

**NEW ZEALAND MUDSNAIL MANAGEMENT AND CONTROL PLAN TEAM**  
**MONTANA STATE UNIVERSITY, BOZEMAN, MONTANA**  
**TUESDAY, AUGUST 24, 2004, 8:00 A.M. TO 4:15 P.M.**

Members of the New Zealand Mudsnaill Management and Control Plan Team met in the Department of Ecology conference room to review the draft New Zealand mudsnail (*Potamopyrgus antipodarum*) management and control plan thus far and complete or assign unfinished sections. This document, which summarizes participant discussions, includes the following information<sup>1</sup>:

- Action items assigned during the meeting
- Updates on research and management efforts in the past year
- Review of the current draft plan
- Brainstorming for outreach and education efforts
- Development of a draft implementation plan
- Attendees and their contact information

**Goal**

To prevent and delay the spread of New Zealand mudsnail (*Potamopyrgus antipodarum*) to new areas, reduce the impacts of existing and new populations, and continue developing information to meet this goal.

**Objectives**

- To identify foci, pathways, and vectors
- To develop methods of detecting new populations
- To develop strategies and methods to control and manage populations
- To develop further understanding of ecological and economic impacts
- (Added during the meeting) To increase understanding of the need to deal with New Zealand mudsnails and gain political support for implementing national plan objectives

**ACTION ITEMS**

---

- In the next three weeks, Tina Proctor, U.S. Fish and Wildlife Service (USFWS), will contact people responsible for draft plan sections and remind them of their tasks. She will also see about scheduling another meeting in late January or early February, possibly in Las Vegas.
- The following people will submit their information to Proctor on or before **November 1**:
  - Billie Kerans and Dan Gustafson, both of Montana State University (MSU), will write about distribution and spread (for section 1 of the plan). Gustafson will include the latest map of New Zealand mudsnail distribution.
  - Paul Heimowitz, USFWS, and Proctor will write the section on state and federal regulations (in section 1).

---

<sup>1</sup> All hyperlinks in this document are indicated with colored text.

- Heimowitz will write information for the “Risk of Future Introductions” and “Management Options for Pathways” subsections regarding objective 1, soliciting help from Howard Burge (USFWS in Idaho) and David Bergendorf (USFWS in California). Kerans will e-mail Heimowitz a copy of a 1998 preliminary draft management plan.
- John Chapman, Oregon State University (OSU), and David Richards, MSU, will compile their information for the “Procedures” subsection regarding objective 2.
- Eileen Ryce (Montana Department of Fish, Wildlife, and Parks [MFWP]), Pat Clancy (MFWP), and Pat Dwyer (Dwyer Consulting) will work on the section regarding objective 3.
- Kerans and Mark Dybdahl, Washington State University, will write information for objective 4.
- Bob Wiltshire, Federation of Fly Fishers, will develop the section regarding the newly drafted objective 5 (see box above). He will also forward information to Proctor that he had previously provided to Bob Pitman, USFWS.
- All participants will look over the implementation table, add tasks and/or research questions, and submit their input to Proctor.
- Proctor will rewrite the introduction to the draft plan, and she and Dave Irving, USFWS, will compile people’s submissions into a readable document.
- Anyone with revisions to the existing draft plan will provide those revisions to Proctor as soon as possible.

## UPDATES

---

Because no New Zealand mudsnail conference was being held this year, members of the team updated others on relevant projects (Table 1). At times during the updates, team members raised other questions or issues that were then discussed. Table 2 includes these other topics.

**Table 1** Updates from meeting participants on relevant projects (2003–2004)

Name	Project Update
Billie Kerans, Faculty, Department of Ecology, MSU	<ul style="list-style-type: none"> <li>● Two of Kerans’s students are finishing up graduate work. David Richards’s doctoral dissertation is primarily about competition between the Bliss Rapids snail (<i>Taylorconcha serpenticola</i>) and New Zealand mudsnail. Chelsea Cada, who just defended for her master of science degree, has been studying New Zealand mudsnails’ effects on fish and interactions between mudsnails and other macroinvertebrates.</li> <li>● Kerans has also been working with the Fish Health Service on trying to infect New Zealand mudsnails with parasites that occur in the region. Efforts to date have included surveying for the parasites.</li> </ul>
Dan Gustafson, Research Scientist/Adjunct Assistant Professor, MSU	<ul style="list-style-type: none"> <li>● Gustafson continues sampling several rivers throughout the Northwest for macroinvertebrates, including New Zealand mudsnails. He also maintains a database of sites known to be infested with New Zealand mudsnails (<a href="http://www2.montana.edu/nzms/">www2.montana.edu/nzms/</a>). To date, New Zealand mudsnails are found within 56 4th-field hydrologic unit codes (HUCs). Recently added HUCs are adjacent to previously invaded HUCs.</li> </ul>

