

**PNW Freshwater Mussel Workgroup minutes
Wednesday 14 June 2017, 12 pm - 2 pm PDT**

Present: Emilie Blevins, Xerces Society; Julie Campbell, USFWS; Heidi Dunn, Ecological Specialists; Beth Glidewell, Confederated Tribes of the Umatilla Indian Reservation; Laura Guderyahn, Portland Parks and Recreation; Matt Hill, EcoAnalysts; Alexa Maine, Confederated Tribes of the Umatilla Indian Reservation; Anndrea Navesky, EcoAnalysts; Doug Nemeth, USFWS-ID; Rob Plotnikoff, Snohomish County Public Works; Celeste Searles Mazzacano, CASM Environmental; Al Smith, ODFW ret'd; Casie Smith, USGS; Amy Thompson, USFWS-WA; Teal Waterstrat, USFWS-WA; Michele Weaver, Oregon Department of Fish & Wildlife; Travis Williams, Willamette Riverkeeper, Oliver Wilmot, University of Wyoming

Agenda

- Welcome and introductions (Celeste Searles Mazzacano, CASM Environmental)
- Request for help with mussel salvage on the Upper Middle Fork John Day, week of 19 June (Emily Davis, Confederated Tribes of Warm Springs)
 - o Celeste and Travis are going out for a few days each; Emily is still looking for help, contact her at emily.davis@ctwsbnr.org if interested
- Biography/write-up on workgroup web site on the late Wendy Walsh as a founding member and mussel conservationist (Kevin Aitkin and Teal Waterstrat, USFWS-WA)
 - o thinking of a 1-2 page tribute to the many wonderful things Wendy did
 - o Kevin and Teal hadn't met her more than a few times, but other workgroup members can share their stories, images, etc. and they will synthesize
 - o Al: want to compliment them for doing this; Wendy was one of just 6-8 founding members, instrumental in getting 1st mussel guide out, tenacious in protecting mussels; he has stories etc. to contribute
 - o Emilie: last year Wendy sent out articles from 2003 and 2004 that covered work in Bear Creek, she can send those to Teal if they need them
 - o anyone who has photos, stories, news articles, etc. about Wendy to share should send them to Teal at teal.waterstrat@gmail.com
- Update on Xerces mussel projects (Emilie Blevins, Xerces Society)
 - o IUCN Red List assessments are now updated to include species distribution maps that had been left out initially; based on 2016 data so slightly outdated, can contact Emilie for the latest data; an article based on this work has been submitted to the Freshwater Mollusk Biology and Conservation Journal

- o best management practices document: receive queries from practitioners either doing restoration, construction, chemical treatments; have document that they are looking to get review and input from workgroup; want to do this one-on-one instead of sending it out to the workgroup so e-mail Emilie at emilie.blevins@xerces.org if you want to review; also trying to get funding to do workshops
- o funded to do project looking at locations where mussel populations might be more adaptable to climate change; using historic data and threats in those areas as well as future climate conditions that might be better/worse for mussels; idea is to focus restoration/conservation projects in areas where they will have the most impact
- o talked with Jeanette Howard in CA; recently someone reported finding *Anodonta* in Malibu Lake in southern CA Lake in vicinity of LA, Jeanette surveyed lake and only found only valves but people who live there have reported finding live mussels in the past when lake has been dredged; IUCN maps show all mussels gone from southern CA so this recent observation is surprising
 - Al: What clade? Looks like californiensis/nuttalliana, has high wings, shells also really large, larger than JH has observed in her other extensive surveys
 - Celeste: anything known about age structure? None of the pictures forwarded looked like juveniles, but seems to be large population
 - Al: lived in the past Salton Sea basin east of LA; it contained mussels when it was still a freshwater lake long ago and he collected floater shells, so they were there historically
 - Teal: Is it indeed a western mussel, not an eastern species that was brought in? JH is familiar with western species and doesn't seem to think this in from the east
- o Teal had alerted re: proposal in Chehalis basin to dedicate funding to flood abatement projects, including possible dam; this is the only system west of the Cascades where *Gonidea angulata* is known to occur in WA, so reached out to restoration groups about mussels, consider opportunities to include in restoration funding/projects; Chehalis Lead Entity distributes funding for salmon funding; want to do surveys in September to see where *Gonidea* occurs in basin and find good monitoring sites
- Update on mussel projects in Wyoming (Oliver Wilmot, University of Wyoming)

