



Building a Mining Toxins Working Group: A Blueprint for California

**Mining Toxins Working Group Charrette
Clair Tappaan Lodge
10/21/09 -10/23/09**

Charrette Question:

What is the most effective way to support education, outreach, leadership and collaboration among the important community, government, business, and scientific efforts necessary to build the capacity to address the many facets of mining's toxic legacy in California?

Leading scientists, regulators, health professionals, local government officials, tribal leaders and conservationists met for three days at the Clair Tappaan Lodge near Donner Summit to discuss this key question (see list of participants, Appendix 3). These advisors who serve as an informal "Mining Toxins Working Group" provided their best insights on what was debated in informal and often heated discussions. We thank them for their participation, however the conclusions drawn by this document are solely the responsibility and opinion of The Sierra Fund.

Table of Contents

I.	What are the Goals of the Working Group?	Page 2
II.	What new policies and research programs need to be developed or managed by the Working Group, and what is the best infrastructure for managing coordination?	Page 7
III.	Where is the best institutional home for the WG?	Page 19
IV.	What sources of funding are available or can be developed for this work?	Page 20
V.	Charrette Question Answered	Page 24
VI.	Appendices	Page 25



I. What are the Goals of the Working Group?

- Are there existing models that can inform our Working Group?
- What is the regional scope of the Group?
- Who needs to be a part of this Working Group?

Are there existing models that can inform our Working Group?

A number of existing coalitions or other groups can serve as models for our Working Group. These include the Delta Tributaries Mercury Council (a subcommittee of the Sacramento River Watershed program), the CA Abandoned Mine Lands Forum and associated Agency Group (now housed in the California Department of Conservation), the National Association of Abandoned Mine Land Programs, the Sacramento Region Cleaner Air Partnership (a coalition of government, business and nonprofit conservation and health organizations), Integrated Regional Water Management Programs (IRWMP), the NW Economic Adjustment Initiative, the Western Mining Action Network (WMAN), and Western Organization of Resource Councils (WORC). (See Appendix 1 for more details on each model.)

These models have different forms based on what brought them together and what holds them together, what they are currently doing and how they could do it better. A key function of collaboration is to make things easier while helping solutions forward in a timely manner. There was agreement that the best coalition/coordination effort would:

- Have a clear set of goals and an implementation plan
- Be broadly inclusive of government, business, community, public health, science, conservation and academic interests
- Create collaboration and common solutions
- Respond to policy as well as scientific challenges
- Use technology to ease communication (website, video & teleconference)
- Have specific and sustainable funding sources

These various models and coalitions are serving many but not all of the needs of an effective regional effort to address abandoned mines and legacy mining toxins. While these have good utility in terms of information, networking and building relationships, there are **gaps** in the current landscape of efforts around these issues:

1. **The effort needs to be more accessible to a wider range of players, especially local government:** One key player that needs to be included more effectively is local government. Local government has an important stake in this issue, and they need to be deeply engaged in the solutions. Land use decisions are critical in addressing abandoned mines. County

health departments need to have a good playbook on mine hazards and relationships with the state and sometimes federal agencies that are affected. For example, in responding to the problems that The Sierra Fund documented on federal lands contaminated by asbestos which had been disturbed as part of a mining operation, we focused first on contacting appropriate elected officials and brainstorming solutions across various jurisdictions, rather than working with just one level of government.

In addition, these existing coalitions have often not included Tribal government, or low-income and very rural community members. It will take focused effort to involve these constituencies in future work.

2. **Human health issues have been largely ignored:** The largest gap in the current efforts to address mining impacts concern the human health issues. Very little outreach has been done to include public health officials or doctors in the policy discussions around mining toxins.
3. **Public education has been nearly non-existent:** Effective public education is needed to raise awareness of this problem and to generate support for its solution. The public has a right to know about this problem, but unfortunately, most residents of affected communities are unaware it even exists – and those who do have no forum for their concerns. It is essential that good information leads this debate, and that the community helps to lead the solution.
4. **Better coordination on policy issues is needed:** An accessible clearinghouse on legislation and policy impacting these issues is lacking.
5. **Private land liability and remediation issues need to be clarified:** Mine-scarred private land issues and their impacts on financial institutions and communities need to be understood, especially in designing incentives for cleanup on private lands. Until these delicate issues are clearer, private land issues will be tricky to include in the work.
6. **Economic impacts need attention, too:** Information on the economic impact of mining toxins, and “green job” potential offered by remediation, needs to be part of the ongoing discussion.

Key Fact: Abandoned Mine Lands Ownership

67% are on federal land
31% are on private land
2% are on state or local government land

What is the best regional scope for the Group?

While the AML issue is really international, the solution for our region (the “problem shed”) must match the problem’s scale. Taking the issue on a state-wide basis, it is clear that different regions have different problems. There are several issues to consider in the scope of the Group:

- Urban areas have the vast majority of votes and money, while much of the problem is in the more rural Sierra and desert portions of the state;
- Communities that have become aware of the problem will be the most effective advocates, as well as the most concerned, and many of these are in the rural areas;
- Historic mining communities often rely on tourism for income (toxins are not an attractive public relations message), and so there is sensitivity all around gold mining history;
- Information from international arenas needs to be integrated into our work;
- Any collaborative projects will require multi-year planning capacity;
- Any Working Group will require stable funding and consistent leadership;
- Real action on this issue will require a statewide commitment.

There are two obvious options:

1. A Working Group focused on the Sierra Nevada region, with the potential for refining the model and exporting it; or
2. A statewide Working Group, with different chapters (either based on region or on issue, such as water quality or dust).

Starting the Working Group in two or three communities that are ripe for action, then refining the model before exporting it to other areas was seen as the most effective way to move. This would include taking projects from “the cradle to the grave” and demonstrating how these technologies or processes may be applied elsewhere.

From The Sierra Fund’s outreach, we have seen that certain parts of the Sierra region are more responsive, especially Plumas, Calaveras, Mariposa, Madera, Nevada and Sierra Counties. Any activities in these communities need to be continually linked to and help to build statewide action.

Attracting New Participants

The informal Working Group convened by The Sierra Fund has enjoyed excellent participation from local, state and federal agencies, as well as from some nonprofit organizations. We need to improve participation of several key stakeholders, including:

- **Federal Agencies:** EPA Region 9, Bureau of Reclamation, Army Corps of Engineers, USDA Rural Development, National Park Service, Resource Conservation Districts, and UC Cooperative Extension. Additionally, we will keep working with established partners at the US Forest Service, Bureau of Land Management and US Geological Survey.
- **State Agencies:** Departments of Water Resources, Fish & Game, State

Parks, State Lands Commission, and OEHHA. Continue working with established partners at DTSC, the state Water Resources Control Board and the regional Water Boards.

