

Minutes from the Western Regional Panel 2008 Annual Meeting

September 9-11, 2008

Ft. Collins, Colorado

Tuesday, September 9

Field trip to Rocky Mountain National Park to discuss work being done by the U.S. Fish and Wildlife Service, the National Park Service and Trout Unlimited to remove non-native trout and restore native trout.

Wednesday, September 10

[Welcome, Eileen Ryce, MT Fish Wildlife and Parks, 2008 WRP Chair](#)

Welcome and introduction of Executive Committee members and brief introductions of all present.

[Mike Stempel, USFWS Assistant Regional Director for Fisheries](#)

ANS is becoming one of the key issues. In the Fish and Wildlife Service and with state Fishery Agencies, we want to make sure that invasive species continue to be a key topic. Strategic Habitat Conservation (SHC) is repackaging the way we preserve our wildlife. It's important to tell Congress how successful we are and the best measure of success is the prevention of the spread of zebra mussel and quagga mussels. Outreach projects are also important to help people realize what is happening and how to prevent the spread of invasives. Mike also shared a personal thanks to Tina.

[Tom Remington, Director of Colorado Division of Wildlife](#)

Tom thanked the group for inviting him to speak. We are here to discuss how to handle what is at hand with the recent invasion. As of now we are monitoring and controlling all found areas that have been infected. In a short period of time Colorado has begun to contain the problem using quick response plans, the legislative process and government funding. The Bureau of Reclamation and Colorado Division of Wildlife (CDOW) have combined to write procedures for individual reservoirs, public and private. What we are striving for is one state-wide response plan, procedure, standards, etc. If we really want to stop the spread of zebra mussel and quagga mussel we need to address the ANS problem nationwide because many boats that have entered our waters were from the Great Lakes area. Now we are investigating several ideas one promising being a GPS tracking system that can track where the boat has been.

New Zealand mudsnail control in hatcheries and aquaculture

[Chris Myrick, Christine Moffit, and Ken Cline](#)

[Ken Cline, Eradication of mudsnails in Boulder Creek facility, Cline Trout Farms](#)

New Zealand Mudsnail first infected his Cline Trout Farms Boulder in September of 2004. (Power point presentation) His facility is used as a distribution center, mostly stocking lakes for recreational purposes only. Water supply is secured underground that flows 300-400 gpm in winter and about 800 gpm in summer. History of New Zealand mudsnail: Thursday Nov. 18, 2004 discovery, Friday, Nov. 19 quarantine issued, Saturday Nov. 20 Quarantine received. Did investigation on NE farms and sources, CO farms and sources and any other possible sources. Nothing was found, the conclusion was that the mudsnails came in Boulder. After deciding this they decided to look at heat for eradication. The water must be 130 degrees F to heat and kill the spores on the fish. After getting rid of the New Zealand mudsnail the next step was re-infestation prevention. To do this they eliminated infected areas, reconstructed broken pipe lines, physically sealed areas, used flame treatment, and copper barriers. Then they monitored, and after eradication and renovation was complete the facility was opened again although there were some restrictions. Current situation: the Cline Trout Farm eradicated NZMS on March 1, 2005 and has had 15 negative inspections by CDOW.

Question: Could snails be carried in with your intake water? Do anglers have access to your intake water? Response: Angler doesn't have access necessarily but they do have access to boulder which is adjacent to our water sources. There are also animals that could transport the mudsnail.

[Chris Myrick, *Research on Copper Solutions, Colorado State University*](#)