- o works with national heritage program; they are wrapping up 1st phase of native mussel work in WY, looking at distribution; for next few years will be using eDNA to detect plain pocketbook (*Lampsilis cardium*) and giant floater (*Pyganodon grandis*), two of their least-abundant species; trying to figure out method for eDNA but hope to get started this year as soon as rivers subside.
- o just came out with Native Mussels of WY field guide, available through biodiversity institute at Univ of WY.
 - Emilie: Also launching citsci effort, doing outreach? Yes, just starting that now that mussel guide is put, setting up web site where people can record observations. Hoping people will use guide to help ID species; usually no more than 1-2 species per watershed in WY so ID is pretty easy
 - Teal: Would you like to have link to field guide on workgroup web page? Yes, that would be great; guide is currently hard-copy only (Post-meeting: Teal added link to regional field guide section of workgroup web site)
- Input on methodology to examine road contaminants in FW mussels (Casie Smith, USGS)
 - o USGS just getting into mussel work; her supervisor is a contaminants specialist, they are interested in more info on effects of contaminants, have questions about methodology; found papers about analyzing mussel shells for contaminants, but they are looking for a good lab that does that, has anyone worked with one?
 - Comment: Greg Cope at NC might be doing some of that work (gcope@ncsu.edu)
 - Celeste: what contaminants are you looking at? Going to design multiple small projects for the area, trying to avoid using mussel tissue samples, will likely be small suite of contaminants, but sodium and magnesium will be included; don't want to have to go through permitting for live mussels and don't want to kill mussels
 - o also looking at reproductive timing of a lot of FW mussels in the Portland area; Allard et al. 2017 is a great resource, but seems that timing can really vary, Allard paper could find glochidia but couldn't pin down when females gravid or when sperm was in the water—any tips on how to do this?
 - Heidi: It's a challenge; most people just go out every 1 or 2 weeks and look for gravid females

- Al: spawning in NW mussels seems to be quite variable, hard to pin down; there was a study in Portland Harbor long ago looking at contaminants in crayfish and corbicula, possibly done by EPA & DEQ (?), not sure how they did it, but may have used live tissue
 - Tony Brady was working on this for propagation—degree days seemed important for glochidia release, but not sure if that's so for spawning, would be something to look into and could explain observed variability
- Possible late-summer field trip to re-visit site where WDFW has looked at suction dredge mining impacts (Elizabeth Bockstiegel, WDFW; Teal Waterstrat, USFWS-WA)
 - o in 2006 state did some investigations on suction dredge mining impacts on mussels, measured and tagged a bunch in Olympia Creek and one in Okanagan; Liz may have original data for tags and sites, it's been 10 years so might be fun to go back and find the sites and see if we can find any mussels, look at survivorship and growth; Teal and Liz will make attempt at local site in late fall, but may be a good workgroup campout over a weekend in the Okanagan
 - o no dates formalized yet, just an idea at this point, they will deal with permits, looking at land ownership, lodging/camping
 - Julie: should we respond to you if interested? Yes, since Liz is out until end of the month, though Teal notes that she is more the organizational genius
 - Al: would be up for a trip like that
 - Teal & Liz will work together to figure out some dates and bring those back to the workgroup
- Confirmation of workgroup as hosts for 2021 FMCS annual meeting and next steps (Celeste Searles Mazzacano, CASM Environmental).
 - o According to FMCS operations manual (<http://tinyurl.com/j82mroh>), planning begins 18 months prior to the meeting, with the initial steps including:
 1. Determine date of meeting based on fewest conflicts with other professional society meetings (e.g., Freshwater Science).
 2. Determine meeting location based on suitable local facilities and competitive bids. Request written estimates of costs from several prospective meeting facilities with an itemized breakdown of charges for rooms, food (meals, breaks), and audiovisual equipment. Compare prices to those of previous meetings and consult with the FMCS Executive Committee (EXCOM), if necessary.