- **Education Institutions:** Professors, researchers and graduate students from California State University, University of California, University of Nevada, and Community Colleges.
- **Tribal Government:** Tribal chairs, cultural, environmental and health directors.
- **Businesses:** Mining, assessment and remediation industry, chambers of commerce, bankers and real estate interests, and economic development organizations.
- **Nonprofits:** Chambers of Commerce, service clubs, labor unions, fire stations, land trusts, The Nature Conservancy, Physicians for Social Responsibility, Ducks Unlimited, CalTrout, Audubon, Sierra Club, and Sacramento River Watershed Program.

Who should be involved in the WG?

Members of the public including individuals directly exposed to mining toxins
Nonprofit organizations
State, local and federal government agencies
University professors and researchers
Elected officials
Healthcare providers
Tribal Government and Tribal leaders
Business interests
Leaders from mining (including gravel and sand) companies
Tourism-related leaders
Developers/real estate agencies
Remediation technology firms
Environmental scientists and engineering consultants
Scientists from public and private universities

Draft Mission Statement of the Working Group:

Support stakeholders and communities within affected areas to recognize and believe in the problem, help incubate and implement science, business and policy solutions to address the problem, inspire leaders to move affected communities into action to fix the problem, and create an accessible clearinghouse of information and funding to support these activities.

Conclusion: What are the goals of this Working Group?

An effective and practical plan to develop the group needs to be developed. Over the next three years, the **goals** for the collaborative working effort would include:

1. Increase public awareness of the problem, including risks
2. Attract and retain the participants that the Group needs to be effective, including involvement of those living near abandoned mines
3. Create an effective clearinghouse of information and a good database
4. Ensure good communication among partners
5. Bring a focus to protection of public health from mining toxins, including gaining understanding of public exposure and impacts (identification of risks and remediation tactics)
6. Stimulate development of and funding for innovative remediation technologies, public health and environmental science research and public education.

Activities that would support these goals include:

- A. Create a prioritized list of sites and activities needed
- B. Identify pilot projects and facilitate all remediation activities including identifying funding, building community support, creating a plan of action, and implementing that plan to completion
- C. Improve posting/signage of hazardous sites
- D. Develop understanding of economic impact of problem, including methods for estimating cost of cleanups and potential for job development
- E. Develop educational curricula for the public, especially schools
- F. Advocate for policy changes, especially those that help incentivize remediation or clarify liability issues
- G. Develop clear standards for cleanup to ensure high quality remediation
- H. Advocate for funding for remediation and enforcement of key environmental statutes from public and private sources



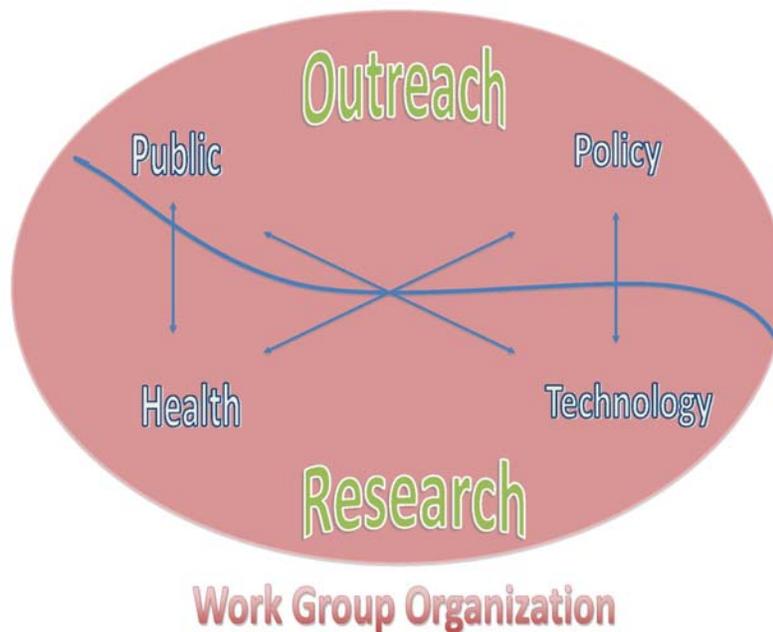
II. What new policies and research programs need to be developed or managed by the Working Group, and what is the best infrastructure for managing coordination?

- How should the group be organized: By region? By toxin? By activity?
- How can the members of the Group manage information sharing?
- What kinds of decisions should the group make, or avoid, and what process should be used for decision making?

The AML problem requires bringing people and ideas together. Working across jurisdictions of local, state, and nations makes the effort stronger, but it requires everyone involved to pioneer different ways of thinking.

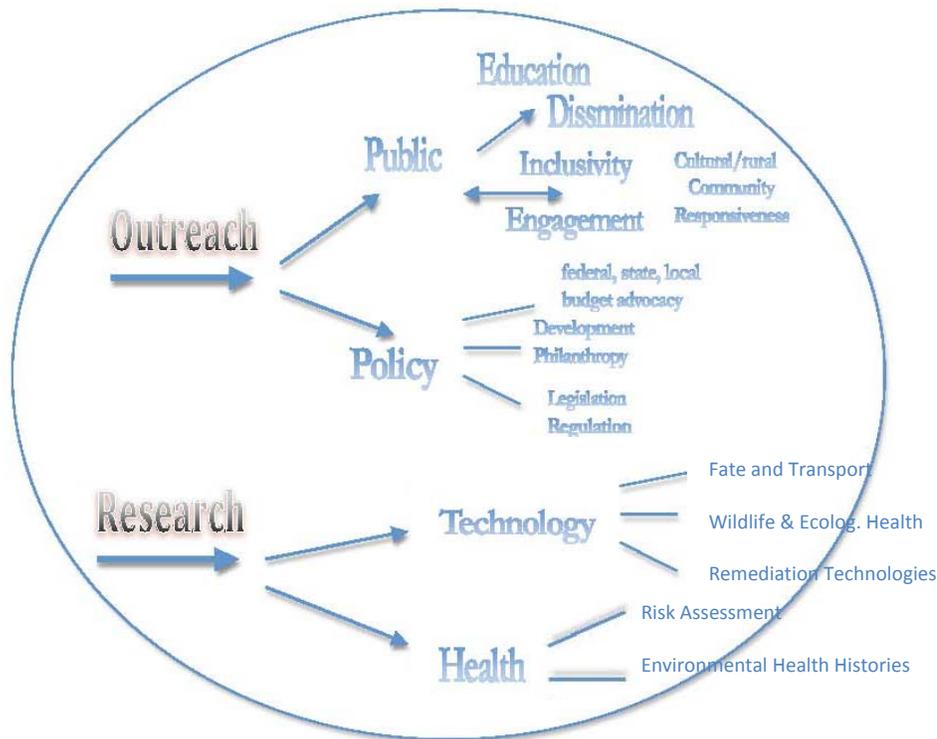
The size of the issue also requires that there be some “subgroups” of the folks working on common issues together. While there is great value in integrating all parts of the group on a regular basis, there is also a need to focus and not to duplicate existing efforts. The Working Group will have four basic Committees:

1. Environmental Science & Technology
2. Public Health
3. Policy Development
4. Public Outreach



For the interim development period, the Committees will be led by a Working Group member and a TSF staff person. These subgroups will operate within and steward a “culture” of respect, acknowledgement and trust between participants.