The copper idea blossomed into a research idea. The problem is sometimes it works and other times it doesn't. Colorado, Montana, Idaho, California, Utah and Wyoming are states with NZMS. Mudsnails have different modes of dispersals: passive or active (when they move up stream through the piping system). Chris's focus is the active dispersal. Copper barriers were installed in 2005 and since then there has been no NZMS crossing the barrier to date. So Chris came up with the pilot project using static copper (Cu). The variables of interest are the crawling distance, crawling velocity and residence time on the copper. Substrates treatments include copper sheet (simulate copper pipe), copper mesh, antifouling paint #1 (25% cuprous thiocyanate) antifouling paint #2 (39% oxidized copper) and untreated PVC. Chris also tried an experimental containment center. Experiment #1 was test arenas ~20 cm in diameter and he covered half with copper and the other half untreated PVC. Experiment #2 forced NZMS to move on a substrate. They videotaped all experiments and then did 20 replicas per treatment with time-lapse movies. Then the videos analyzed. The mudsnails reacted to the copper-based substrate even if they weren't in contact with it. The snails would go on the treated area but would not move as much. The most restricting substrates were the copper mesh and copper sheet. In Utah the idea was put to the test and in their tests the snails went through the copper barriers. The only hope was that their barriers were only 6 inches and test results showed that they could travel up to 8 inches. They were able to show results in the lab but the variables in the real water is not so simple.

[Christine Moffitt, *Research on Hydrocyclone, a Mechanical Device Used to Separate Mudsnails out of Incoming Water, University of Idaho*](#)

The presumption is that the snails came in with fish eggs from New Zealand but I doubt that because fish eggs are packed carefully and carefully sorted. I think the angler source of this is much more likely than fish eggs. SC was found positive in silver creek loving creek and the reservoir though the original idea was that the snails came from the hatchery. Although there were positives, they were few and in the same places over and over, so they weren't spreading. The winter temperature was the limiting factors so if the temperature was less than 0 degrees F, the snail populations could not spread. So one of the reasons we see them around fish hatcheries is because there is more ground water so there isn't cold surface temperatures. When we looked at the temperature, this made sense. So the snails come in the summer but don't last through the winter. We need to understand the distribution moving across the west; NZMS may be introduced but they don't necessarily stay. We tested a filtration system that could provide NZMS free inflow. Fish were force-fed snails to see how they went through the fish's digestive system. Size of meal affected how quickly the snail passed through the fish's system. No live adult snails at 48 hrs and no live neonates at 48 hrs. They put snails in tanks with starving fish to see how many snails the fish would eat in two days. They found that rainbow fish would eat the snails whether they were starved or hungry, and steelhead would eat the snails but not as much. Cyclonic separation - hydrocyclonic instrument used in anything that needs to be separated by weight. Conclusion of studies was that the removal efficiency was no NZMS in overflow. The underflow effectively captured snails. The system likely destroyed some snails - 1% adults 5% juveniles 31% neonates. Hydrocyclone is an effective filter for all life stages. Carbon dioxide killing is simple with pressurized exposure and water temperatures are relevant. Hydrocyclone can work several different ways and has applications for other ANS control.

Presentations of WRP Funded Projects

[Sara Pelleteri, *Habitattitude*® in Hawaii](#)

The project was funded last year so they haven't spent any money yet due to several situations. Once the contracts were worked out (after 7 months) and the money was received, they tried to transfer the money to the University of Hawaii and the Governor has taken 9 months to sign. The contract had to be extended. That's the bad news. The good news is that the Hawaii was awarded \$25,000 for radio public service announcements and they want to evaluate effectiveness. The Panel money is going to be used to expand the project to the outer islands, which will be easy because there are few pet stores so it's concentrated. Hawaii will run radio ads (as much as \$25,000 will allow) and get a good measure of the audience they are reaching. This is a program to inform people not to dump their pets into the water.

[Ted Grosholz, *Train the Trainer: Master Gardeners Prevent Aquatic Invasive Plant Introductions through Community Education and Outreach*](#)

They haven't spent a lot of money yet, but have put everything together so they can start the project. Water gardening is the fastest growing segment of ornamental horticulture. They are trying to educate

the back yard gardeners. They wanted to develop a program to allow the master gardeners to distribute the information. The goal was to develop these educational materials and fund workshops and travel to get the gardeners to the workshops. Deliverables include a website, aquatic plant poster tip sheet, water gardening presentation and exhibit table, two training workshops and more. The educational materials are designed to inform and guide water gardeners to what they should use and how they should use the species. Target activities include Bay/River-friendly landscape meeting, California statewide master gardener conference, American public gardener conference and another California master gardener training workshop for southern California master gardeners.

