dozens of the committee recommendations.
	+ Three state-centric recommendations weren’t included in the final document because they were state-driven and states did not the direction to engage in implementation.
		- Perimeter defense strategy for Lower Colorado.
		- Eastern state perimeter, similar to 100th Meridian Plan. Document shows highway WID stations from Canada to Mexico.
		- Recommendation was to form leadership committees to develop this highway strategy. We lack traffic studies, movement of people, and expertise (e.g. Department of Transportation). Identify locations along highways that would be optimal to stop movement of boats from east to west. Figure out where those locations should precisely be. Could be effective strategic step for the western collective.
		- Risk-based assessment and prioritization related to watercraft inspection, decontamination, etc.
	+ Need capacity to advance these analyses to optimize limited resources for WID.

**Notes from Scott Cameron**

After the forum, Scott Cameron, DOI Principal Deputy Assistant Secretary for Policy, Management and Budget, sent WGA the following reflection on the forum’s discussion, as well as a list of potential high-level outcomes from the meeting.

Western Governors want to stop invasive mussels because:

The cost of electricity derived from hydroelectric facilities to our consumers and businesses will go up, by about $500,000 per year per dam infested with mussels. Higher energy costs will be especially difficult for our elderly and those on fixed incomes.

Rural communities dependent on irrigated agriculture will lose jobs and income due to higher maintenance costs on farms from mussels clogging pumps, expensive pivot and drip irrigation systems, and canals.

Drinking water utility rates will go up in our cities, because of higher maintenance costs when mussels plug pipes and clog canals that convey surface water to treatment plants.

The already economically challenging job of providing clean drinking water to small rural communities will be complicated by higher annual operating costs necessary to protect the water delivery infrastructure from mussels.

Mussels will increase the regulatory economic burden borne by our businesses and local governments as mussels can be expected to damage our ecosystems to the point that native aquatic species are pushed onto federal and state endangered species lists.

Mussels will harm our aquatic ecosystems so they no longer support the fish and wildlife diversity that is an important part of the fabric of Western communities.

Jobs and businesses in our communities that depend on tourism will suffer because mussels will foul our beaches, transform our sport fisheries, and interfere with pleasure boating. As a result, visitors will be discouraged from vacationing in our communities that are now prized for their water-related outdoor recreation attractions.

Products that rely on navigation systems on our rivers to reach their market will be more expensive and less competitive because higher maintenance costs at locks and dams from mussel fouling will be passed on to those trying to move their product to market.

Our children won’t be able to wade and swim carefree in our infested community lakes and rivers because their feet will be vulnerable to injury from millions of sharp mussel shells.

Clean, renewable hydroelectric energy will be less economically competitive due to higher maintenance costs associated with equipment fouling by mussels.