Name	Project Update
Mark Anderson, aquatic ecologist, Glen Canyon National Recreation Area, National Park Service	<ul style="list-style-type: none"> <li>• Since 2001, the National Park Service (NPS) has operated a zebra mussel prevention program whereby visitors hauling boats are asked about use east of the Rocky Mountains. If boats were used in one of the infested states, visitors are given a packet of information and coupon for a free boat wash. This year, the NPS is trying to increase compliance.</li> <li>• Although he wanted to post signs about aquatic nuisance species (ANS) this year, he ran into problems with the signs not meeting NPS requirements. With help from Bob Pitman, USFWS, he is printing temporary signs. He also has someone researching signs used elsewhere that might meet NPS standards.</li> </ul>
Paul Heimowitz, Aquatic Nuisance Species/Research Coordinator, Region 1, USFWS	<ul style="list-style-type: none"> <li>• During development of a hazard analysis and critical control point (HACCP) plan, the Hagerman National Fish Hatchery in Idaho discovered New Zealand mudsnails in its water supply. He had wanted to have copies of the risk assessment (potential consequences of stocking from the hatchery) available at today's meeting, but it wasn't ready. Other Lower Snake River Compensation Plan hatcheries will also be developing HACCP plans. In the meantime, he and others are wrestling with the question of continued stocking. New Zealand mudsnails haven't appeared to establish in many of the stocked locations, but no one can be sure why not or whether those locations are truly negative sites. Christine Moffitt, University of Idaho, is starting lab work on ozone, copper barriers, and other possible methods for keeping snails out of raceways and stocking trucks.</li> <li>• His office reprinted watch cards (with minor revisions) to be distributed at Lewis and Clark Bicentennial and other events.</li> </ul>
John Chapman, independent researcher, Hatfield Marine Science Center, OSU	<ul style="list-style-type: none"> <li>• Chapman recounted a program on the Oregon Coast in which at-risk students work on outdoor projects. Through this program, he trained these students in a standardized method for surveying Devils Lake (near Lincoln City) and other water bodies for New Zealand mudsnails. Mudsnails were found only in Devils Lake, where they were pervasive though patchy. He is still resurveying some of the sites that were determined to be negative to verify results.</li> </ul>
Bob Wiltshire, Director, Fly Fishing Discovery Center, Federation of Fly Fishers	<ul style="list-style-type: none"> <li>• For the last five years, ANS have been one of the two national conservation priorities for the Federation of Fly Fishers. The organization has been actively supporting studies in California regarding New Zealand mudsnail removal from angling gear. Anglers believe that they are spreading mudsnails and that the mudsnails have ruined angling in spring creeks on the Yellowstone. Because there are no data for these spring creeks, no one knows whether this belief is accurate. Wiltshire has been encouraging anglers to allow research there.</li> </ul>
Bettina (Tina) Proctor, Aquatic Nuisance Species Coordinator, Region 6, USFWS	<ul style="list-style-type: none"> <li>• Within Region 6, Mark Vincent has finished surveying for New Zealand mudsnails in Utah, and his report is due out in September. To date, Utah is the first state to do systematic surveys statewide. Vincent is also doing some gut passage studies.</li> <li>• HACCP plans are in place for all of the hatcheries in Region 6.</li> </ul>
Dave Irving, USFWS	<ul style="list-style-type: none"> <li>• Irving attended HACCP training last March, and more training is scheduled for this month. The USFWS is getting more "trainers trained." He hopes that these efforts prove to be successful since New Zealand mudsnails still don't seem to be high on many samplers' priority lists.</li> </ul>
Pat Dwyer, consultant, Dwyer Consulting	<ul style="list-style-type: none"> <li>• Dwyer published an article about killing New Zealand mudsnails with heat.</li> <li>• He was recertified as an aquatic herbicide applicator.</li> </ul>

