

MINUTES

100th Meridian Initiative - Columbia River Basin Team Meeting

February 10, 2010
Heathman Lodge
7801 NE Greenwood Drive
Vancouver, Washington 98662

Attendees were:

Stephen Phillips, Chair, PSMFC	Eric Volkmann, BPA
Todd Baker, Clark Co. Sherriff's Office	Kevin Aitkin, USFWS
Eric Anderson, WDFW	Luke Hanna, UW
Rick Boatner, ODFW	Thomas Frank, UO
Teagan Ward, City of Bellingham	Joan Cabreza, PSMFC
Sam Chan, OSU	Tim Counihan, USGS
Tim Darland, USCOE	Glenn Dolphin, OMB
Scott Lund, BOR	Amy Ferriter, IDA
Scott Rumsey, NOAA	Steve Waste, USGS
Paul Heimowitz, USFWS	Rian Hooff, ORDEQ
Jim Irish, BPA	Phil Johnson, WDFW
Deborah Konnoff, USDA - FS	Scott Smith, USGS
Scott Lund, USBR	Allen Pleus, WDFW
James Naramore, Clark Co. Sherriff's Office	Jim Ruff, NPCC
Eileen Ryce, MDFWP	Bill Zook, PSMFC
Fred Neiman, Clark Co. Sherriff's Office	Jill Hardiman, USGS
Carson Keeler, Grant County PUD	Matthias Herborg, BC
Ross Hendrick, Grant County PUD	Keith Hatch, BIA
Steve Wells, PSU	

Stephen Phillips called the meeting to order at 8:30 am.

No changes to the agenda were made.

Amy Ferriter briefed the group on the November 2009 Snake River Incident. This turned out not be an infestation of zebra mussels. Please refer to the summary and timeline of the incident (attachment 1).

Jim Ruff asked about how the Idaho Rapid Response Plan and how it meshed with the CRB Plan. Amy responded that the Idaho plan was modeled after the CRB Plan and they worked well together.

Paul mentioned that the CRB Plan is not an incident management plan and that the incident management team handles on the ground actions and that is usually a state agency.

Paul talked about the lessons learned meeting from the November incident (hotwash exercise) held January 5, 2010. Margaret Dimmick, Incident Solutions, facilitated the exercise and this was especially helpful.

One of the issues that came up during the incident was the process of information sharing -- especially when there is uncertainty of the infestation. One of issues from the Snake River incident was the weakly positive PCR (which turned out to be a false positive). There was discussion on when do we share preliminary reports.

Amy said that page 14 of the CRB RR Plan (sharing of preliminary information) is really for adults. Paul agreed saying that said the issue is how we share preliminary reports – the current template may need to be changed to reflect the reality of veliger finds.

The issue of keeping information confidential when we are unsure of the status of an infestation was discussed further. Paul mentioned that there is a balance that is needed between individual jurisdictions and information needs for downstream interests.

It was pointed out that while the Plan presumes we will act quickly, there are different timelines for local and regional responses.

Discussion followed on chairing and function of the MAC. This was an issue that was discussed at the January 5 after action meeting. A document on options for MAC chair was developed by facilitator Margaret Dimmick (See attachment 2). MAC member organizations were asked to get comments back on their preferred alternatives. Further discussion then focused on changes to the rapid response plan that were recommended coming out of the November Snake River incident including how do we stand down the incident.

Scott Lund felt that there was a disconnect between the MAC and agency technical support staff during the November incident.

There was discussion on the science of veliger identification encountered during the exercise. Rebecca Weiss said it took a long time (17 days) to determine that these were in fact not dreissenids.

We also need better involvement of all public information staff early on. The next CRB Plan exercise should include messaging and timing of public releases. Paul said that the next exercise we will activate the JIC (Joint Information Command).

The next rapid response exercise has been tentatively slated for summer/early fall at Lake Roosevelt.

Discussion then focused on changes to the Plan requested by NOAA regarding emergency consultations and emergency provisions per the ESA. Scott Rumsey said that NOAA legal staff

feels more comfortable not using emergency (God Squad) provisions in the ESA but would prefer the early consultation process (preapproval process). Scott discussed what steps action agencies can take in an emergency type scenario and then what would happen after the emergency action in terms of mitigation.

Rebecca asked if the Corps could submit a list of mitigation technologies ...how do we get permission for treatment and actions? We need a meeting with action agencies on mitigation and permitting and the decision process.