[Peter M. Rice, Professional Awareness of Flowering Rush in the Headwaters of the Columbia River System](#)

In the Columbian river system, the focus is a single form of vegetation that has invaded North America along the St. Lawrence River region (then the Snake River Idaho and Flathead Lake), called the flowering rush. The rush is invasive of littoral zone and wetlands. Its reproduction is complex and has different ways of dispersal. It can have small seeds that form vegetative bulbs on the top and on the bottom. AT a dam located on Flathead Lake, there is a low pool in spring that favors flowering rush over native macrophytes. So the flowering rush is growing earlier than the native species. The greater the water level, the greater this plant grows. Flowering rush in the Aberdeen Springfield canal system, they manage it by chain, which ultimately spreads it even more. So far the flowering rush has been more commonly found in the east. Impacts includes invasion of native communities, formation of non-typical vegetation, swimmer's itch, and loss of open water. The boating blockage of irrigation systems, which is a high level of impact, has not been assessed. One hypothesis is that yellow perch like to lay eggs on the vegetation and the flowering rush creates a good habitat for their eggs so are we helping yellow perch give birth.

[Mark Sytsma, Recreational Boat Hull Fouling in San Francisco Bay](#)

There are little data on bio-fouling and species transfers by recreational craft on U.S. Pacific coast, but studies elsewhere have shown that recreational vessels are responsible for the introduction of several ANS. Some surveys have begun here in America. This pilot study aims to examine recreational boat fouling. A questionnaire was sent to boat owners with the help of marina operators. Sampling was conducted at six marinas in San Francisco Bay. We used a pole cam during the surveys to look at the boats hulls and 8 photo quadrants which were taken along 2 transects for 12 boats at each of 6 marinas. floerl's level of fouling (LoF) ranking system was used. Results of questionnaire were that most boats stayed in SF bay about 75% and most went out less than ten times. A third of the boats had paint done in the last year. 70% had been cleaned during the year but not repainted. Highest extent of macro algae and macro fauna recorded by the photos was in Berkeley. Their conclusion is more work needed and surveying and the ranking system is effective but need more data on movement of vessels and that will be future work.

[Mark Sytsma, Aquatic Weed Research Priorities](#)

I proposed to the Panel that if you focused on a small group you could get consensus easier and then we could do a workshop to get at the priorities. We did that in December 2005. Before we met we set up work groups based on certain disciplines. The people who attended the workshops were supposed to write a report and send it back to Mark. Only three work groups did so. Mark wrote an introductory paper which summarizes that information.

[Mark Sytsma, Educational materials database](#)

Mark wrote a proposal to make a database of educational materials where you can search for what type of information you want. Website is at www.clr.pdx.edu. They currently have 159 cataloged materials that you can browse, evaluate or even add additional items. You can search by title, author, and topic.

[Mark Sytsma, Regional Surveys and Outreach for a Nonindigenous Burrowing Isopod, *Sphaeroma quoianum*](#)

This species is native to Australia and New Zealand found in 15 estuaries in the U.S. The concern is the shoreline erosion, increased sediment loss and damages to marine structures. The project goals were to determine potential threats, document erosion rates in Coos Bay marshes, and then develop an interactive website. There are 13 infested marshes in Coos Bay. Preliminary results show the erosion rate is greater in burrowed areas than unburrowed areas. In summary, they did not detect a regional

range expansion for *S. quoianum*, but the population expanded. They also discovered erosion due to this species.

[Sara Mueiting, Boater Surveys in Lake Mead](#)

Sara received funding in 2003 for zebra mussel distribution contact surveys. Only 34% of people surveyed were aware of ANS. All people who give the surveys are trained and given a test. The surveyors then stand out on docks. If people don't clean their boats or say they don't know how to clean them, the surveyors show them and hand out flyers with the "Clean, Drain and Dry" message. They've found that awareness has almost tripled.

