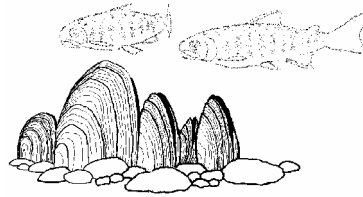


## Pacific Northwest Native Freshwater Mussel Workgroup



December 2, 2003

*Minutes*

Attendees were as follows: Jen Stone, Al Smith, John Fleckenstein, Kevin Aitkin, Wendy Walsh, Rob Plotnikoff, Kathy Thornburgh, Jamie Glasgow, Tom Burke, and Molly Hallock; on conference call were Jayne Brim Box, Phil Brna, David Wolf, and Jeanette Howard.

Update from Alaska: Phil Brna states that there are three, possibly four species of mussels identified in Alaska (*A. beringiana*, *A. kennerleyi*, and *M. falcata*). He is currently working with a student from the University of Alaska at Anchorage named Steve Smith (stevesmith2@gci.net). Steve is working with Nora Foster (swamprat@mosquitonet.com) on a grant proposal that will allow them to assemble presentation kits for the purpose of educating biologists. There are currently approximately 15 specimens of mussels stored at the University of Alaska at Fairbanks. Terry Frest has offered to identify specimens.

Goals and Objectives: Al Smith invited comment on the goals and objectives document for the Workgroup. Jen Stone asked if we should establish an objective to formalize a process that will assist us in producing educational documents and hosting the annual workshop (i.e. money). Rob mentioned the numerous grants available for educational purposes. Jen Stone questioned the Workgroup's ability to receive money, from grants or donations. John suggested that we work with other agencies on a project-by-project basis that will allow us to achieve our objectives without directly handling the money. It was decided that a new objective would not be added. Tom Burke asked to modify objective 5 to include biologists as well as non-biologists.

Margaritifera vs. Margaritopsis falcata: Jayne is in favor of using *Margaritifera falcata*, going by Turgeon et al 1998. Though there has been discussion among malacologists to change the name, there has not yet been conclusive evidence to support a change. *Margaritopsis* was discussed in Bauer and Wachtler's book "Ecology and Evolution of the Freshwater Mussels" (pages 40-43). Jayne mentioned that this designation was based on electrophoretic data and that it might not be able to stand up, genetically. The next addition of Turgeon et al will also use *Margaritifera falcata*. Additionally, the International Consortium on Zoological Nomenclature and the American Fisheries Society support *Margaritifera*. The Workgroup decided to be consistent and use *Margaritifera* until further evidence supports a name change.

Jayne also questioned the use of *Anodonta wahlamatensis* vs. *A. nuttalliana*. Jayne informed the group that *wahlamatensis* is not recognized by the literature as well. The Workgroup decided to be conservative and be consistent with the use of the name *A. nuttalliana*.

Jayne will act as the taxonomy contact for the Workgroup, updating us on any changes to the nomenclature. Additionally, she asks for genetic samples (taken from live mussels) so that they can continue this work.

Al's key: The key was sent to the Workgroup prior to the meeting and Al has already incorporated suggestions that were received. Al is planning to incorporate comments on external morphology (mantle) to aide identification in situ. He would like to have the key designed so that one can use it if they are diving/snorkeling, if they have mussels in their hand, and if they have mussel shells. John mentioned that we do not have much confidence in our ability to differentiate species using this key and suggests that a disclaimer statement be added to the key. John will draft a disclaimer for the key. Al will send out an updated version of the key. At the next meeting of the Workgroup, Al will bring several shells representing each species and will allow the group to test the key. Jamie suggested adding a section to the key that will include a typical diagram and glossary of terms used.

The discussion of the key morphed into a discussion of a field guide. Several agencies in Connecticut produced a hard copy and web-based Field Guide to the Freshwater Mussels of Connecticut. The Workgroup would be interested in using this format for the mussels of the Pacific Northwest. It was decided that we would start with the web-based version and then move into the hardcopy publication if necessary. The field guide will include the key that Al developed (with changes suggested above), photos (out of water, shells, and in water perhaps) that can be supplied by Jayne, and life history/ecological information. Kevin suggested adding several of the invasive species as well, and it was decided that this information would be useful. Kevin will get an estimate of publication costs, Jen will organize information (key, photos, etc) and work with the Workgroups webmaster (Donna Allard) to start the web-based version. She will also pursue grants or sponsors for the publication process. Al mentioned that we should ask the Audobon Society for assistance. Jamie suggested the guide should be sized to fit in a field vest, and printed on water-resistant paper, as per the BC Field Guide to Juvenile Salmonids (Kevin offered to bring one to the next meeting).

Methods for mussel preservation: Phil read an email where Terry Frest suggested methods for preserving mussels. Much of this was taken from Kone et al, which was published in Malacologia in 1995. Jayne offered to provide us with a literature review of how to preserve these species and will send out a detailed protocol. It was suggested that we put qualifiers on the webpage to make sure people are collecting with permits and not willy-nilly.

