

Proceedings From:
**WATERSHED RESTORATION
WORKSHOP**

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Clearwater National Forest**

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The USDA Forest Service

“Our overall goal is to help people live in productive harmony with the watersheds that sustain us all. We cannot do it alone. The issues are too broad, the land base is too large, and resources too scarce. We can only redeem our role as conservation leaders by working with, and learning from each other.”

*Forest Service Chief Mike Dombeck
Announcing the Natural Resource Agenda
1998*

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1.0 INTRODUCTION

To bring attention to the importance of restoring vital watersheds and to address existing issues/obstacles associated with the implementation of large-scale restoration efforts, the Pinchot Institute for Conservation, in collaboration with the Forest Service, convened and facilitated a Watershed Restoration Workshop on the Clearwater National Forest in July 2000.

The following summary, provides information on the structure of this event, overviews of the dialogues that developed, and details on those tasks deemed "Next Steps". Also included in this summary is background information on the concept of watershed restoration. Whereas such background facts were not overtly discussed during the course of the workshop, they are included to provide an informational foundation for those unfamiliar with the concept and to introduce the Forest Service's role in such efforts.

2.0 BACKGROUND

In the United States, as in much of the world, obtaining adequate water supplies and maintaining water quality is slowly becoming the defining natural resource issue for the coming century. Though the level of public consciousness is on the rise, the role forest ecosystems play in safeguarding surface and groundwater supplies is often overlooked, or in some instances, completely taken for granted. Forested lands are capable of filtering impurities and sediment from over-land flow, providing critical storage and protection of groundwater and aquifers, controlling soil erosion and slope stability, and providing habitat for a multitude of flora and fauna. However, despite these important roles, years of poor land management practices, and/or inappropriately timed maintenance, have slowly degraded many forested watersheds within the United States into unhealthy, poorly functioning systems. Such degradation is further compounded by a multitude of pressures, including the invasion of exotic species, severe wildfire risks, changes in vegetative communities, loss of species viability, degradation of aquatic ecosystems, impacts associated with road location and condition, air pollution, abandoned mines, and various levels of scientific uncertainty. While direct reduction in such pressures is often seen as the preeminent solution to the problem, the implementation of watershed

Forests and Water

- Approximately two-thirds (66%) of the Nation's runoff comes from forested areas.
- National Forests contribute to 14% of this total runoff.
- National Forest lands are the largest single source of water in the United States.
- Approximately 3,400 public drinking water systems are located in watersheds containing national forests (1999 EPA study).
- 60% of the Nation's runoff originates east of the Mississippi River, of which 70% of the land is privately or state held.
- Counties classified as "urban" contain ¼ of the total tree cover of the coterminous US.

Provided from: Sedell, et al. 2000

restoration procedures needs to become an essential step in maintaining the health and stability of the landscape.

2.1 *What is a watershed?*

In the past, forest management activities often focused on units specified by property boundaries, forest community elements (i.e., structure, age class or species), or projections of growth and yield. Such management efficiently channeled efforts to meet specified objectives, namely product generation and revenue. Recently however, the focal emphasis of forest and rangeland management has been at expanded landscape or watershed scales- highlighting the maintenance of ecosystem functions and the interdependence of various organisms and their habitats over commodity extraction.

Formally defined, watersheds consist of all lands enclosed by a continuous hydrologic-surface drainage divide and lying upslope from a specified point on a stream; or in the case of a closed basin system, all lands draining into a lake (Maxwell, et al., 1995). However, watersheds are far more than a geographically delineated landform- they are in essence a complicated and complex collection of ecosystem functions, values, and a multitude of living organisms. They dissipate floodwaters, absorb rain, recharge underground aquifers, increase soil fertility, provide integral habitat for thousands of species, and produce clean water. As such, they are vital to the overall health of ecosystems and larger bioregions.

Watersheds are "...that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course, and where, as humans settled, simple logic demanded that they become part of a community."

John Wesley Powell

In addition to biophysical elements within a watershed, the social and economic issues surrounding the use and management of such areas also add to the complexity of watershed-scale approaches. Whereas human communities have historically been excluded from the realm of ecology, the impacts of our societies on the health of these systems plays a critical role in their persistence. As such, new dimensions of community involvement (e.g., how to work across ownership boundaries, how to build coalitions, and how to develop consensus among diverse interests) provide exciting and challenging expansions in the design and implementation of various facets of watershed management and restoration across the landscape.