A complete, but draft workplan for each Committee will be developed by mid September 2010. The workplans will be discussed, revised and adopted at the first ever “Community Summit on Historic Mining Impacts in the Sierra Nevada,” a public conference to be held October 5-6, 2010 in Nevada City, CA.



Work Group Task Organization

Committee workplans will be guided by the following observations and suggestions:

1. Environmental Sciences & Technology Committee

This committee will provide overall coordination on the science and technology issues that are foremost in the discussion including assessment and remediation. The Committee will have three areas of focus, coordinated around the following topical subcommittees:

- A. Remediation Technologies
- B. Fate and Transport of Toxins
- C. Wildlife and Ecological Health Effects

A. Remediation Technology Subcommittee

The Sierra Fund’s role in the development of a Remediation Technology Subcommittee is to promote connection among the various agencies and interested parties to support strategic development of technologies and practices for mine assessment and remediation that meet high scientific standards, using a transparent process to empower public participation in the program.

This subgroup will help to “incubate” new remediation practices. They will inventory and assess existing technology by issue (Hg, AMD, etc), coordinate with government agencies and other stakeholders to prioritize needs, develop a strategic “pilot project” selection process to evaluate existing technologies and practices and demonstrate capacity of promising new technologies, and then support implementation of the pilot projects. This group could coordinate its efforts with the National Abandoned Mine Land Projects (see Appendix 1).

Define and prioritize research needs: The Working Group will look at current remediation sites and activities to create a better understanding of what is working with an eye toward effectiveness, potential new technologies that might be better or less expensive, and long term maintenance. The Working Group will define and prioritize current remediation technology research questions. A first step will be to look at what works now, and what gaps exist. In some cases basic research is needed to answer basic questions before any steps are taken, in other circumstances there is already a great deal known about technologies or toxins.

Steps for developing appropriate remediation technology

- Know who is doing cutting edge scientific research
- Articulate Steps & Criteria for new technology
- Encourage technological development by having funding available for innovation
- Coordinate with appropriate agencies
- Get community input and approval in the process

Inventory and assess existing technologies by issue: The group will develop formats for evaluating technology that meet regulatory criteria to help guide development of best management practices and technologies. The group will provide science-based peer and technical review and advice on developing new technologies across a variety of constituents of concern, as well as helping to promote pilot projects conducted by participants, highlight existing projects’ successes and failures, learn about proposed projects and technologies, and create opportunities for “site visits” of new practices or technologies as they are implemented and monitored. The group will to develop protocols for remediation technology evaluation.

Coordinate activities with government regulators and stakeholders:

California and federal officials are working to develop a “Memorandum of Understanding” for coordinating their efforts to address and prioritize their activities around AML issues. The Sierra Fund will leverage the roles of these state, federal and local agencies to systematically address problems. For example, the group could help develop a resource guide for “dischargers” (local government, private land owners etc) that identifies current best management practices that are supported by the regulatory agencies. The group could also help project proponents understand permitting requirements for their proposed project or technology and sort through any outstanding “Good Samaritan” concerns of the project.

Select strategic Pilot Projects/technologies: As the opportunities arise for site remediation or technology evaluation, the limited resources available for research need to be strategically invested. A site-specific approach is easiest to manage, but there is also value in taking a whole program approach. The Working Group could help develop a “ready to go” list of projects worth investigating, organized by watershed or toxin. A decision support tool could be developed and used to evaluate and prioritize projects in the region. For example, projects could be required to adopt best management practices including developing baseline information prior to beginning the project, as well as monitoring after the project is complete.

An important factor in selecting pilot projects should be urgency. For example, research about how to manage the state and federal water projects that include on-stream water impoundments is crucial to reduce mercury methylation. Another priority is to understand better how mercury behaves behind dams, and to characterize the material that is being held back in reservoirs behind these dams. As a large percentage of abandoned mines are on federal land, a majority of these projects will likely be on these lands. The Working Group could take on an example project for each chemical of concern (arsenic, lead, mercury). This way a variety of technologies can be evaluated quickly, and areas can be identified where new technology needs to be developed.

Stimulate new technology: There could be a “technology competition” sponsored by public funds and mentored by scientists at university and government institutions to stimulate new methods for difficult problems such as mercury removal or acid mine drainage. High priority projects on public land that are ready to go need investment from public sources. Development of new technologies that are employed in this project will come from both public sources (such as the state university system) and private entrepreneurial activities. Information on patents and options to evaluate technology should be part of this process.

Each pilot project needs a “technical advisory committee” to provide technical review and advice on these projects, as well as to evaluate their outcomes. For top priority pilot projects that include some privately-owned land, responsible party research could be part of the project effort. Implementation of projects should

include metrics imposed to meet agency regulations.

Coordinate with other Working Group Committees: “Cross pollination” to ensure that policy ideas are grounded in a good understanding of science and regulatory factors is crucial.

Ensure community involvement as part of the project: The Working Group will develop a culture of informing the public in all of its projects. It will establish methods for regularly informing the public about these activities in their own communities, both to educate them about their potential exposure and to build community support for cleanup. This means adequate notice about the project, and early involvement of local knowledge from experienced miners, conservation leaders and others in the neighborhood. The process must be accessible and engage the public. Land trusts especially need to be engaged in these activities. Opportunities for job creation and economic development as part of this process will be evaluated and advertised.

Make information on the projects available: As new practices and technologies are evaluated the information learned will be made publically available as soon as is practical.

Potential Members of the Remediation Technology Subcommittee

Local, state and federal government regulators
Tribal leaders and tribal government
Private consultants (environmental science/engineering/etc)
Community representatives
Experienced miners
Remediation workers
Researchers
University professors and graduate students

B. Fate and Transport of Legacy Toxins Subcommittee

Over the next several months The Sierra Fund will work with members of this Subcommittee to identify and prioritize research and funding needs, and key pilot projects.

C. Wildlife and Ecosystem Health Subcommittee

Over the next several months The Sierra Fund will work with members of this Subcommittee to identify and prioritize research and funding needs, and key pilot projects.

How the Committee Operates

The Environmental Sciences and Technology Committee will hold quarterly meetings that are open to the public with some facilitation and technical support for the group. New participants will be encouraged, especially those with technical

information or stakeholder connections. Tribal people need special outreach and reciprocity for their participation. The group will not vote on positions, and will not take policy stances, but will instead provide a forum for questions, discussion and information sharing. The group will strive to not create more work or more meetings for its participants. A state agency or a university could host the web page and associated electronic library for the group. This library will include sections on site discovery and evaluation, guidance documents and information on the pilot projects and technologies under evaluation.