This was recommended for the rapid response exercise – develop a proposed mitigation strategy that we can provide to NOAA for review.

There was discussion on the need for programmatic opinion on NEPA compliance.

Scott Smith mentioned preapproval for chemicals basin-wide versus site specific

Scott Rumsey said that for example NOAA has a programmatic in place for the herbicide round up at Parks for example.

Scott Smith reminded the group that Washington (WADOE, Kathy Hamel) is developing a National Pollutant Discharge Elimination System (NPDES) General Permit for Aquatic Invasive Species.

<http://www.ecy.wa.gov/programs/wq/pesticides/invasive.html>

Discussion then turned to veliger identification labs.

Amy Ferriter said that in agriculture they are to working with certified labs used and that does not exist for dreissenid labs.

Paul described the current double blind study being carried out by BOR (Denver, Kevin Kelly lead). This is the second double blind study. There were 10 labs in the first study (2008) and 25 in this current study including PCR, FlowCam and microscopy. The DBII study will be completed this spring. Results are confidential and this is not a quality assurance test.

There was discussion on how we should certify labs. Stephen discussed the establishment of a lab “certification” committee. In the short term we hope to develop a list of labs in which we have confidence (through an application process) and then test these labs periodically for accuracy.

Stephen asked if anyone had examples of lab certification models to please pass that along. Scott Lund mentioned that EPA has contract lab protocol that may be a good template to model after for dreissenid labs.

Paul said that turnaround time was an issue on samples that needed improvement. We also need a list of veliger photo id experts.

Steve Wells gave a presentation on the BPA funded study, carried out with USGS (Tim Counihan) on Prioritizing Zebra and Quagga Mussel Monitoring in Columbia River Basin. The information generated from this report will improve and expand our ability to identify water bodies likely to support dreissenid mussels and our ability to target monitoring efforts in the future for early detection. The study provides a prioritized list of water bodies for dreissenid monitoring in the Columbia River Basin (CRB) and the Greater Northwest region (Oregon, Washington, California, Nevada, Idaho, Utah, and Wyoming). Information was collected on dissolved calcium concentration, pH, conductivity, total visitor use and trip days, boater day use days, number of times a water body was mentioned in 100th Meridian Initiative boater surveys, presence of angling tournaments, surface area (lakes and reservoirs only), use of motorized boating, explicit indication that angling is a permitted recreational activity (e.g. Fish and Game angling regulations), presence of marinas and boat ramps, and presence of cold-water and warm-water game fish. A map was generated showing water bodies determined to have a high risk of, medium risk, low risk, and very low risk of establishment.

Tim Counihan said that the database can be expanded to include additional data. Additional funding will be needed to continue the study.

Amy mentioned that Idaho has concerns (November Incident) about geothermally influenced waters as the potential exists for year round spawning.

Scott Smith discussed the “USGS and Washington State University Partnership to Develop an Integrated Columbia River Basin Research and Monitoring Program for Invasive Mussels and other Nonnative Species” (See attachment 3). Funding for this came through USGS to Washington State Vancouver (Dr. Steve Bollens, lead). Scott said Senator Patty Murray and Representative Brian Baird were instrumental in getting this funding. Part of this project will include a CRB ANS database.

Stephen mentioned that PSMFC had offered to help with the database (potentially act as host) and the hope was to put all quagga/zebra mussel monitoring data up on the site. The USGS NSA database (Pam Fuller) is involved in this effort.

Steve Wells mentioned that PSU has a database (with mapping capability) as well.

There was discussion on the Snake River Incident and the need for a centralized database for the CRB.

Stephen said it will be important that monitoring data include point location (Lat/Lon).

Eileen Ryce discussed the QZAP document. It was adopted at the November 2009 ANSTF meeting [note the document had some slight edits after the November meeting and an updated document was provided to the ANSTF in March
http://www.anstaskforce.gov/QZAP/QZAP_FINAL_Feb2010.pdf]

There was a \$2 million appropriation in the FY 2010 DOI budget for QZAP. \$800,000 of that was directed to Lake Tahoe, \$600,000 went to state ANS plans and \$600,000 will be competitively bid with an RFP due out in March 2010 for implementing priorities in the QZAP.

Jim Ruff expressed the need to get treatment options for the CRB in place. Research is needed on treatments and potential salmon impacts.