[Colorado Issues: facilitated by Vicki Milano and Elizabeth Brown](#)

[Carlie Ronca, Bureau of Reclamation, Colorado Issues: Lake Granby Quagga Mussels](#)

Focus on Colorado Big Thompson Project brings water from the west slope to the east slope. West slope water rich east slope water poor. Concentrate on Lake Granby which is part of big Thompson. Reclamation owns the reservoir and infrastructure northern Colorado water conservancy district apportions and distributes the water us forest services manages recreation and co div of wild manages fisheries. Northern Water found veligers in Lake Granby. July 10- 08 confirm on pos veligers from microscopy and PCR. Response-press release communication plan drafted and set up meetings. Field education response. CDOW hired 3 temp workers for inspection and decontamination. 24/7 boat inspection would be nice but the concern is with the weekend boats. For the future we plan on continuing monitoring the am and pm. As of now the CDOW is writing a statewide response plan for containment of infested waters and site specific response plans for all BOR reservoirs. issues for discussion- positive PCR results in locations where the habitat is marginal transport via actual water flow multi agency management

[Rob Billerbeck, Colorado Parks, Standardization of Protocols](#)

We have thought about the standards carefully since we've found Zebra and Quagga mussels. Standards are based on other programs such as California border patrol, NPS/Lake Mead, Wisconsin, Minnesota, Washington State and Utah. CO wants to work out communication between areas so there is some standard protocols for recreationalists. The keys are boater contact and education – pamphlets, signs, education, and contacts. Colorado is using the "Clean, Drain, Dry" slogan. Boat inspections have a tiered system. Decontamination is used only when needed using hot water. Inspectors do a 2-3 minute overview of the boat to see if any sign of risk and then a take a closer look when needed. Potassium chloride is added to ballast water. Wire seals are applied between the boat and the trailer to show that the boat was inspected and has not been launched after the wire seal was applied. This way, people can come back to the same lake without having to be rechecked again and again. They are trying to stay consistent for the boaters.

[Leonard Willett, Quagga mussels at Bureau of Reclamation Dams on Lower Colorado](#)

How we are dealing with the control of the zebra mussel. Once you have mussels you need someone to be totally responsible. Mussels filter the water causing sunlight to reach the plants at the bottom of the lake. Carps eat mussels. The mussels cause the aquatic life to leave because they cover everything. Control methods available are preventive- repellents (antifouling, foul-release, thermal spray) mechanical filtration, chemical treatment. UV light. Scientists want to add bacteria that are lethal to invasive mollusks to water at Hoover or Davis dams. Basically makes the mussels bleed to death and its 92% effective. Conclusions Western water systems differ from eastern: long, continuously managed reaches of water.

[Paul Heimowitz, USFWS, Biological Supply House Committee Report](#)

Overall what was happening in Oregon and in some schools nationwide wide is that the schools were using ANS inside the science labs then releasing them into the wild. Once they found out about what was happening they prohibited the use of ANS in Oregon schools and then set out a program to educate the schools about the effects of using ANS in classrooms and why it is a concern. There are about a dozen recommendations. Make sure that everyone is aware of what species are prohibited, find opportunities to collaborate with biological supply companies, science curricula developers/providers and the issue is you need viable disposal options. That may include euthanasia. Oregon Sea Grant leads development of proposal to address pathway: WRP support the funds projected approx. \$250k over 2 years. Focus great lakes and west coast with three phases: problem definition (surveys interviews) focus groups to design solutions and pilot implementation of several solutions.