3. Establish a program committee.
 4. Establish an auction/sponsorship committee.
 5. Establish a field trip committee.
 6. Contact keynote speakers, if appropriate.
- Heidi: had conference a few years ago at a state park and it went great—so it doesn't have to be a formal hotel/convention center, as long as it accommodates 300-350 people
 - we would like workgroup members to think of location for meeting and field trips, think outside the box, doesn't have to be in the city, e-mail ideas to Celeste (cmazzacano@gmail.com) who will keep a running list
 - Celeste: does FMCS have general time they prefer? Usually March but not 3rd week as it conflicts with other meetings; have had in early March to mid-April; they don't have many field trips that actually go out and collect mussels so weather isn't a huge issue
 - Celeste: How early are themes set, and can the local organizer establish a session, because it would be great to have a full or partial day on the cultural/historical importance of mussels to the First Nations people here, and the work the regional tribes are doing now with restoration and propagation.
 - Heidi: that's a great idea, and local organizers have the freedom to set up sessions
 - Celeste: ORAFS meeting this year had diversity as a theme, and it broke records for both overall attendance and tribal representation; RRNW also generally has tribal representation for multiple states;
 - Al: been at other meetings where sessions like this have been done and people are riveted
 - Celeste: we can reach out early to tribes all over the region, see who would be interested in participating/planning/convening
 - CTUIR would like to be involved in this
 - Teal: lots of people are interested in underwater macro photography, he could find some folks who could lead a session, may also be able to have a small field trip (or do on-site, or at a local aquarium)
 - get rolling early on meeting partners, who would be interested, line up participants, suggestions for locations (and think outside the box!); anyone with ideas should e-mail them to Celeste (cmazzacano@gmail.com) and she will keep a master document to use when planning begins

- Potential workgroup conversion to non-profit organization (Celeste Searles Mazzacano, CASM Environmental)
 - o Al: next step that we have to do sometime, might as well tackle it sooner rather than later
 - o Teal: agree with Al, seems like we are holding national-level meeting, would be good opportunity to roll this out, coordinate this upgrade to our status
 - o Al: hit the nail on the head with the word “status”, the formality of doing this will increase the status of the workgroup and be beneficial to the resources that we want to offer
 - o Teal: does FMCS have chapters, or have they considered having chapters, the way The Wildlife Society does? That would be an alternative route to us creating our own non-profit for the West, if our mission/values/guidelines are closely aligned, and may give individual groups more clout. Heidi: they have kicked that idea around for years, have had other mussel groups come to them and ask if they could be a chapter; the last time it was discussed, they felt they didn’t want to be that formal and have groups who have to follow their guidelines, wanted people to be loosely affiliated with them. But, they have grown since then, and have *ad hoc* international committee, may have European chapter, so may be time to consider that again. Instead of paying dues to FMCS, they can donate a few hundred to help with local meeting as long as they plus FMCS and put their minutes in their local publications. Would be something to discuss at the next Board meeting is sometime in July, Heidi is willing to bring it up at the meeting, would need to have an *ad hoc* committee to see what groups are interested in other states, might want to do it on a watershed basis, pull in existing groups instead of having specific state/regional chapters
 - Al: workgroup considered this a few years ago, talked to FMCS, decided it wasn’t appropriate time yet, but it may be time to re-visit
 - o Celeste: we will wait until we hear what the FMCS Board thinks before moving forward with this for the workgroup. Emilie Blevins will check with Xerces staff to see what sum remains in the workgroup account that Xerces has been holding. (It was ascertained post-meeting that there is \$439 in the workgroup account)
- Additional items/announcements
 - o Mussel rescue looking for volunteers: June 25 & 26, 8 am - 12 pm, Portland OR; relocation of floaters from Crystal Springs Creek where a bridge at SE McLoughlin