Scott Smith mentioned that USGS is looking at doing a white paper on watercraft decontamination, options, and gaps.

Stephen updated the group on the watercraft decontamination study being undertaken but UNLV at Lake Mead (Dr David Wong, USFWS funding). The study is just underway and hopefully it will give us more insight into the efficacy of hot pressure wash decontamination. We should see initial results this spring.

There was discussion on efficacy of hot pressure wash. Bill Zook said it works well. Allen mentioned not only do the organisms need to be dead but also removed and that in the long term a decon system that dissolved the shells would be optimal.

Rick Boatner updated the group on the new Aquatic Invasive Species Prevention Permit Program (AISPP) being undertaken with Oregon Marine Board. This will include regional inspection teams that will be funded by way of the new boat sticker. Rick said they are currently putting the teams together, purchasing equipment, etc. Glenn Dolphin said they don't know how much income will be generated by the stickers, especially from non-motorized boats. There has been some push back from boating community but most are on board. They are looking at putting up border signs on the program (using Idaho signs as an example). They are doing lots of outreach on the new program with coast guard auxiliaries, and other groups. Inspection teams will be doing WIT Level II training (Lake Mead, Wen Baldwin, March 2010).

Amy updated the group on the 2009 inspection program in Idaho – 17 inspection stations, 185,500 inspections. They are going to increase the number of inspection stations in 2010 to 25. They are looking at self-certification program for state parks. In 2010 q/z contaminated boats will be seized, stations will not have decontamination equipment on site. In 2009, they thought that the boat sticker would generate \$1.5 million, actually got about \$900,000. The shortfall was made up for with the deficiency warrant funds (legislature also forgave debt). Idaho inspected boats will have an orange tag (Colorado is green). Idaho will prioritize monitoring using data from studies like the Counihan/Well study.

Eileen reported that Montana has a small inspection programs at boat ramps, with 1000 inspections taking place in 2009. They have 5 trailered pressure wash decontamination units (1 self contained). In 2010 they plan to have 6 roaming crews and concentrate on fish tournaments. They are going to do a statewide awareness campaign in March with print TV and radio advertising using the “Stop Aquatic Hitchhikers” message. Inspection training will be done in March. BOR/Corps and others will participate. They will monitor, hopefully, 500 sites in 2010 (did 300 in 2009).

Allen said that the WDFW is looking at standard protocols for field gear for agency personnel.

Currently the ANS program receives \$2 from each boater registration fee. They are hoping to raise that in the future.

Eric Anderson said that in 2009 they did 2500 boat inspections. In 2010, they plan on 36 check station events (3 boat ramps, 3 roadways x 6 regions). In 2010 they also hope to continue Ports of Entry inspections.

Steve Wells mentioned that PSU, with BPA funds, will be working with USACE in 2010 to monitor in the CRB. USACE will collect samples and PSU will do analysis.

There was further discussion on turn round time for samples. Steve said that microscopy analysis is very time intensive. Allen said they are hoping to purchase a FlowCam (for a screening tool).

Jim Ruff updated the group on NWPCC activities. The NWPCC remains very interested in the quagga/zebra mussel issue. On February 9 a panel of federal agencies (NOAA, BOR, USACE, BPA) came before the council to discuss their q/z activities. Go to <http://www.nwcouncil.org/news/2010/02/1.pdf> for briefs submitted to the council from these agencies.

The Council members encouraged the agencies to undertake risk/vulnerability assessments, and make sure that ESA/CWA permits for mitigation/eradication are done ahead of time. There were also questions as to the efficacy of the current efficacy decontamination. The council also requested that the agencies answer several questions in writing including:

1. What work is being supported by the federal agencies to speed up and reduce the costs of quagga/zebra (Q-Z) mussel veliger detection methods and equipment?
2. How does NOAA Fisheries, but also the federal action agencies, fundamentally view aquatic invasive species prevention and early detection/rapid response (for Q-Z mussels, but also for species like Asian carp) within the existing 4-H framework of salmon recovery efforts?
3. Does your agency think the capacity to prevent, detect and respond to these invasive species is adequately provided for in the 2008 BiOp and related ESA documents (Proposed Action)?