Name	Project Update
Eileen Ryce, Aquatic Nuisance Species Coordinator, MFWP	<ul style="list-style-type: none"> <li>Ryce's efforts have been focused on outreach to agency biologists, fire fighters, boaters, and anglers. She has gleaned some interesting and surprising information from angler surveys: the extent to which people are moving around is "frightening." On the other hand, 90% of those using the waters are aware of ANS.</li> </ul>
David Richards, EcoAnalysts, Inc., and MSU	<ul style="list-style-type: none"> <li>Richards's dissertation should be online sometime during the fall semester. He has been studying life history and ecology of the New Zealand mudsnail. In addition, he has studied effects of competition between New Zealand mudsnails and Bliss Rapids snails.</li> </ul>
Liz Galli-Noble, Assistant Director for Research, Montana Water Center	<ul style="list-style-type: none"> <li>Galli-Noble recently joined the Montana Water Center. She is responsible for administration of biological research programs such as the Whirling Disease Initiative and Wild Fish Habitat Initiative.</li> </ul>

**Table 2** Questions or issues that were raised and discussed during the updates

Issue Raised	Discussion Points
Presence/absence	<ul style="list-style-type: none"> <li>Gustafson reported on a HUC in northern Idaho (Kalispell Creek, a tributary to the Priest River) where he had previously found 1 New Zealand mudsnail. On his last visit, he found no specimens, so apparently no colony has become established. He wondered whether to eliminate this site in the database or code it differently. Team members preferred the latter: a different color dot on the map could indicate where mudsnails had been but are no longer found.</li> <li>Negative results are problematic. Criteria should be developed for determining whether a site is, in fact, negative for New Zealand mudsnails. If such criteria are developed and negative results can be reported based on standardized methodology, it would be useful for the database to also contain those results to facilitate evaluating which sites have been surveyed (even without finding New Zealand mudsnails) and which have not.</li> </ul>
Suitable habitat	<ul style="list-style-type: none"> <li>Although we don't really understand what New Zealand mudsnails need to become established, they seem to prefer spring-fed and partially regulated rivers. In some locations, they flourish year-round, while in others, they have to reestablish each year.</li> </ul>
Vectors and pathways	<ul style="list-style-type: none"> <li>Possibilities include boats, buckets, angling equipment, school children and teachers, Velcro on shoes and pants, and others.</li> <li>A research possibility may be to look at fish stocking efforts and New Zealand mudsnail infestations to see if there is a relationship.</li> </ul>
Genetics	<ul style="list-style-type: none"> <li>Are the New Zealand mudsnails found in the Columbia River estuary and Devils Lake, Oregon, the same clone as those found in the Snake River?</li> </ul>
Data collection	<ul style="list-style-type: none"> <li>Volunteers may be useful for gathering some kinds of information or talking with groups.</li> </ul>
Outreach	<ul style="list-style-type: none"> <li>When asked whether they would support research funding that designated part of the funds for research, participants were ambivalent. On one hand, outreach is vital. On the other hand, researchers aren't trained in outreach: they may use methods that they think will be effective but which really aren't.</li> </ul>

## CURRENT DRAFT PLAN

---

Proctor had used the green crab management plan as a foundation for developing the New Zealand mudsnail plan. She compiled information that people had sent her after last year's meeting (August 27, 2003) and wrote the introduction and some summaries. Some information is still needed. She asked people for feedback on the plan. The following suggestions regarding content and format were provided:

- Summarize information more briefly in the body of the plan and move explanatory information into appendices.
- Keep the plan focused on “action.”
- Prioritize activities, perhaps within each objective and also overall. Use implementation tables to show high-, medium-, and low-priority activities.
- Include enough background and detail in the plan (or executive summary) to justify resource allocation for New Zealand mudsnail management and control.
- Despite research needs being incorporated under each objective, include a table that pulls together all the research needs. Consider the same approach for outreach and education.
- Write a really strong executive summary that includes what the problem is and what needs to be done about it. Possibly pull the implementation table forward into the executive summary.
- Rewrite the introduction as an action plan rather than a summary of information. Cite appendices when necessary rather than pulling appended information forward into the plan.

Following discussion of overall impressions, the group went through each section, provided input, and assigned tasks (Table 3).