Blvd is being replaced. For more information talk to Celeste Searles Mazzacano, or go to www.volunteersignup.org/9HEWP to sign up to volunteer.

- o Don't forget to register for the EcoAnalysts mussel symposium, "What is the state of our Pacific Northwest Unionids?", 19-20 September 2017 (<http://www.ecoanalysts.com/2017-pnw-mussel-workshop/>)
 - can now do online registration and payment (PayPal), credit card over the phone, or mail in a check
 - field trip ideas? thinking of doing 2 half days, do qualitative and quantitative techniques, put down markers where mussels found and use that as jumping-off point to discuss hydrology, reasons for distribution. Matt considering 3-4 possible sites that he will check out in August; White Salmon and smaller streams in area, possibly Taylor Lake (lots of Anodonta), Al and Michele reminded that they will need a in WA and OR permit even if only handling, not collecting
- o The Society for Northwestern Vertebrate Biology (SNVB), OR and WA chapters of The Wildlife Society (TWS), and Partners in Amphibian and Reptile Conservation (PARC) are gearing up for a mega-meeting in Portland (at Jantzen Beach Red Lion PSU) in February 2018 (13-17?); maybe workgroup could have table with information, field guides, conservation status, range maps, and data needs there? (Teal Waterstrat, USFWS-WA)
 - Celeste: cost for table? Not sure yet, but might be able to just sell field guides and posters at corner of TWS table if we want to do it more informally
- o The journal Northwest Science (where all the mussel papers seem to go) has a new Chief Editor, Dylan Fisher, who is a full professor at Evergreen State College (Olympia WA). This may provide some opportunities for the workgroup with one of the regional scientific outlets for freshwater mussel research (Teal Waterstrat, USFWS-WA)
 - Davis Cowles still mussel editor, often needs reviewers
- o Marci Koski at the USFWS Vancouver Fisheries office retired at the end of 2016. Several people at the office have expressed an interest in freshwater mussels, and they will likely designate someone to be a new liaison from that office to the workgroup soon.

- Teal: would be neat arrangement to have a more formal sort of relationship between that office and the workgroup
- o Rob Plotnikoff has changed positions, is now a Senior Habitat Specialist with Snohomish County Public Works, Surface Water Management, new e-mail address is Robert.Plotnikoff@snoco.org
- o Travis: Governor Brown signed the suction dredge reform bill into law in OR
- o Doug Nemeth (USFWS-ID): starting new project at end of June; Nez Perce tribe in cooperation with Forest Service is creating new stream channel in Lolo Creek, existing channel was mined, channelized, not in contact with floodplain; old channel has *M. falcata*, so they will be moving them to a different reach before dewatering. Dave Stagliano will come by to help. They are thinking of using PIT tags for some studies they want to do, wondering if anyone has experience using these; trying technique using superglue followed by dental glue.
 - Heidi: pros and cons to several different glues you can use; try to use superglue gel if using superglue as it's a little more flexible, and be sure to encapsulate tag capsule completely to protect it from damage due to abrasion; epoxy requires leaving mussels out of water longer for it to cure, which adds to their stress; dental cement cures much faster than epoxy, though epoxy encapsulates PIT tags better; dental cement is pricier than superglue but probably best thing out there right now; they use superglue which is fine in soft substrate in Mississippi, but in rocky substrates would be better to use dental cement

Our next meeting will be in September; a Doodle scheduling poll will be sent out in August to select a date that works best for the greatest number of people.