Jim also said NWPCC approved a task order for the Independent Economic Analysis Board to evaluate the risks and expected costs to the federal hydropower system and fish passage facilities if Q-Z mussels were to ever get into the CRB. A link to the decision memo and IEAB task order can be found at http://www.nwcouncil.org/news/2010/01/cb_ieab.pdf

Bill Zook described the upcoming commercial boater hauler outreach survey. We will survey 500 haulers and hope to get a 10-20 % return. We hope to get some insight into their knowledge of ANS and if they are taking any steps to decontaminate their watercraft. We will then follow-up with sellers to determine attitude and knowledge regarding ANS issues and regulations, offer educational outreach materials and trainings (such as WIT or personal visits) as appropriate, and

investigate the feasibility for the development of a best practices manual for commercial hauler transport.

Bill also said that he has been in contact with the Sea Plane Pilots association about the possibility of an ANS cooperative outreach efforts with their constituency. They have been discussing distribution of materials, on-line training, and decontamination protocols and standards, etc. Bill will update the group as this develops.

Bill asked the state agencies in the group if the marina outreach was still needed similar to the marina visit he did 5 years ago in the Columbia and Missouri River Basins? Especially since states have beefed up their outreach efforts in the past 5 years? States responded as follows: western Montana – yes, Idaho- no; eastern Washington: maybe (Allen will get back to bill); and Oregon –No.

Matthias Herborg updated the group on the Province of BC's ANS activities. They are looking at a national NZ mudsnail risk assessment, and AIS database is being developed, they are looking to monitor for dreissenids in BC in 2010, and work is ongoing with Spartina.

Sam Chan announced that the new NZ mudsnail brochure is available. Sam also gave an update on the biological supply houses project.

Eric Anderson briefed the group on the 2009 interception of a dreissenid infested boat at Clem Elum from Lake Michigan. The boat hauler was not cooperative and has been charged with a misdemeanor. Two warrants are out for his arrest. Lacey Act charges are being considered.

Paul commented that the Lacey Act charges are a big deal as it has been a challenge to get this law enforced for dreissenid transportation. Paul said he would follow up with USFWS enforcement on the status of this case.

On Washington ballast water regulations – Allen said they are still moving towards a new Washington standard, hope to have something drafted for consideration by early 2011. Consistency on west coast regulations is still a concern. Also, if WA adopts a more stringent rule than BC, what will that mean for vessel traffic, will boats prefer to go to BC?

Steve Wells updated the group on the quagga survival study being conducted by Brian Adair down at Lake Mead with Columbia River Water.

Scott Lund said that the BOR is still waiting on approval for their EPA experimental permit at Lake Mead for use of pseudomonas.

Attachment 1: Summary of Idaho Snake River Incident November 2009 (Amy Ferriter, IDA).

Thursday, November 5th

- Results of a microscopy analysis came back positive for veligers (species undetermined) at two locations on the Snake River, Bell Rapids and Milner. This analysis was done by EcoAnalysts.

Friday, November 6th

- ISDA asks EcoAnalysts to ship positive samples to Pisces Lab in Boulder, CO for PCR analysis.

Monday, November 9th

- ISDA reviews CRB Rapid Response procedures and drafts Idaho Rapid Response Plan.
- ISDA analyzes temperatures in areas of the Snake River near suspect samples and determines temperature is still above 9 C.
- ISDA begins process of collecting additional samples in the Snake River.

Tuesday, November 10th

- ISDA receives a report from a private citizen of adult mussels at a campground in Declo, along the Snake River.
- ISDA contacts property owner and requests a site inspection. Property owner is out-of-town. ISDA makes arrangements for a site visit on first available date (11/12/09).

Thursday, November 12th

- ISDA and IDFG staff inspect pond and well. No evidence of mussels was observed. Several snail species were collected.
- Pisces receives four samples. Two separate assays (ITS and COX1) were requested on all samples. ISDA requests expedited analysis. Expedited analysis is 1 week turnaround, normally it is 3 weeks.

Week of November 16th

- Idaho Rapid Response Plan refined and all available data for the area is collected.

Friday, November 20th

- ISDA receives notification from Pisces Lab that one sample from Milner was weakly positive for zebra mussel in one (ITS) of the two assays. The remaining three samples tested cleanly negative for the presence of zebra or quagga mussels in both assays.

Monday, November 23rd

- ISDA briefs Governor's Office
- ISDA implements Rapid Response Plan for the State
- Tier 1 notifications are made (includes CRB Team)
- ISDA has a conference call with Pisces Lab, EcoAnalysts and Portland State to discuss PCR results.
- ISDA makes contact with BOR Lab in Boulder to discuss results
- ISDA orders additional PCR analysis to be performed by Pisces
- Preliminary report from Floacam results (Cleanlakes Inc) indicates positive veliger samples from spike samples and inconclusive results for samples from Milner and Bell Rapids areas.
- Cleanlakes delivers "inconclusive" samples back to ISDA.