A look at the current state process for Site Evaluation: California's process for evaluating priorities for AML cleanup is generally in place at the Department of Conservation Abandoned Mine Lands Unit. This includes a preliminary endangerment assessment, which identifies problems and whether further action is required, followed by an effort to characterize the scope of contamination, and development of a Cleanup Plan/Removal Action. This plan includes a feasibility study and alternative methods for approaching the project. Public involvement is usually required. There is very little funding for the state to take on projects, and without a regulatory or legal push not much can be done.

2. Public Health Committee

Fostering good information on the human health effects of legacy mining toxins is crucial to drawing the attention of the public and policy makers alike. Yet what the human health impacts are, and how to proceed in identifying and addressing them is the area of the Working Group that has been least developed to date. The first activity in convening this Committee will be to recruit more expertise in this area.

Recruit Participants

This Committee includes medical professionals, doctors, researchers, clinic staff and other public health officials and advocates. At this time there are not many public health professionals involved in the Working Group. More participation will be recruited from rural health clinics, who can help identify problems. Grants and other funding may be needed to get them to the table. On the other hand, we need to demonstrate health impacts in order to GET grants.

Clarify the Health Problem

The Committee's top priority is to determine current public exposure problems. Research is needed on a number of topics, especially preliminary data on whether people have toxins in their bodies. The committee needs to learn more about existing research. In addition to learning more about what is known, information data gaps need to be identified and prioritized. The committee could work with the Environmental Science Committee to help identify and document potential exposures.

Coordinate Activities with Government Regulators and Stakeholders: We

need to learn more about state needs and protocols in the Public Health arena so the Working Group can support these programs with research and outreach.

Inventory Current Studies: Some research already exists. DTSC is working on a study of arsenic bioavailability in Sierra soils. BLM is currently doing human health studies in Randsberg (Mojave Desert). The Sierra Club has been collecting hair samples for mercury. Other studies need to be identified and understood. These studies will also be added to the Working Group's online library of scientific research.

Define and Prioritize Research Needs: The obscurity of the pathways of exposure, the complexity of the human response to heavy metals, and the lack of information about the extent of contamination require rigorous research in order to be clarified. Engaging the pre-eminent medical research community in this task is a top priority.

Select Strategic Pilot Projects: On-the-ground Pilot Projects may be a good way to involve healthcare professionals in the Sierra and raise their awareness of the health effects of legacy toxins. For example, the use of a pilot Environmental Health History form could be promoted. With the advice of local and state public health officers and clinic personnel, the Committee will identify pilot projects that will address key outreach and research needs.

Conduct Research: The Committee needs to sponsor or stimulate research to identify health patterns and impacts, and communicate them to people.

Risk Communication: Once some information on exposure is collected there needs to be a clear risk communication strategy. This is especially true if alarming information is uncovered. Efforts to protect privacy in reporting are crucial. This group should work with the Outreach Committee to shape communication strategies.

Coordinate with other Working Group Committees: "Cross pollination" to ensure that policy ideas are grounded in a good understanding of science and regulatory factors is crucial. Health research needs to be driven by and inform policy and outreach activities.

Ensure Community Involvement: The Working Group needs to develop a culture of informing the public in all of its projects. It will establish methods for regularly informing the public about these activities in their own communities, both to educate them about their potential exposure and to build community support for cleanup. The process needs to be accessible and engage the public.

Make Health Information Available: As new research is completed, information learned needs to be made publically available as soon as is practical.

3. Policy Development Committee

The Working Group will help to “anchor policy issues to the ground” ensuring that the community is involved in the review, and supports the development of funding for basic information. The group will also have to be conscious of the need for tribal participation in every element of this program.

The overall Working Group will take a cautious approach around policy issues, providing scientific and technological input without getting everyone in the group involved in policy formation or advocacy. The Working Group will have clear separation between its scientific and technological review activities and any policy activities.

There are a number of policy implications of the Working Group’s research and remediation activities. For example, the current environmental impact review of suction dredge recreational gold mining relies in large part on research done by scientists at government, nonprofit, and state college facilities. The development of water quality regulations such as Total Maximum Daily Load regulations by the Water Resources Board, or Regional Board basin plans, relies extensively on science to develop those policies, but these decisions affect millions of Californians whose concerns need to be heard as well.

Separate agency staff from policy decisions: The structure of the Working Group will include this separate “Policy” committee that can form policy and budget recommendations without seeming to imply support for policy changes from representatives of various government agencies. This keeps staff out of the awkward position of taking policy or budget stances on recommendations that affect their agency directly. Agencies with staff that participate in the Working Group need to be interviewed to help clarify understanding of everyone’s roles and interests.

Create communication protocols for policy ideas: There will be a way for information from the committees on health or technology to bring policy concerns or ideas to the Policy Committee. The Working Group will be able to help identify problems and opportunities, identify what agency is responsible for making decisions around that opportunity, and help advocate for that agency’s successful resolution of the problem.

Advocate for funding: It is in the public’s interest to invest strategically in addressing historic mining toxins. Coordinated efforts around increasing the funding available from public and private sources are widely supported. The key question is how to prioritize what needs funding first—a process the technology and health committees will help provide information for. Successful projects will be promoted to help stimulate more investment.

Establish State priorities to attract federal attention: The Committees will solicit information from partners to establish top priorities for action, with an eye toward projects on federal land. Partners should evaluate connections and information they have to determine opportunities and important areas for focus.

While the Sierra will be the primary focus of the Working Group at its founding, state-wide priorities will be included to build support from federal sources and the public at large. These efforts will support and extend the new working relationships between state and federal agencies on AML issues.

Create consistent CEQA regulations: The committee will evaluate whether a formal CEQA regulation should be promulgated dealing with mine-scarred lands' environmental assessments. One possibility is a CEQA regulation that could be locally adopted by counties and cities in historic mining areas where projects are proposed in mine-scarred land areas.

Watch for key policy opportunities: Obvious timely opportunities and policy issues that affect—and are affected by—mining toxins include:

- Environmental review of suction dredge mining is now underway by the California Department of Fish and Game, and the Working Group needs to monitor how the EIR addresses mercury.
- New federal interest in abandoned mine cleanup and brownfields funding needs to be supported and expanded.
- Increased public interest in returning salmon to Sierra watersheds is stimulating a number of public policy issues that need to be watched and understood.
- A new United Nations mercury treaty will stimulate federal and state discussion about global mercury issues.
- There is new state and federal attention to Delta water and ecosystem management.
- Statewide fish tissue contaminant monitoring is leading to more Sierra water bodies being listed as impaired by legacy mercury contamination. These “impairment listings” will need to be addressed by TMDLs.
- The California Department of Water Resources' Integrated Regional Water Management program (IRWMP) funding is encouraging broad-scale regional water planning and project implementation.
- Universities have shown new interest in these issues, and could play an important role in shaping an informed policy agenda around mining impacts

4. Public Outreach Committee

This committee should stimulate and strengthen community outreach to key constituents to ensure their engagement in all functions of the group. In particular, the Working Group can help to “anchor policy issues to the ground” ensuring that the community is involved in the review, and supports the development of funding for basic information. The group will also have to be conscious of the need for tribal participation in every element of this program.