Sediment testing: Wendy Walsh questioned if the Workgroup might recommend sediment testing, in addition to tissue testing, in situations where there was a high mussel mortality rate. The rationale is that sediment may show toxins that might not show up in the live mussel tissue. Al asked if there is concern that the sediment may be contaminated and Wendy replied that there was no industry influence, just private property issues (pesticides on lawns, etc). Kevin suggested waiting for the tissue tests to come back to focus the sediment testing. Kathy suggested determining the rate of deposition of sediment to see if sediment testing would yield pertinent information. Rob asked the group if they knew of any documentation for natural population oscillations and no one did. Wendy explained that Bear Creek's mussels were showing no signs of recruitment and Rob mentioned that certain pesticides have been known to

reduce predation rates in other species, and questioned if they could reduce reproduction rates in mussels. Jamie suggested carrying capacity issues and questioned the group as to what proportions of dead to live mussels were typical of healthy populations. Al indicated that the numbers of dead shells Jamie has seen in a Snoqualmie watershed tributary seemed more than average, but also cautioned the group that rates of decay, discharge, and other environmental conditions might have an effect on this observation. The question regarding how long mussel shells reside in the aquatic system was raised and Jeanette offered to provide us with a literature review on the topic. It was suggested that the Workgroup might have a field trip during the summer to look at the Bear Creek mussel populations. Wendy Walsh has agreed to host a meeting at her home, lunch will be provided.

Okanogan: John and Tom led the discussion. North America is divided into ecoregions and lists of target species (species and communities in need of conservation) have been developed. Data has been, or is being, accumulated on locations of occurrence of the target species. The next step is to develop a conservation plan for the ecoregion. The Workgroup has been asked to provide guidance on the Okanogan ecoregion in regard to the mussels. A draft target list has been developed and has been sent out for review. The questions that the Workgroup is faced with are: 1. which of these species occur in this ecoregion, and 2. which of these species are of conservation concern. The Workgroup was not able to answer the questions and suggested that Tom contact the British Columbia Royal and Provincial Museum, the Burke Museum at U. Washington. Rob suggested calling Bruce Lang of Eastern Washington University. Additionally, Tom will review the Mollusks of Canada publication (Clarke). Tom and John will work together to develop range maps for the species.

Critical needs and uncertainties: Al led the discussion. This list will be used to guide the advice this group gives in the future. It should be short and possibly in priority order. Rob will work on an explanation of how this list will be used. The Workgroup established the following needs: status and trends, cause for changes in population, systematics/taxonomy, link to other species, and environmental requirements. Kevin suggested at looking at the Goals outlined by the National Strategy for the Conservation of Native Freshwater Mussels; Jen will provide this information to the Workgroup. The Workgroup decided that it would be difficult to prioritize the needs, as one depends on the other.

Posters/Abstracts: Jen Stone announced that the Workgroup sent an abstract to the Urban Ecology Conservation Symposium, highlighting the existence and purpose of the Workgroup. Al also sent in an abstract highlighting his work. Additionally, there may be another abstract submitted to the Xerces meeting in NY. Jen will find out more information. Wendy would be interested in attending the meeting and presenting the poster. Few abstracts have been submitted to the Oregon AFS meeting and Jen solicits the Workgroup for more.

Survey cards: Molly led the discussion. She has developed simple survey cards that she will hand out to WDFW biologists (fish and habitat), asking for mussel species occurrence/location information. They will also be directed to collect shells. The shells will be identified by Terry Frest. Kevin suggested using UTM data instead of Lat/Long. Kevin, John, and Molly will meet at a later date to work out the issue of multiple databases, collections, etc.

Webpage: Jen requested that the Workgroup email her abstracts pertaining to their mussel projects so the information could be accessible by the web. Additionally she requested field photos, links, etc.

Additional contacts: The group needs contact information for BC biologists. Terry Frest was looking into this for the last meeting. Tom will try to find someone too. Phil Brna will serve as the AK contact.

Annual workshop: The Workgroup decided that the Dept. of Ecology building in Lacey, Wa would be a suitable site to host the next mussel workshop. The USFWS building next door would be an alternate location. Jen will work with Kevin to find dates that do not conflict with other meetings that the audience, or speakers, would likely attend. Jen will email the Workgroup a list of dates within two weeks and the date will be determined before Christmas. The Workgroup is expecting between 75 and 100 participants this year. As presentations from local biologists may be limited or redundant, the Workgroup decided to invite guest speakers from the mid-west and east coast. Jayne will contact Jen with a list of interested speakers within two weeks. Jen and the rest of the Workgroup will figure out a way to cover travel expenses if the agencies that the guest speakers are representing will not. Topics identified for the guest presenters are: propagation, causes for mortality, recruitment, sampling design, and aging. Rob will make arrangements, Jen will coordinate, and Al will facilitate.

Northwest Vertebrate meeting: Al is still interested in conducting a workshop at this group's next annual meeting in Ellensburg, WA. The dates are March 24-27, with the class on the 24<sup>th</sup>.

Class at PSU: The course that Al will be teaching is scheduled for August and will include a field trip.

Proposal for forest industry: A proposal was written by Jen and Kevin (several months ago) to hold a workshop for members of the forestry industry. Kevin will look into the progress of this proposal, as it is an opportunity to assist in funding the next workshop.

Next Workgroup meeting: Will be held the day after the workshop in a Dept. of Ecology conference room. Rob will make the arrangements when the Workgroup decides on a date.

*Meeting Adjourned*

Some References mentioned:

Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: mollusks, 2<sup>nd</sup> edition. American Fisheries Society, Special Publication 26, Bethesda, Maryland.

Bauer, G. and K. Wachtler. 2001. Ecology and evolution of the freshwater mussels unionoida. Springer-Verlag Berlin Heidelberg. 394 pp.

Goals outlined by the National Strategy for the Conservation of Native Freshwater Mussels  
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