Wednesday, November 25th

- First CRB MAC Conference Briefing
- ISDA provides a briefing, detailing the situation. ISDA stresses that the results are considered "inconclusive."
- ISDA requests additional funding for monitoring
- ISDA hand delivers samples to Portland for a second opinion on microscopy
- ISDA requests an inventory of sampling in the region
- Idaho indicates that it would like to chair the MAC and serve as PIO for the incident
- Flowcam samples and ISDA November veliger samples delivered to PSU for analysis and verification of "inconclusive" samples.

Week of November 23rd

- Stakeholders fully engaged

- Infrastructure inspected
- Boat launches inventoried
- Infrastructure inventories conducted
- Sampling events cataloged
- Other states with suspect waters contacted to identify most appropriate regulatory response with relation to classification of waterbodies.
- In addition to veliger sampling, there are also approximately 70 substrate samplers in waterbodies across the state. These samplers, maintained by a number of state, federal, and local agencies, are checked.
- Additional tows taken by ISDA staff after the original microscopy came back. (while Snake River temperatures were approximately in spawning range) are analyzed.

Friday, November 27th

- ISDA receives a verbal report from Portland State indicating that they do not think they are dreissenid mussels. ISDA considers this report preliminary.

Monday, November 30th

- Second CRB Conference call
- ISDA continues to consider the results “inconclusive.”
- Flowcam final report received.

Wednesday, December 2nd

- ISDA receives final report from Pisces Lab
- PSU indicates no dreissenid veligers were found in suspected veliger samples from EcoAnalysts. No dreissenid veligers were found in ISDA samples delivered on November 25th.

Thursday, December 4th

- CRB conference call
- Idaho stakeholders are notified

Attachment 2: Columbia River Basin MAC Group Structural Options and Procedural Observations (2010) (Margaret Dimmick, PSMFC contractor).

This discussion describes the structural options for the position of the Multiagency Agency Coordination (MAC) Group Chair during an activation of the *Columbia River Basin Rapid Response Plan*. It also includes some observations and recommendations about the use of virtual meetings vs. face-to-face MAC Group meetings.

MAC Group Structural Options

MAC Group Chair-Current Structure and Responsibilities

The CRB MAC Group reflects the standard organization described by the National Incident Management System (NIMS). Under NIMS, the role of the MAC Group is one of interagency coordination, not incident management. Incident management is the responsibility of the Agency Administrator from the entity with the infestation, and the Incident Management Team(s) that operate under the Agency's delegation of authority. The MAC Group exercises its influence at the strategic and policy level through its ability to prioritize incidents and resources, and to adjust policy where needed to support the incident. The Chair of the MAC Group is "first among equals;" the Chair's vote has no more weight than any other member of the MAC Group. Supported by the Coordination and Support Staff and the MAC Group Coordinator, the MAC Group Chair plays an administrative and facilitative role in helping the MAC Group reach and implement its decisions. According to the *CRB Rapid Response Plan*, The MAC Group selects the Chair annually from its standing membership. The Assistant Regional Director for Fisheries from the US Fish and Wildlife Service Pacific Region is the current Chair of the CRB MAC Group. The response checklist for the MAC Chair can be found in the CRB Rapid Response Plan

<http://100thmeridian.org/ActionTeams/Columbia/CRB%20Dreissenid%20Rapid%20Response%20Plan%20OCTOBER%201%202008.pdf>.]

Because the MAC Group structure and responsibilities are standard parts of NIMS, and the use of NIMS is required of all CRB participants, all options described below assume that the role of the MAC Group and the responsibilities of the Chair remain the same.

Option 1-Retain Current Organizational Structure

This provides continuity across preparedness, mitigation, response and recovery, but does not provide any assurance that the representative that currently holds the position of Chair will (or won't) be from the impacted entity. This structure does not provide back-up in the absence of the Chair, or a preplanned mechanism to transfer the role if the Chair cannot or chooses not to perform.