Often, to get people (local agencies, community leaders, etc.) interested there needs to be a project in their “back yard.” A useful approach will be to contact them about the general program, and follow up with specific projects that may be

interesting to them.

Community "Nodes": Public outreach in the Sierra Nevada mining communities requires indigenous understanding of the information and communication nodes of each area. Ideally the Working Group will have key community contacts in targeted regions that help to guide outreach, identify local concerns and issues, and support good public relations campaigns in each region. These "nodes" could be: community colleges, conservation organizations, cooperative extension or Sierra Nevada Conservancy offices, or a trained part-time individual located in the community. These "nodes" will make phone calls or talk to the press, and post information in appropriate places. The Working Group may have to pay for these activities.

Tribal consultation and leadership: The Working Group will help identify tribes affected by abandoned mines and reach out to them to ensure their involvement in every step of the mine assessment and remediation, and policy development process. This should include federally recognized and unrecognized tribes. The group needs to be aware that cultural/tribal governance structures do not always fit into US government administrative structures. There may be a variety of different approaches needed to involve tribal people. Some tribes have an environmental or cultural director, and all of them have a tribal council. The committee must recognize that tribes may be reluctant to get involved because of fears that their federal programs may be cut. The recent Letter of Intent signed between DTSC and several tribes in the Cache Creek Watershed could serve as a good model of consultation between agency and tribal leadership.

Economic impacts of mining toxins: It is vital that the economic impacts of both the existing problem and potential remediation are understood. With the weak rural economies hurt by both decades of job declines and the current economy, mining cleanup needs to be seen as helping to solve, not create, problems. Local elected officials need to be deeply involved in this effort.

The group could help develop an "AML Aware" program for real estate agents and bank loan officers who want to market themselves as knowledgeable about AML issues. The group could sponsor community development fairs that focus on AML remediation opportunities.

Develop public education campaign and message: The Working Group will conduct a political opportunity analysis and develop a plan for the public education message. It will integrate information from all segments of the group (technology, health, policy) and take advantage of opportunities created by public activity to get press. While the Sierra will be a focus of the message, state priorities need to be presented as well. The message will publicize successful research as well as a strategic way of moving forward. The media strategy must be consistent over a broad area. An interactive website with the most current information will be a key part of this campaign, however the Committee must also keep in mind that a website may not be the best way to reach the public in the Sierra, since many areas still do not have high speed internet access.

Create a great clearinghouse: This effort requires creating an excellent clearinghouse that includes current research documents, a frequently updated listing of pertinent events, great links, and very clear methods for getting connected to the effort to assess and address mining toxins.

Clarify "public information": The participants in the group must be very clear about whether the information they are sharing is "public information" and who has the authority to discuss what sorts of information. The key is to determine the maximum amount of information that can be public and the best way to make it so. Accessibility to good information is essential for advocacy to be effective.

A great website: There is a clear need for a high quality, integrated website that provides cutting-edge interaction among all Working Group participants and members of the public. The website will have at least two parts: 1) it will serve a public information function, and 2) as a forum for Working Group participants to interact and access new information.

- A strategic public relations campaign will be implemented that will drive people in the affected communities to an understandable and informative website. This will include new research (once released) in an accessible and understandable format, as well as information on current policy activities.
- Working Group members will be able to interact through discussion boards or other blog functions that are easy to post to. Information on new and ongoing projects will be available. A searchable catalog of research articles will be maintained, and participants may suggest additions. There need to be clear policies to determine what goes on the site—for example, its library must be vetted and factual. Articles that are not peer-reviewed could be marked. Certain parts of this website may not be publically accessible.

Creative outreach is called for: The Working Group will encourage and incubate other outreach activities including:

- Continue The Sierra Fund's Sierra-wide "circuit riding" activities targeting nonprofit organizations, local government, business groups and tribal government;
- Develop and circulate cirricula to schools and community colleges in the region;
- Host multimedia contests or challenges;
- Develop and place informational displays at libraries and community centers.

Conclusion: What new policies and research programs need to be developed or managed by the Working Group and what is the best infrastructure for managing these issues?

The Working Group will have four working Committees: Environmental Science & Technology, Public Health, Public Outreach and Policy Advocacy. Each Committee will be informed by and will inform all of the other Committees. Care will be taken to ensure that policy activities are not part of the overall Working Group.



III. What is the best institutional home for the Working Group?

- Does there need to be one physical home for the Group, or could it continue to be ad hoc?
- What are the potential homes for each activity of the Group?
- What are the critical elements of institutional and infrastructural development?

Recruiting Conveners: The Sierra Fund is currently incubating the Working Group. Over the long run the four different foci of the Working Group may need four different conveners that work together as the full Working Group. There will be a timeline/plan for incubation and how to move each of the four groups to a permanent convener. As where the Group is housed is going to influence the participants, each convener should be the best one at each part. Since there are budget problems everywhere, it would help find conveners if TSF can bring funding with the Working Group. The convener will be responsible for their website. Potential conveners could include: university for remediation group, TSF for policy and for outreach, etc.

Building Digital Working Group Capacity: During TSF “gestation” there is an opportunity to begin developing the technological elements including: a website and list serve, web based conferencing, teleconferencing, and Webinar conferences to present research results. The technology should mimic some of the features of Facebook and Web 2.0.

Ensuring good relations: Though websites and conference calls are useful for quick information exchange or discussion, in-person meetings are essential for good relations. The Working Group should continue to hold 1-2 meetings a year in person for this purpose.

Conclusion : What is the best institutional home for the Working Group?

The Working Group’s institutional home will be at The Sierra Fund for the short term. The Sierra Fund will work with advisors to write committee plans, recruit 2-3 additional conveners, and create the web-based hub for group. In Fall 2010, The Sierra Fund will launch the Working Group with a public Community Summit.



IV. What sources of funding are available or can be developed for this work?

- Is there funding from existing state or federal funding sources that could be directed or made available to the Working Group, its activities or its partners?
- Can new programmatic or operational revenue sources be developed for abandoned mine health research, assessment and remediation activities?

There are several sources of funds from state and federal programs that could be used. There are both opportunities and barriers associated with each of these funding sources. Funding opportunities will also be included in the Working Group website.

A. State Funding for AML remediation

The State has many ways that it currently does or could fund abandoned mine remediation projects. These include bond funds, federally funded programs administered by the state, and special grant programs.

Bonds: Almost any bond sources of funds available at this time will require that the project can demonstrate that it will have a measureable positive impact on the Delta. Funding for AML activities could come from two as yet unallocated bond sources:

- Proposition 13 (Water Code Sections 79190(b)(v) & 79196.5 (e)) created a program at the Department of Water Resources to work with the Department of Fish and Game to make available \$17 million (about \$11 million remains in the fund) in order to support pilot projects to treat mercury and mine source impacts to the Bay Delta ecosystem as directed by the CalFed Ecosystem Restoration Program.
- Chapter 5 of Proposition 84, Section 75050 of the Public Resources Code, (l)(1) authorized \$25 million for “projects to improve public safety and improve and restore watersheds, including regional and community fuel load reduction projects on public lands, and stream and river restoration projects. Not less than 50% of these funds shall be in the form of grants to local conservation corps.” None of these funds are allocated to a particular agency under Prop 84, and the legislature has the right to designate where they go, subject to just quoted restrictions.
- The water bond proposed for the November 2010 ballot includes \$30 million

for pilot projects to remediate mercury from legacy mines. While this bond is not widely supported by environmental organizations, it is noteworthy that these funds were included in the final bill.