2.2 *What is watershed restoration?*

As the natural world has become more developed (and more disturbed), conservationists and land managers have begun turning to those opportunities offered through restoration to improve ecosystem function and resiliency on a large-scale. Unlike traditional tactics

of preservation, restoration embraces an active management program, relying on site evaluations, enhancement and manipulation, and various levels of projects monitoring. In essence, restoration actually captures a family of related terms referring to various approaches to heal and rehabilitate natural systems (Meffee and Carrol, 1994). Simply defined, effective restoration can be described as a method of returning the structure and function of our natural environment through management practices which integrate a range of ecological principles and the social and cultural influences capable of affecting the land (Preister and Kent, 1997).

2.3 The Role of the USDA Forest Service

The emphasis of managing land at a watershed scale is not a new concept. Over a century ago, when the National Forest System (NFS) was established under the 1897 Organic Administration Act, national forests were essentially set aside to safeguard and enhance the national water supply. Although the focus of NFS management deviated somewhat from this intent through the years (centering upon the Organic Act's provision for timber production), the Agency has recently experienced a focused rebirth surrounding watersheds and their protection/restoration.

In the spring of 1998, USDA Forest Service Chief Mike Dombeck unveiled the agency's Natural Resource Agenda for the 21st Century. This agenda consisted of four areas of emphasis or initiative: watershed restoration and maintenance, sustainable forest ecosystem management, forest roads, and recreation. Dombeck stated during his speech, "This agenda will help us more effectively engage in one of the noblest, most important callings of our generation... bringing people together and helping them find ways to live within the limits of the land."

Following announcement of the agenda, the protection and restoration of watersheds became an over-riding priority within Agency projects and initiatives. In its Agency Strategy for Watershed Restoration, the Forest Service outlined a nine-point approach to realize a vision of healthy watersheds (see following figure). This strategy was developed in collaboration with States, local communities, other Federal agencies, and interest groups and stresses the need for engaging local communities in each level of implementation. According to this strategy, by 1999 the Forest Service would increase stream and streamside restoration by 40%, increase habitat restoration for threatened, endangered, and sensitive species by 30%, and increase abandoned mine reclamation by 50%.

Forest Service Strategy for Watershed Restoration

1. Make watershed restoration and maintenance the highest priority in land management plan revisions, as appropriate.
2. Restore degraded ecosystems and attain desirable plant communities.
3. Prevent exotic organisms from entering or spreading in the US.
4. Reconstruct, relocate, and decommission roads to help restore degraded watersheds.
5. Restore degraded riparian areas.
6. Fully implement the Forest Health Monitoring Program.
7. Conserve and recover threatened, endangered, and sensitive species and their habitats.
8. Complete assessments of watershed conditions.
9. Help communities restore and maintain healthy watersheds through community programs.

Obtained from www.fs.fed.us/news/agenda

3.0 OVERVIEW OF THE WATERSHED RESTORATION WORKSHOP

3.1 *Objectives of the Workshop*

During early planning sessions with the Forest Service, it was determined that the best way to identify and address the multitude of issues and concerns related to watershed restoration would be to develop an engaged and honest dialogue among a diverse set of stakeholders. Through the process of fostering a common understanding, it was believed that one could best promote continuous, adaptive learning and eventually influence the effective/appropriate implementation and monitoring of restoration efforts.

To this end, the objective of the workshop was to contribute to a national dialogue for exploring options and strategies for effective implementation of community-based restoration efforts by:

- providing a broad-based understanding of various restoration mechanisms,
- exploring models that others have used, and
- examining obstacles to restoration activities and the opportunities to overcome them.

3.2 *Scoping of Issues*

Scoping of key issues and obstacles began in December 1999. In total, approximately 45 organizations were contacted via telephone and asked a series of open-ended questions. These questions were specifically designed to illustrate the overall goals/accomplishments of an organization's project, what conditions fueled (or extinguished) collaborative efforts, funding/ implementation concerns, outreach issues, monitoring methods, and the surrounding foundations of policy and/or science. The conversations that ensued resulted in a diverse collection of issues and obstacles faced by interviewees.