Option 2-Add a Deputy MAC Group Chair

Adding a Deputy MAC Group Chair from a different CRB Standing Member agency would provide leadership in the absence of the Chair, allow the MAC Chair to step aside if the workload associated with an incident in his or her own agency made it necessary to take a less active role, or for the workload to be divided at the discretion of the two officers. The division of responsibilities could be preplanned. The Deputy could serve one year concurrent with the Chair, or the two positions could be appointed every other year to ensure continuity. Another

option would be for the Deputy to be Chair-elect, and automatically assume the Chair when the term of the current Chair expired. Like Option 1, there is no guarantee that either the Chair or the Deputy would be from the impacted entity.

Option 3-Add Co-Chair from the State with the Incident

This could be structured similarly, and has similar advantages to Option 2, but with the Co-Chair position being activated only during activation to enhance coordination and communication with the entity that has the incident. The structure could be automatic, or at the discretion of the affected CRB member and/or the MAC Group Chair. The division of responsibilities could be preplanned, or negotiated and divided at the time of the activation. In either event, the co-chairs would need to communicate the division of responsibilities clearly to MAC Group members and supporting staff to eliminate the chance of confusion and conflict.

Option 4-Chair Assumed by Representative from the State with the Incident

In this option, the Chair of the MAC Group would shift to the representative from the impacted state/entity. This option is the most difficult to pre-plan, since it is impossible to know where the next incident may occur. In addition, under the **CRB Plan**, it is possible that the impacted entity may not be a standing member of the CRB MAC Group (for example, a specific Tribe, now represented by the Columbia River Intertribal Fish Commission). Finally, while the duties of the MAC Group Chair are not directly incident-related or highly technical, they can be complex, and may require the representative to be away from his or her base of operations for significant periods of time. The uncertainty of who will be the Chair of the MAC Group during activation also disrupts organizational continuity, and may increase the amount of time it takes to get the MAC Group up and running.

Conclusion

Assuming the ultimate goal of changing the current organizational structure is to facilitate communication and coordination with the entity with the incident, advantages and disadvantages of the options can be summarized as follows:

Option 1- The current structure provides the most organizational continuity and focused leadership, but places the greatest burden on the Chair and requires the most support and facilitation from the MAC Group Coordinator and Coordination and Support Staff. The workload can be especially large if the incident happens in the Chair's jurisdiction.

Option 2-Even though the MAC Group Coordinator and Coordination and Support Staff are responsible for providing staff support to the MAC Chair, Option 2 does provide additional depth and flexibility to the position of MAC Chair, while at the same time ensuring continuity.

Option 3-This option has the same advantages as Option 2, with the added enhancement of ensuring the affected entity is represented in the Chair structure. However, the Co-Chair format does present the potential for confusion and conflict if the two Chairs do not communicate well with each other and the rest of the MAC Group.

Option 4-This option is the most problematic. It disrupts organizational continuity, and adds a significant workload to the official already responsible for directing incident management and coordination within his or her agency. Expecting that official to assume major regional responsibilities at the same time may delay effective regional support to the affected CRB member(s).

Procedural Observations

Three CRB MAC Group meetings were held via facilitated conference call during the 2009 incident. Because this is the first activation of the **Plan**, and the first use of an entirely virtual meeting format, this report summarizes observations about the meeting process.

Overview

The **Plan** envisions a conference call for its first briefing meeting, at which time the MAC Group is to set a time and location for its first face to face meeting. The **Plan** assumes that meetings will be facilitated by the Chair of the MAC Group with the assistance of the MAC Group Coordinator. In this event, because the test results continued to be inconclusive, the decision was made to maintain the conference call format rather than meet face to face. Subsequent conference calls were supported by notes from previous meetings, additional hard copy reports, budget requests, and incident updates. In this case, the meetings were facilitated by an outside entity, with the assistance of the MAC Group Chair.

Observations:

While the conference call format worked well for the briefing, the second call required decision-making in addition to a briefing update. While in this incident the MAC Group was able to work its way to a consensus and agree on a product, the issue was relatively simple and uncontroversial. Ambiguity will make problem solving more difficult. The MAC Group should strongly consider holding its second meeting face-to-face in a location supportive to the member with the incident. As the incident stabilizes, it may be possible to go back to conference call format.

Formal agendas and other supporting information need to go out as far in advance of meetings as possible. MAC Group members did not have time to review notes from the previous meeting. Documenting formal group process will become more critical as the incident progresses and issues become more complex.