State remediation programs: Several state agencies have funds for mine remediation, some of which are given out in grants while others are for state activities. State agencies with remediation action or grant programs include:

Department of Toxic Substances Control: Investigation and cleanup activities are funded by: 1) State Orphan Funds; 2) Orders; 3) Voluntary Clean Up Agreements; 4) U.S. Environmental Protection Agency (EPA) programs, including Emergency Response, Preliminary Assessment and Site Investigation, National Priorities List Sites, where the State funds 10% of cleanup cost and 100% of operation and maintenance; and 5) Grants, including U.S. EPA Brownfields Grants and other grants.

Department of Conservation Abandoned Mine Fund: Gold and silver fees were imposed in California in 2004. Public Resources Code Section 2207(d)(4)(B) requires the State Mining and Geology Board (SMGB) to collect five dollars (\$5) per (troy) ounce of gold and ten cents (\$0.10) per (troy) ounce of silver. The SMGB has delegated collection of this fee to the Department of Conservation. Gold and Silver Fee revenues are deposited into the Abandoned Mine Reclamation and Minerals Fund Subaccount within the Mine Reclamation Account. These gold and silver fees are used mostly by the State for physical hazard remediation.

State Water Resources Control Board “319 Grants”: This program is an annual federally funded nonpoint source pollution control program that is focused on controlling activities that impair beneficial uses and limiting pollutant effects caused by those activities. These funds could be used for mercury cleanup or abandoned mine lands stabilization. Public Agencies, Nonprofits Organizations and Indian Tribes are eligible for these funds.

SWRCB Fines: The Board also has Cleanup and Abatement Account funds (money from fines), that could possibly be used for research and cleanup.

Sierra Nevada Conservancy (SNC): SNC grants can be used for remediation of water, lakes, and planning for assessment projects, including CEQA documentation. The Conservancy has granted some Proposition 84 funding to support the Nevada Irrigation District’s mercury/sediment removal project. They also have limited “Event Sponsorship” funds. The Conservancy could possibly serve as the host for the proposed community “nodes” and for sponsoring local forums throughout the Sierra.

Wildlife Conservation Board (WCB): The WCB has millions of dollars available on a first come first served basis for qualified applicants. These funds are dedicated to various wildlife and habitat purposes. The key to getting support from these funds is to work through the Department of Fish

and Game.

B. Federal sources of funds

There are also many programs at the federal level that could be tapped for this work, including:

EPA Brownfields Program: The program provides grants for community assessment (with up to 10% available for public health monitoring), cleanup and technical research. Their Community Assessment grant program has awarded at least six grants in the Sierra Nevada for community assessment and cleanup. Local and tribal governments are eligible for all of these programs, and nonprofit organizations for some of them.

EPA “Responsible Party” funds: Program managers at the EPA have money collected from “responsible parties” that can be used to fund remediation.

Economic Stimulus Funds: The American Reinvestment and Recovery Act of 2009 (ARRA) included tens of millions of dollars for abandoned mine remediation activities on land owned by the BLM and USFS. These funds will be spent over the next year on a variety of projects, including a couple of projects in Nevada County.

National Institute for Health (NIH): NIH has funding for research projects on toxins related to Superfund sites. They are focused on research concerning whether there are links between remediation activities and public health benefits. They work with scientists and researchers, and may be interested in funding a serious health study in the Sierra Nevada. UC Merced has some experience working with this program and could help form a partnership around this topic.

Agency for Toxic Substances and Disease Registry (ATSDR): The ATSDR produces “toxicological profiles” for hazardous substances found at National Priorities List (NPL) sites. They have some funding for health research.

National Science Foundation (NSF): The NSF provides funding for research, student training, and undergrad research funding.

C. Private Philanthropy

At this time only a handful of foundations are interested in the issues associated with historic mining. These funders need to be educated in order to stimulate more private funds for mining issues. One way to do this is to frame the issue in terms they understand. For example, climate change makes mercury more likely to methylate. Or, mine remediation in the middle of Gold Country towns opens lands for “smart growth.”

New Sources of Funds

Much more funding needs to be available for abandoned mine work. Implementing any of these new ideas will require front-loading of public education and relationship building. Some ideas for new funding mechanisms include:

Federal 1872 Mining Law reform: Reforming the 1872 Mining Law to tax all mining in the nation (not just coals) and invest some of these funds in abandoned mine remediation.

Increase State Fees on Mining: The state of Nevada charges mining permit fees for mining in their state, and California could follow suit. The gold fee could be raised as well.

Ecosystem Services Charges: Work with the Public Utilities Commission to levy a small mil tax on every kilowatt of power produced by hydroelectric facilities and invest these funds in watershed restoration projects, including mine remediation. Or, power agencies could “round up” on utilities bills and the money would go towards watershed restoration.

Similarly, work with the various water agencies that purchase Sierra water to impose a small mil tax on every gallon of water sold through the state water project and invest these funds in watershed restoration as well.

Pollution Credit Trading: The overall concept is to provide a policy framework for downstream water users to contribute toward watershed cleanup. Mercury is an ideal case for this. In order to implement this there would need to be clear and documented evidence that upstream watershed improvements resulted in downstream improvement. The scientists at the Working Group could provide scientific underpinning to the development of this program. Working with state environmental justice groups will be crucial to ensure that pollution cleanup in the upper watershed is not used to justify further contamination of downstream communities.

Watershed Improvement Program: The overall concept is similar to a pollution credit trading program, only less direct. Rather than individual dischargers implementing projects for credit, all dischargers needing credit contribute to a “watershed improvement fund”. The fund would then be managed by one entity, with broad stakeholder input (including engineers/scientists, regulators/regulated, and other interest groups) to identify and fund optimal improvement projects. Such regional planning and coordination for water quality improvement would be consistent with the IRWM program and any watershed-wide TMDLs.

Identify Responsible Parties: State and federal agencies as well as nonprofits could work harder at identifying the descendants of the companies that made the money when the Gold Rush was at its peak and make a claim for remediation.

FERC Relicensing Permit: As the permits on hydroelectric facilities are processed there is an opportunity to seek research, to ask for new management activities, and to create a potential income stream for watershed management and restoration.

The Regional Water Board has drafted language for the 401 certification of FERC hydroelectric license #2100 for DWR's Lake Oroville Facility related specifically to its mercury impairment. There is no standard language for how mercury and other legacy mining pollutants are addressed under FERC licenses.