**Table 3** Sections, discussion items, and assigned tasks

Section and Assignment	Discussion Items
<b>Introduction</b> —Billie Kerans and Dan Gustafson	<ul style="list-style-type: none"> <li>• The section on distribution and spread needs to be developed.</li> </ul>
Tina Proctor and Paul Heimowitz	<ul style="list-style-type: none"> <li>• The section on state and federal regulations needs to be finished. This section does not have to include general ANS information. But it can include states' policies on the importation of fish from infected areas. Dates should be included so that dated information can be revised in the future.</li> </ul>
<b>Objective 1</b> (Identify foci, pathways and vectors)—Paul Heimowitz (with help from Howard Burge and David Bergendorf)	<ul style="list-style-type: none"> <li>• Much of the information included can be moved to an appendix.</li> <li>• The information is fairly Oregon-centric at this point.</li> <li>• Discussion of vectors can only be general given the lack of data on this issue.</li> <li>• The emphasis should be on being conservative (if we don't know, don't risk it!).</li> </ul>

Section and Assignment	Discussion Items
<b>Objective 2</b> (Develop methods of detecting new populations)— David Richards and John Chapman	<ul style="list-style-type: none"> <li>• This objective tends to focus on the “how,” but is there any information about the “who”? Which agencies are requiring their field workers to do cursory surveys for New Zealand mudsnails? Each state’s ANS coordinator should be working with state agencies on such efforts, but what happens with federal agencies, tribes, and other entities?</li> <li>• Methods and data gathered often have to be defensible in court. Some sampling efforts may be intensive, while others are more cursory. How do we calibrate confidence in information? We also have to ensure that money and time aren’t being wasted on efforts that won’t withstand scrutiny.</li> <li>• Management decisions are still being made, despite the lack of biological data about New Zealand mudsnails.</li> <li>• Whenever possible, dates should be included so that dated information can be easily revised during the 5-year document cycle.</li> </ul>
<b>Objective 3</b> (Develop strategies and methods of control and management)— Eileen Ryce, Pat Clancy, and Pat Dwyer	<ul style="list-style-type: none"> <li>• Some new information may be available from California’s work on gear and the University of Idaho’s work on hatchery and fish stocking operations (Christine Moffitt).</li> <li>• Outreach and education will be very important in this objective.</li> <li>• Eradication is unlikely to work in most situations. Its emphasis in this draft raised questions its feasibility as a control method. HACCP plans should be developed before any other options are considered.</li> <li>• A detection plan is hard to justify without an eradication plan. If eradication is infeasible in most situations, what is the appropriate rapid response to mudsnails in a new location? Perhaps criteria could be included for when eradication might be an option. Or options and their likely consequences could be included so that decisions can be made case by case. This plan has to have national applicability.</li> </ul>
<b>Objective 4</b> (Develop further understanding of ecological and economic impacts)— Billie Kerans and Mark Dybdahl	<ul style="list-style-type: none"> <li>• Public outreach is difficult when the ecological and economic impacts of New Zealand mudsnails are unknown. However, we have to assume that the impacts are bad.</li> <li>• Kerans will write about environmental costs. In addition, she has data about the economic impacts of the zebra mussel. These data may be good to reference. Indirect effects are difficult to measure, and direct effects are costly to measure.</li> <li>• Much of this section will include discussion of the research needs. People want to know how the New Zealand mudsnail affects fishery resources in their areas.</li> <li>• Per Wiltshire’s earlier comment about anglers’ belief that mudsnails have ruined angling in spring creeks on the Yellowstone, someone should see whether bookings in that area have decreased.</li> </ul>
<b>Objective 5</b> (Increase understanding of the need to deal with New Zealand mudsnails and gain political support for implementing national plan objectives)	<ul style="list-style-type: none"> <li>• Wiltshire suggested a list of target audiences, outcomes, and possible vehicles for achieving the outcomes (Table 4). The media may be another audience or a means for spreading the message to the target audiences. Wiltshire will develop this objective, including implementation approaches (Table 5).</li> <li>• Although outreach and education is included in the other objectives, it was also suggested as a separate objective. An advantage of such an objective is the inclusion of research aimed at understanding effective outreach and education.</li> </ul>