[Pam Fuller, USGS Database Update](#)

The USGS database keeps track of anything that is non-native and includes animals and plants. There are web-based queries, source analysis, analyses showing patterns through time, spatial analysis, pathway analysis, mapping, etc. USGS can enter data or people can enter it themselves. People can register to receive alerts of new reports. <http://nas.er.usgs.gov>

[Dan Haines, Wolf Creek Nuclear Operation Corporation, Corbicula Control: Wolf Creek Generating Station Asiatic Clams](#)

Dan presented information about Corbicula control at the Wolf Creek Nuclear Facility. One difference between Corbicula and zebra mussels is that Corbicula do not have a byssal thread to attach themselves (juvenile byssal thread disappears in adults). Corbicula also have a narrower thermal tolerance than zebra mussels. Response to possible findings was to start looking upstream and started in lake with seines with benthos and shorelines surveys as well. Their treatment was three times per year (spring, summer, and fall) using non-oxidizing biocide for a 24 hour treatment.

[Bill Zook, Pacific States Marine Fisheries Commission Watercraft Inspection Training Update](#)

Support for the project is provided mainly by the U.S. Fish and Wildlife Service. The program began in 2005 with effort to recruit boating law enforcement agencies in the West. States involved are Idaho Oregon and Colorado River boating law conferences. Training been modified this year and now has two levels of training: Level One and Level Two (takes place at Lake Mead). New WIT proposal - more than two dozen agencies/organizations are currently inspecting and decontaminating watercraft in the western U.S. and the effectiveness of current decontamination methods needs to be evaluated.

[Member Reports on ANS Control Projects or Outreach Projects](#)

Verbal member reports were given by those members present based on their written reports which are found as an appendix to these minutes.

[Public Comment](#)

Bob Wiltshire provided public comment regarding the Center for ANS that he started.

Thursday September 11, 2008

[Business Meeting](#)

[Financial Report](#)

A total of \$50,000 was allocated for the 2008 budget (this is the annual allocation provided for each Panel by FWS). Approximately \$30,000 went to the Work Plan projects, and the other \$20,000 went to travel for members to attend the annual meeting, travel for the Chair and/or Vice-Chair to ANSTF meetings, brochure costs and the annual meeting costs.

Tina stated that she expects the 2008 projects to be completed in 2009, realizing that it takes awhile to get money out to the people. FWS has a new system for contracts and travel so things were slower this year but things should go faster next year. One thing the Executive Committee discussed is that it's exciting to see the wide variety of accomplishments in the Western States.

[Election of new Executive Committee Members \(Tina\)](#)

Current membership list is in the participant folders. Four nominations for new Executive Committee members were presented to the group and nominations were opened to additional names (none). Four new Executive Committee members were selected: Lynn Schlueter, John Wullschleger, Diane Cooper, and Bob McMahon.

The first meeting of executive committee members will take place in October by conference call and the Chair and Vice-Chair will be chosen then.

[Decision on replacement for the Coastal Academic Research Position \(Tina\)](#)

Paul Olin has vacated his Coastal/Academic Research position with the Panel. There are three nominations for his position: Jodi Cassell, Jeffrey Adams, and Susan Zaleski. The nominees aren't here but we do have resumes. The membership was asked if they wanted to vote now, via email after the meeting, or have the Executive Committee handle this. The position must be someone who is a member

who represents coastal and be an academic or a researcher. The membership decided to have the Executive Committee choose who will fill the position.

Tina passed out hats to current Executive Committee members as a thank you and also thanked all people who had helped out with the meeting.

[WRP 2008-2009 Work Plan \(Eileen\)](#)

Due to lack of voting response by the membership, the Executive Committee had to make decisions about the project proposals. This year \$31,000 was awarded to three proposals. The three projects selected for funding in response to the RFP were: the Bob Wiltshire "Surveying, evaluating and identifying car washes as approved ANS cleaning stations" project for just over \$10,000; Carla Hoopes "Water Trail Users' ANS Prevention Workshops and Regional Model" for \$10,000; and the third project was Bob Wiltshire's "Using the river to educate boaters about ANS" for just over \$10,000.

Next meeting location: Several locations were suggested and the membership voted to hold the 2009 meeting in Montana and the 2010 meeting in Seattle. *NOTE: Due to scheduling conflict, this order was switched after the meeting by the Executive Committee. The fall 2009 annual meeting will be held in Seattle.*

[What's next for WRP? Ideas for changes, issues to tackle, or for new directions, etc.](#)

Tina is retiring at the end of October and Erin Williams will be taking her place. There was discussion about changes, issues or new directions for the Panel including how the panel funds projects. Blake Feist volunteered to head up the working group for the annual request for proposals. Volunteers for the work group at the meeting included Karen McDowell, Bob McMahon and Cynthia Tait.