Oftentimes, such key issues were duplicated among the pool of participants, and as such, such duplicates provided the initial foundation for agenda development. (Appendix A)

3.3 *Design of the Workshop*

Overall Structure

Unlike traditional workshops or training sessions, the Watershed Restoration Workshop utilized an experimental structure consisting almost exclusively of in-field discussions and field tours. This structure provided participants with an instant connection to specific issues, while also grounding the discussions to help with the establishment of common understanding. Though hosted on the Clearwater National Forest, the event was not limited to regional problems or issues. Rather, the Clearwater National Forest provided situations that were analogous to those faced throughout the country (e.g., road obliteration, stream bank stabilization, use of fire and fire protection measures, and wildlife habitat protection). (Appendix B)

Participants

Over sixty participants from across the United States gathered in the Clearwater National Forest for this workshop. These participants represented the breadth of perspectives, including those of scientists, forest industry, community groups, conservation groups, and federal, state, local and tribal governments. (Appendix C)

Introductory Session

The workshop began in Missoula, MT with a brief introductory session designed to welcome participants to the region. In addition, participants were provided with background information on projects being implemented within the Clearwater National Forest, and logistical details surrounding the 3-day workshop. Dale Bosworth, Regional Forester for the Northern Region of the Forest Service, provided the initial overview. He outlined current strategies being used to implement watershed restoration projects within those forest under his supervision, specifically highlighting the need to set better priorities within watershed scale projects and the need for new and innovative tools to improve the effectiveness and efficiency of projects (e.g., stewardship contracting). Bosworth closed his welcome with an important reflection on the importance of communities in restoration endeavors. He indicated that there must be some level of intervention because healthy ecosystems do not automatically ensure healthy communities.

This regional overview was then followed by a brief discussion on current projects within the Clearwater National Forest. Jim Caswell, Forest Supervisor on the Clearwater National Forest, provided descriptions of those projects which participants were scheduled to visit over the next 2-days. He explained that within the Clearwater National Forest, high-elevation forests have undergone a series of stresses directly related to the effects of various management strategies (e.g., harvesting, road development, etc.). The Forest's specific focus on watersheds began after a series of flood events during 1995-96.

Initial assessments after these floods indicated that several roads within the forest experienced failures and further identified specific effects associated with such failures (e.g., impacts on high-value fish and wildlife habitat). These areas later became priority sites for restoration.

Field Tours and Discussion Sessions

During the course of the workshop, the group made several stops within the Powell and Lochsa Ranger District of the Clearwater National Forest. These stops coincided with areas suitable for discussion or in designated project sites. At each stop, brief presentations were made by Clearwater National Forest personnel to provide a general overview of their efforts. Such presentations allowed for the establishment of common ground, segueing into facilitated discussions of how others in the group approached similar situations.

The first day provided time for general discussions of watershed restoration concepts, with an opportunity for a specific focus on road obliteration activities. Within the Powell Ranger District, participants were lead through a recent road obliteration project along Squaw Creek.¹ Following the floods of 1995-96, analysis revealed that log culverts along this creek had failed. This startling discovery was harrowing, as nearly 13 miles of tributary roads fed from this main vein. As such, prioritization played an important part in the design and implementation of the project. Concerted efforts were made by project managers to review specific features within each area to determine how and when to begin restoration. Tribal interests were involved throughout the process, often inspecting roads during and after obliteration and providing in-kind labor for monitoring activities.

During the workshop tour, project coordinators explained the various techniques they used for in-stream mitigation, including the use of straw bales (weed-free straw) on unstable stream banks and portable flexi-pipe for erosion control and stream flow maintenance. The coordinators also emphasized the importance of retaining vegetation along stream corridors to assure slope stability. Both individuals were careful to indicate that road obliteration is but one piece of watershed restoration and that their efforts were aimed at improving passage for all organisms (not just sport fish).

The second day provided additional opportunity for other issue-focused discussions, including large-scale project implementation, wildlife habitat enhancement, and salvage operations. The initial field stop provided an overview of the North Lochsa Face Project (128,000 acres), which was initiated in 1995 to test the implementation of ecosystem management.

During the course of analyses, 15 land type associations were identified, based upon supporting geology, geomorphic processes, disturbance regimes, soil complexes (e.g. soil

¹ In 1855, the Nez Perce tribe ceded the land which harbored Squaw Creek to the Federal government. The Nez Perce still have rights to hunt, fish, and gather on this land and are an active partner in the restoration of the watershed. The name of this creek is in the process of being changed to Trout Creek.

depth and type), stream types (morphology), and vegetative communities (habitat). In addition to biophysical analyses, the project also looked at the role of fire in defining the characteristics of a given watershed- relying on the fact that ecosystems are not defined only by what they contain, but more by the processes that regulate them. Utilizing GIS technology, it was found that several different fire regimes existed within the watershed.