Link to Sustainable, Green Jobs: A great deal of new money is slated for federal government investment in economic development and job creation, and given the difficult state of the region's economy, attracting these funds would increase community support for remediating mining impacts. The issues need to be framed towards a sustainable funding platform for mine remediation, thinking about job creation for five generations. It is clear that remediation could employ large numbers of workers in both performing cleanups as well as ongoing monitoring and stewardship of mine-scarred lands.

Link to Business Interests: The Group can cultivate investors who will make money by helping to solve this problem. Remediation technology developers have a great stake in understanding the science and policy challenges inherent in this issue, and finding profitable solutions. Their interest can be stimulated either by incentives (such as paying them for doing certain activities) or hammers (fining them for activities). The companies that will be bidding for remediation projects, including engineering and environmental science consultants, should be natural allies and potential funders of the Working Group.

By its very nature mining brings potential income, and this could be used to help build relationships. For example, gravel and gold from behind dams, tailings piles and other mining wastes can be sold if the toxic materials in them can be removed and the gold, gravels and other profitable minerals safely recovered.

Water Agencies/Irrigation Districts: Irrigation districts are charged to maintain reservoirs, which could be compromised by contaminated water or sediments. They can both help to fund research and action as well as share their experience with other agencies struggling with similar problems. They could also support public education about the problems and opportunities of mining's toxic legacy.

Reduce Costs of Remediation and Ongoing Maintenance: As new technologies become available, old remediation efforts that require ongoing maintenance need to be evaluated, looking at both ensuring high quality outcomes as well as potentially reducing costs.

Conclusion: What sources of funding are available or can be developed for this work?

Funding is needed both for the operation of the Working Group and for the projects that the partners carry out. There are limited existing state, federal, local and philanthropic sources for this work. New funding sources need to be created.



Overall Charrette Conclusion

The Sierra Fund will form a Mining Toxins Working Group for the Sierra, recognizing that though our program is focused regionally, this is a statewide problem that requires a statewide solution. We will build relationships and an information base that will bring new resources both to the Sierra and the statewide and even national debate about mining issues.

The Group will be open and inclusive, and will strive to involve those who have a direct stake in these issues, especially communities that have been traditionally under-represented in decisions around mining issues. The Group will work through four standing committees convened by different partners that focus on key topics, but will strive to integrate the work among all players.

Public education and outreach will be an important part of every activity. Policy development and advocacy, however, will be segmented to ensure that government agency participants are not involved in these activities.

It is important that the Working Group show success from one year to the next with clear tasks completed. The group will define success and make note of its accomplishments. Among the factors that will define success will be increased funding available for all of the research, education and outreach activities outlined in this document. The conceptual framework for the Working Group will be presented at a Community Summit on Historic Mining Impacts in the Fall of 2010.

TSF will serve as the incubator of this Working Group, and will continue to promote the success and visibility of the project. TSF will help to recruit the subcommittee conveners and other participants, as well as attract the funding necessary to begin establishing basic infrastructure for the Group, including an excellent website.

The Sierra Fund would like to thank ALL of the individuals and organizations that contributed their time and talent to The Sierra Fund's Mining Toxins Working Group Charrette, as well as: The California Wellness Foundation, The California Endowment, the Richard & Rhoda Goldman Fund, and True North Foundation for their financial support of this meeting.

Appendices: Charrette Meeting materials

- 1. Collaboration Models**
- 2. Envisioning Success exercise materials**
- 3. Charrette Participants**

Appendix 1: Collaboration Models

- 1. Delta Tributaries Mercury Council (DTMC)**
(<http://www.sacriver.org/issues/mercury/dtmc/>)

DTMC is a subcommittee of the Sacramento River Watershed Program, which started in the 1990s and is an umbrella for several groups and activities. The DTMC's focus on mercury started with attention on Cache Creek's mercury contamination from both natural sources and mercury mining legacy.

DTMC currently holds quarterly, 1/2-day meetings, hosts a web site, and manages a 500-person listserv for communicating with stakeholders. Meetings are open, with no restrictions on participants. Meeting participants vary depending on topic and include many regulators and industry representatives. DTMC does not typically vote or make policy statements, but could.

Goals of the group are to provide a stakeholder forum for sharing updates and information; connecting project proponents, funding sources, and researchers; and discussing policies related to mercury. The group could fill other niches if needed.

DTMC completed a Strategic Plan for mercury in the Sacramento River Watershed in 2002. The DTMC may take on the role of Science Advisory Group for the Delta Methylmercury TMDL, coordinating implementation of Phase 1 activities such as control studies and outreach to subsistence fish consumers. This stakeholder process is being formalized to implement that TMDL. The DTMC may also take an active role in developing mercury TMDLs for the remaining 90+ mercury impaired water bodies in the Central Valley.

One lesson learned is that getting formal members in a group helps get buy-in, and agency commitment, but the drawback is that you can miss some people. In order to make it better, it could be more structured, have a stronger plan, and funding to implement plan or hire spokesperson.

2. **Abandoned Mine Lands Forum (AMLF)**

(http://www.consrv.ca.gov/omr/abandoned_mine_land/Pages/amlu_forum.aspx)

In the beginning, the AMLF was run by CalFed, then Department of Conservation. To start with, it just considered physical hazards. Now it also deals with environmental (chemical) hazards, but does not address health research or clinic issues. When Senator Feinstein requested the worst problems in CA, they were able to produce a list of both physical and chemical hazards in only a month, since there was a forum in place.

Meetings are attended by agencies, industry, the public, and local government officials. Far off people, such as those in desert counties, can be included by conference call. People coming to meetings decide what they want to see on future agendas. Facilitators have also been a force in molding the meetings.

AMLF is a broad umbrella, serves as a sounding board for participants, and for networking. The forum does not do any lobbying or policy. Funding is limited, and since State cut off all non-essential contracts, it has no current facilitator.

The CA Abandoned Mine Lands Agency Group, CAMLAG, is a subgroup of agency-only staff. It meets after regular public AMLF meetings. This group allows agencies to share freely and reduce duplication.

3. **Sacramento Region Cleaner Air Partnership**

(<http://www.cleanerairpartnership.org/>)

This group is supported through Valley Vision. Members include industry, local government, air districts and others. There is a monthly technical advisory committee meeting, where policy may be written; and a quarterly higher Board meeting consisting of Board of Supervisors, Air Resource Board heads, and others.

Partnership identifies problems, supports policy, and takes action—such as developing an air district rule. The group can issue letters, with Board signature, and individual members may also duplicate the letter.

Activities focus on development of trust and common interest, which is made possible when people see that what gets done works and is valuable. For this reason, the group is good at finding common solutions, but not ALL solutions. Activities do not include citizen outreach/information.

4. **Integrated Regional Water Management (IRWM)**

(<http://www.water.ca.gov/>)

IRWMP's are the cornerstone for Department of Water Resources (DWR) funding thru implementation grants, thus coordination initiated in response to funding being offered. Each region must come together to make a plan,

and projects are supported after that. So far, projects have not been funded (planning stages have).