An outside facilitator may reduce workload for MAC members. In addition, resolution of contentious issues may be aided by a neutral party that is responsible only for seeing that group process is followed successfully. On the other hand, outside facilitators are rarely subject matter experts, and their use may jeopardize operational security for some incidents. In this incident, the MAC Group agreed to the use of an outside facilitator.

Attachment 3: USGS and Washington State University Partnership to Develop an Integrated Columbia River Basin Research and Monitoring Program for Invasive Mussels and other Nonnative Species (Scott Smith, USGS).

Zebra mussels and other aquatic invasive species present an economic and environmental threat to the Columbia River Basin and many other watersheds within the United States. The Columbia River Basin (CRB) covers an area the size of France that includes portions of seven states and British Columbia. Developing programs to prevent new introductions of aquatic invasive species (AIS), assess risk, quickly detect new arrivals, and control their spread is complicated by the sheer size of the basin and the number of jurisdictions. All jurisdictions within the basin are dependent upon one another, since an AIS introduction into any part of the system can cause dire consequences to all. The 100th Meridian Initiative - Columbia River Basin Team was established to coordinate and enhance each jurisdiction's capacity to protect our shared CRB resource. The actions taken in this project will complement the 100th Meridian Initiative efforts by providing additional resources to fill existing programmatic gaps. The structure and information systems created in this CRB project will be adaptable for use in other river basins within the United States.

WSU and USGS received funding in the 2010 federal budget to cooperatively plan and build capacity for the full implementation of this project. The following actions are underway with the 2010 funds:

Developing a comprehensive nonnative species information system for the CRB. This will allow all states within the basin to have up to date knowledge of where species of concern are located, where monitoring activities are underway, and access to information to assess risk or evaluate the impact of climate change. This information system will be created by the national USGS Nonindigenous Species (NAS) website and possibly accessed through the PSMFC website. Designing an early detection monitoring program for zebra mussels to increase the probability of rapidly detecting an introduction and minimizing economic and environmental impacts. Building a work group of state, academic, tribal and federal partners to cooperatively gather the information required to protect the CRB from the threat of aquatic invasive species.

Future funding will implement the following actions that build upon the planning and capacity building efforts accomplished in 2010.

Additional monitoring activities will be implemented in partnership with the 100th Meridian Project to increase the probability for a successful early detection and rapid response to a zebra mussel or other aquatic invasive species introduction.

New data will be entered into the CRB information system and analyzed to evaluate to effectiveness of the early detection program, identify areas of risk to focus prevention efforts, locate areas to conduct control programs, and to enable the analysis of the impact of climate change on native and nonnative species.

An annual report will be generated to answer questions that are important to state, academic, tribal and federal partners based upon the data gathered within the CRB nonnative species information system.

Anticipated Benefits

The new CRB nonnative species information system will empower states with the information required to better manage this valuable aquatic resource. It will also make data available to researchers that are critical to answering questions relating to risk management, improving prevention/control/eradication efforts and evaluating or predicting impacts. The methods and information systems developed in this project will be applicable for implementation in other basins throughout the nation. The project will also increase monitoring efforts in areas that will cost-effectively increase the probability of early detection. The cost of jobs created by this project could be offset by savings from reduced economic impacts from aquatic invasive species.

Partners

We will work closely with the 100th Meridian Initiative-Columbia River Basin Team, as part of their QZAP (Quagga and Zebra Mussel Action Plan) proposal to establish a truly effective integrated monitoring and information system. This effort will improve existing prevention, early detection and control measures for zebra mussels and other invasive species in the Columbia River Basin. Each of the seven states covered by the Columbia River basin will be consulted as we develop new products and will gain greater ability to protect their waters from their development. Individual states do not have the capacity to undertake this type of regional initiative.

Federal, state, academic and tribal organizations are implementing their own efforts to monitor for specific species of concern, such as invasive mussels. At present, the resulting data are not collected using common protocols, nor are they stored in an information system that could support the development of a comprehensive approach to research and monitoring. This project will coordinate and add to the existing capacity of seven states to protect the CRB aquatic resources by:

Producing an integrated monitoring and information system

Enhancing and further coordinating the existing early detection efforts

Evaluating pathways and vectors

Providing the physical and biological data necessary to assess the impact of climate change on native and nonnative biota

The project should be considered one piece of a comprehensive investment needed to enhance aquatic invasive species (e.g., zebra mussel) prevention, detection, and response preparedness in cooperation with western states.