**Table 4 List of target audiences, outcomes, and possible vehicles for achieving those outcomes**

Audience	Outcome	Message and Means
<p><b>Resource allocators</b> (politicians) (may want to know about the priority relative to other invasive species)</p>	<ul style="list-style-type: none"> <li>Allocate resources (personnel, funds, statements of intent, etc.)</li> </ul>	<p><b>Message:</b> The New Zealand mudsnail is a real and serious threat to resources and the economy. (We don't know the threats, but we need to contain the threats, so we have to find out what they are.)</p> <p><b>Means:</b> executive summary of the plan, PP presentations directly to resource allocators and key staffers, celebrity spokespeople</p>
<p><b>Agency administrators</b> (some of whom might be resource allocators and set agendas for agencies)</p>	<ul style="list-style-type: none"> <li>Make informed management decisions or direct the resources appropriately</li> </ul>	<p><b>Message:</b> (Message should be similar to that above but with added case histories and suggestions such as creating a state ANS plan and rapid-response plan.)</p> <p><b>Means:</b> executive summary, full plan, briefings to key staffers, international organizations, celebrity spokespeople, PP presentations with case histories (maybe about other invasive species)</p>
<p><b>Implementers</b> (managers, biologists)</p>	<ul style="list-style-type: none"> <li>Make wise daily operational decisions (prevention, detection)</li> <li>Become additional communicators to the public</li> </ul>	<p><b>Message:</b> The New Zealand mudsnail is a real and serious threat. You are an important part of the discoveries we make. You can make a difference (detection, monitoring, communicating to the public, raising awareness of ANS in general).</p> <p><b>Means:</b> reports, presentations at professional meetings (such as American Fisheries Society), agency administrators, interagency meetings, division meetings, state ANS coordinators</p>
<p><b>Public</b> with the following subgroups:</p> <ul style="list-style-type: none"> <li><b>Anglers</b> (or “keenly interested” stakeholders to include conservation groups)</li> <li><b>Other water resource users</b> (recreationists, equipment operators, etc.)</li> <li><b>General</b> (such as those on the Lewis &amp; Clark trail)</li> <li><b>Youth</b></li> </ul>	<ul style="list-style-type: none"> <li>Take personal responsibility for reducing spread of New Zealand mudsnail</li> <li>Initiate change on a higher level</li> </ul>	<p><b>Message:</b> Invasive species can be bad. You could be part of the problem. You can take action. (The action part may differ by subgroup: clean your gear and don't haul bait; if it doesn't look familiar, let someone know; etc. The action needs to be short and simple)</p> <p><b>Means:</b> editorial coverage in magazines appropriate for each subgroup, celebrity spokespeople, manufacturing companies (stickers on boats, reels, and waders; John Deere and Caterpillar), insurance companies, trade organizations, radio spots (For youth) state REA coordinator, stations at watershed festivals and kids days, coloring or comic book, video game</p>

## IMPLEMENTATION PLAN

---

Proctor worked at the whiteboard as people brainstormed implementation tasks and related research questions for categories based on the objectives. There was not enough time to complete the implementation table or prioritize tasks. Table 5 shows the preliminary draft of the implementation plan, while issues not shown in the table are summarized below.

- **Prevention (Objective 1)**—If we could predict areas that are susceptible to New Zealand mudsnail invasion, we might be able to protect them. Perhaps some areas should be actively protected (such as cutthroat trout streams), even if they don't seem to be at risk.

Vectors in/out can vary from location to location, depending on human uses. A suite of vectors could be identified.

It may be dangerous to send a message that, if a place is already infected, new introductions don't matter. Clones may differ or be developing different mutations.

- **Detection and Forecasting (Objective 2)**—Detection and control are important once a location has New Zealand mudsnails. However, some things may overlap with prevention, such as monitoring for mudsnail populations and forecasting or predicting susceptible locations.

The meanings of the terms *containment* and *control* differ in ANS documents. Containment means to reduce the spread. It is one means of control. Control means to reduce the impacts but not necessarily the spread. Control generally involves long-term action, while containment may be short term.

- **Eradication, Control, and Mitigation (Objective 3)**—Mitigation cannot be planned; it must be determined case by case. Perhaps a footnote could be added: "Require mitigation by those found guilty of introducing New Zealand mudsnails." Or perhaps this information could be included in the narrative of the appropriate section.
- **Ecological and Economic Impacts (Objective 4)**—Broad tasks may lead to funding difficulties. For example, the huge task of "researching ecological impacts" might have a \$7 million price tag. Resource allocators will balk at such a number. But if individual research projects aimed at understanding the ecological impacts are included, funding will be easier to obtain. On the other hand, these research projects may not be identified until after the plan is submitted and approved, and a list here might limit what can be done.
- **Information and Data Management**—Many reporting agencies sample water bodies. We need to get them to include New Zealand mudsnails in their sampling efforts.
- **Outreach and Education (Objective 5)**—Team members left this section of the implementation plan for Bob Wiltshire to draft.