The only standing committee is the ExComm. Each year new committees are made and through the year they disperse when the job is done. There was a discussion about adding other work groups. The two current groups are for the website and one for the brochure revision of the "Threats to the West." It was decided to add a Climate Change work group led by Louanne McMartin. Scott Smith offered to be on the CC committee.

Tina was given a present (picture of the WRP group) and plaque for her eight years of dedication as the Panel Coordinator. She gave a special thank you to everyone.

[Eveline Emmenegger, Emergence of Two Invasive Virus Pathogens in North America](#)

Spring viremia of carp virus (SVCV): clinical signs are pop-eye and swelling of the lower body cavity due to excess fluid and red fins filled with blood. Spring 2002 was the first report in North America in North Carolina. Out of 202 ponds there are 4 infected ponds. So they drained the ponds and disinfected them. Later in Wisconsin there was 10,000 kg of dead wild carp. Washington, Illinois, and Missouri also had detections. Exotic pathogen so testing has to be done in an aquatic biosafety level 3 lab, which is in Seattle. They injected the virus into species, hold for 30 days and then observe for signs of infection and then collect all fatalities. Working on a DNA vaccine. U.S. patent filed and paper coming out.

Viral Hemorrhagic Septicemia Virus (VHSV): Primarily in Europe and infects primarily rainbow trout. In the late 1980s it showed up in North America on both coasts. The virus can divide into four genotypes based on area of origination. Clinical signs include pinpoint hemorrhage in the eye and muscle thickening of swim bladder. The 2003 Muskie isolates do belong in the genotype 4 group but distinct enough to be named genotype 4b. Since the first detection, there has been a large fish die off and sick fish. It's been spreading geographically and through different freshwater species and there is concern about what happens if it spreads to the west. VHSV susceptibility studies have looked at Chinook salmon, pacific herring, Koi, rainbow trout and yellow trout. There are ways to detect VHSV in ballast water and have tested ballast water at the Great Lakes Initiative test facility in Lake Superior. Development of a database is underway.

[State Legislation Panel \(led by Karen McDowell\)](#)

There was a Panel discussion regarding state regulations. Presentations were provided by Colorado, California, Montana. Erin also mentioned the importation bill that was introduced in Congress from

Chairwoman Bordallo (Guam) of the Fisheries, Ocean and Wildlife Subcommittee and suggested people look at it. No action this year but likely to be reintroduced next year.

[Tara Teel, Integrating Human Dimensions Work into ANS Management](#)

Defined human dimensions of natural resource as a science is aimed at understanding the “social aspects” of natural resource management. The focus is on the individual instead of groups with the main focus being why humans behave the way they do. The applications in natural resources are impacts and preferences. There has been a change in views of natural resources and land management, at the same time there is a growing interest in species preservation and species diversity. There is also a declining participation in traditional forms of recreation and increasing participation in other forms of recreation (i.e. wildlife viewing, bird watching) and inappropriate education for interaction with animals (television shows), and ethical issues of treatment of animals. Understanding of values and attitudes allows us to anticipate and affect human behavior. Values are stable and enduring, and are less likely to change (within individuals). Useful segmentation tool to identify and ensure representation of diverse publics. Value shift is thought to be at the root of conflict over management issues, declines in hunting, growth of ballot initiative, etc. Website- <http://welcome.warnercnr.colostate.edu/hdnru.html>

[Review of Action Items and Wrap Up](#)

Tina reviewed the list of Action Items. Tina discussed a need to move forward with the existing WRP website and asked for volunteers who will team up to oversee that all relevant information can be found on the website. Jason Goeckler and Kevin Anderson agreed to help. The Executive Committee will vote for a new chair and vice-chair in October 2008.