Regions are defined by watersheds so they make sense for planning, and the IRWMP brings together all stakeholders in the watershed. The Planning Committee meets quarterly, and Coordinating Committees meet regularly. Water agencies attend meetings, as representatives are paid to be there. The public, nonprofits and tribes used to be involved but in many cases there was not staying power for them to be there—they had to volunteer time, and/or meeting stipends were not sufficient. In the OLD program, the legislation funding them required money to go to nonprofits.

The Working Group could provide an inter-regional forum for the many overlapping IRWM planning areas, particularly for coordinated pilot projects. The Sacramento Valley IRWM regional Working Group (coordinated by the CABY IRWM group) already demonstrates capacity for undertaking regional communication and coordination.

5. National Association of Abandoned Mine Land Programs

(<http://naamlp.net/>)

This national association of AML programs is funded by coal mining fees. Originally it just included coal programs, but now also includes hard rock issues, so western states are becoming more involved. It provides a place to bring together states with similar issues, since it is helpful to see how other states deal with the same problems. There are Winter and Spring “Business meetings”, and different sessions (such as coal reclamation) are scheduled through meetings. The next meeting is September 2010 in Scranton, Pennsylvania.

CA Department of Conservation has volunteered to co-host the Annual Conference in 2011. This will be a bi-state effort with NV, and include tours, networking, etc.

6. Abandoned Mine Lands Portal

(<http://www.abandonedmines.gov/index.html>)

The AML Portal is an informational website and a partnership that spans federal, state and local efforts, dedicated to raising awareness about abandoned mine lands. It includes information on coal, hard rock and other kinds of abandoned mines, health hazards, physical safety hazards, and what is being done. It also includes an integrated map to see where AMLs are located using GeoCommunicator—a collaborative effort to share geospatial data on AMLs.

7. Western Mining Action Network (WMAN) (<http://www.wman-info.org/>)

WMAN is a grassroots national mining group that provides a forum for communities and people facing mining in the United States and Canada. Its goal is to strengthen the capacity of the mining activist movement. This

network considers both abandoned and current/new mines. It is governed by a 19-member steering committee, that guides the Network, including budgeting, communications, projects, and fundraising. Leadership is shared and selected from committee members. WMAN has recently released a new booklet of health assessment information.

8. NW Economic Adjustment Initiative

(<http://ceres.ca.gov/cert/nweaisum.html>)

The Northwest Economic Adjustment Initiative (NWEAI) is the economic development component of the Northwest Forest Plan, and was established to distribute \$1.2 billion to rural communities. Its structure responds to the distribution of money. State and federal agencies had to come together to respond, at the President's directive (a push from above) that everyone needed to work "outside silos". There was also a push from below to identify issues that needed to be addressed. Knowledge, education, and project ideas flowed up AND down. Circuit riding was used to involve those who did not have education, or did not have a set of projects ready—this is one good way to deal with lower capacity areas that we think need attention.

"Community Economic Revitalization Teams" -- A diversity of projects were identified, including agency pieces. When the process was complete, agencies commented that they "didn't want to go back to how they worked before" because this process was so successful.

Appendix 2: Envisioning Success Exercise

Envisioning Success using Cartoons, Limericks, Poems, Epic Ballads, or Short Plays

The Assignment: Divide into at least three groups, based on different ways of telling a story such as

- ✦ drawing/visual: cartoons or comic book
- ✦ verbal: stories using poems, plays or limericks; or
- ✦ audio: lyrics that tell the story to an original or known tune.

Some Help:

- ✦ Sample Limerick (for the rhythm)

*There was a sweet town, Copperopolis
That found out what a flop copper mining* was
They surveyed their town
For toxins underground
And cleaned up their lovely metropolis.*

**forgive the slight on the cooper mining heritage, this is just to illustrate*

- ✦ Sample Epic Ballad -- Create lyrics to already known epic ballads such as:

*Rocky Raccoon, by the Beatles
Miss American Pie, by Don MacClean
Harry and the MTA (he never returned, no, he never returned)
Gilligan's Isle, TV show theme and traditional Irish tune
Rocky Road to Dublin, traditional Irish tune*

- ✦ Sample Cartoon ideas – draw pictures that depict victory, such as:

cleaning up an abandoned mine
create a new technology that solves some huge problem
a community assessing and solving a problem together
how one watershed was completely restored
what a healthy watershed would look like

The Outcome:

- ✦ Lyrics to the tune of "Clementine"

In a cavern, in a canyon
Excavating for a mine
Dwelt a miner, 49'er
And his daughter Clementine

Light she was and like a feather
Like the dust from Daddy's mine
Mercury laced with Arsenic
Was the drink for Clementine

So the town formed a toxic mine group
And with elders of the Tribe
Tried to clean up all the water, but too late,
Clementine had died.

Then she rose a mining angel
And she changed the way we mine
Now we mine with all our permits
And send regulators wine.

Clementine's great, great grand daughter
Grew up to lead the fight
She cleaned up abandoned mines
And turned the wrong to right.

✦ A speech a la the "Gettysberg Address"

Eight score and One year ago
James Marshall set forth in search of gold
Little did he know as they mined,
The toxic waste they would leave behind.

Now today a charrette has been convened
Leading us all to have a dream
That one day all the fish and water will be clean
And the words of the Lorax seem perfectly clear

*"Dude, there's work to be done.
There's education, there's facilitation, and
getting the funders ear."*

The Working Group here
Cares a whole awful lot.
So that in 2-4 years
Mining toxins will be naught.

Appendix 3: Charrette Participants

Name	Affiliation
Randy Adams	CA Dept of Toxics Substance Control
David Bosworth	Dept. Water Resources
Debbie Davis	Environmental Justice Coalition for Water
Tracy Gidel	Nevada Co. Dept of Environmental Health, retired
Julie Griffith-Flatter	Sierra Nevada Conservancy
Dr. Roger Hicks	YubaDocs Urgent Care
Rick Humphreys	State Water Resources Control Board
Victor Izzo	Central Valley Water Quality Control Board
Bob Joehnck	Attorney
Sandy Karinen	CA Dept of Toxics Substance Control
Jonathan Kusel	Sierra Institute for Community and the Environment
John Lane	Consultant, Environmental Science
John Lane	Teichert
Kyle Leach	Consultant, Holdrege & Kull
Izzy Martin, facilitator	The Sierra Fund
Carrie Monohan	Science Advisor, The Sierra Fund
Kerry Morse	The Sierra Fund
Sherri Norris	California Indian Environ. Alliance
Professor Peggy O'Day	UC Merced
Cy Oggins	CA Dept of Conservation
Michael Ben Ortiz	Calling Back the Salmon Committee
Don Ryberg	Chair, Tsi-Akim Maidu Tribe
Laurie Oberholzer	Sierra County Land Trust
Mike Thornton	The Sierra Fund
Stephen McCord	Delta Tributary Mercury Council and Larry Walker Associates
Wesley Nicks	Nevada County Environmental Health