**Table 5 Preliminary implementation plan and resulting research questions**

Task	Fund Source	Task Lead	FY05	FY06	FY07	FY08	FY09
<b>Prevention</b>							
A. Contain in contaminated areas.							
<ul style="list-style-type: none"> <li>• What are the vectors out? (fish, boats, boots and other gear, buckets)</li> <li>• How do we stop species from exiting?</li> </ul>							
B. Prevent introduction into vulnerable/valuable areas.							
<ul style="list-style-type: none"> <li>• What constitutes a vulnerable area? (edges of lakes, fishing access sites, productive rivers, spring creeks, tailwaters, regulated rivers, certain biological associated [see Dan Gustafson])</li> <li>• How do we stop introductions into these areas?</li> </ul>							
<b>Detection and Forecasting</b>							
A. Establish a current accurate assessment of New Zealand mudsnail distribution and abundance.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
B. Develop suggested field measures.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
C. Develop an effective reporting system. (website currently exists).							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							

Task	Fund Source	Task Lead	FY05	FY06	FY07	FY08	FY09
D. Develop a national risk assessment map.		Billie Kerans					
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
<b>Eradication, Control, and Mitigation</b>							
A. Develop rapid-response template (list what needs to happen once a population is found) and rapid-response options.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
B. Develop long-term control options.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
<b>Ecological and Economic Impacts</b>							
A. Develop a prioritized list of research needs regarding ecological impacts.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
B. Develop a prioritized list of research needs regarding economic impacts.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
<b>Information and Data Management</b>							
A. Continue, improve, and promote website.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							
B. Coordinate with other ANS tracking systems.							
<ul style="list-style-type: none"> <li>• [Research Question]</li> <li>• [Research Question]</li> </ul>							

Task	Fund Source	Task Lead	FY05	FY06	FY07	FY08	FY09
C. Develop information sharing with other agencies. <ul style="list-style-type: none"><li>• [Research Question]</li><li>• [Research Question]</li></ul>							
<b>Outreach and Education</b>							
A. [Task] <ul style="list-style-type: none"><li>• [Research Question]</li><li>• [Research Question]</li></ul>							
B. [Task] <ul style="list-style-type: none"><li>• [Research Question]</li><li>• [Research Question]</li></ul>							
C. [Task] <ul style="list-style-type: none"><li>• [Research Question]</li><li>• [Research Question]</li></ul>							

## WRAP UP

---

Proctor thanked people for their participation. She then reiterated tasks for which people had volunteered (see **Action Items**). The team will tentatively meet in late January or early February, possibly in Las Vegas.

## ATTENDEES

---

**Table 6** Names and contact information for those attending the August 2004 New Zealand Mudsnail Management and Control Plan Team meeting

Name & Affiliation	Phone	E-mail
Mark Anderson, NPS	(928) 608-6266	<a href="mailto:mark_anderson@nps.gov">mark_anderson@nps.gov</a>
John Chapman, OSU	(541) 867-0235	<a href="mailto:John.Chapman@OregonState.edu">John.Chapman@OregonState.edu</a>
Natalie Chavez, Chavez Writing & Editing	(208) 429-8944	<a href="mailto:natalie@chavezwriting.com">natalie@chavezwriting.com</a>
Pat Dwyer, Dwyer Consulting	(406) 587-0910	<a href="mailto:wdwyer6466@aol.com">wdwyer6466@aol.com</a>
Dan Gustafson, MSU	(406) 994-2771	<a href="mailto:dlg@rapid.msu.montana.edu">dlg@rapid.msu.montana.edu</a>
Liz Galli-Noble, Montana Water Center	(406) 994-4841	<a href="mailto:lg noble@montana.edu">lg noble@montana.edu</a>
Paul Heimowitz, USFWS	(503) 736-4722	<a href="mailto:paul_heimowitz@fws.gov">paul_heimowitz@fws.gov</a>
Dave Irving, USFWS	(435) 789-4078	<a href="mailto:dave_irving@fws.gov">dave_irving@fws.gov</a>
Billie Kerans, MSU	(406) 994-3725	<a href="mailto:bkerans@montana.edu">bkerans@montana.edu</a>
Tina Proctor, USFWS	(303) 236-4515	<a href="mailto:bettina_proctor@fws.gov">bettina_proctor@fws.gov</a>
Amy Rose, Montana Water Center	(406) 994-7644	<a href="mailto:rose@montana.edu">rose@montana.edu</a>
David Richards, MSU and EcoAnalysts, Inc.	(406) 582-9388 (406) 580-7816	<a href="mailto:davidr@montana.edu">davidr@montana.edu</a>
Eileen Ryce, MFWP	(406) 444-2448 (406) 453-2275	<a href="mailto:eryce@state.mt.us">eryce@state.mt.us</a>
Bob Wiltshire, Federation of Fly Fishers	(406) 222-9369	<a href="mailto:ffdc@fedflyfishers.org">ffdc@fedflyfishers.org</a>