Because fires had been largely suppressed during the early part of this century, the question arose as to how the landscape might have evolved had these natural fires been allowed to burn. To answer this question, data on historic conditions were gathered, offering a quick "snapshot" of forest conditions in the past and thereby producing a tentative benchmark for restoration. Planning for the first phase of this project finished in 1996. The plan encompassed a total of 12,000 acres and included the introduction of fire, commercial thinning, riparian planting, and road obliteration. The project also included noxious weed treatment (focusing treatments, such as herbicide applications, biological control and manual removal, along the main transportation systems). The NEPA process resulted in two signed Record of Decisions (which identifies the agency's final course of action after considering all alternatives and analyzing their impacts, in this case, ROD's included one for invasive weeds and another pertaining to recreation- 3/2000 and 4/2000 respectively) and five appeals.

Intermediate field stops provided sweeping vistas, illustrating large-scale implementation efforts for wildlife habitat improvements (further details in Section 4.4).

The final project area visited consisted of a 5,000-acre ecosystem management project with an incorporated salvage sale. Prior to activities, the site contained a dangerous amount of dead and dying Douglas fir. Standing dead debris was removed and the site was under-burned to further remove existing fuel. Seedlings were then planted. When questioned why the site was not left to regenerate on its own, Clearwater personnel indicated that they did not expect to regain desirable species within the project time frame.

Additional Presentations During the Field Tours

It should be noted, that in addition to the brief overviews presented by Forest Service personnel, many participants presented similar or related issues they faced during the implementation of various restoration efforts. For the purpose of capturing the breadth of these discussions, summaries of these presentations have been incorporated into Section 4.0.

4.0 KEY ISSUES DISCUSSED

By the close of the 3-day meeting, a series of valuable dialogues emerged from those issues touched upon by Clearwater personnel and later expanded on by participants (i.e., how to face complex and integrated resource issues, how to overcome regulatory and financial barriers, and how to enhance public outreach, education and coalition building). By bringing opinion leaders into the field for these discussions, initially

perceived divisions in interest were overcome and what might have otherwise evolved into heated debate, quickly developed into an earnest exchange of ideas based upon real-world experiences. The following subsections provide a summary of some of these discussions.

4.1 Partnerships and Outreach

Implementing restoration, as an element of ecosystem management, is a multi-faceted task that requires an understanding of basic ecosystem functions and human interaction with the natural world. Such tasks are often based upon a community-based approach, where public and private organizations join forces to create multi-disciplinary and multi-jurisdictional solutions to resource issues (Kenney, et al., 2000). Because of the diverse objectives surrounding such projects, watershed restoration has a unique ability of bringing together a variety of interest groups (i.e., environmentalists, community leaders, industry and manufacturers) for the sole purpose of combating a common problem or concern. As such, watershed restoration provides an ideal example for using collaborative partnerships to finance, promote, and sustain successful efforts.

The Role of Federal Agencies

Many regulatory agencies have begun to embrace the model of community-based approaches to natural resource management and protection, using multi-disciplinary and multi-jurisdictional partnerships to focus on issues and problems. These agencies have included the US Environmental Protection Agency (EPA), the US Forest Service, the Bureau of Land Management, the Natural Resources Conservation Service (NRCS), and the US Fish and Wildlife Service (FWS).

As an example of successful local/federal partnerships, a representative from Tierra y Montes Soil and Water Conservation District in New Mexico discussed the success of restoration initiatives through the Conservation District. Tierra y Montes represents a municipal watershed in Las Vegas, NM, which prior to the breach of a dam, experienced poor levels of community involvement. However, following the breach and subsequent fish kill, gaps between interests began to narrow as the public began to recognize the importance of the river as an essential source of water for their community. The role of the Soil and Water Conservation District during this time was to develop a collaborative implementation plan between a variety of partners (e.g., FWS, Forest Service, public, landowners, and recreationists). Through open forums (typically public venues, such as town meetings), the roles of different organizations in the project were outlined and various implementation stages were set. An implementation team was also developed to oversee the implementation of activities and ensure security of adequate grants and in-kind funding sources (e.g., EPA 319 funds, foundation grants, and state grants). To date, approximately 30% of the work outlined in the implementation plan has been completed.

Networking Among Private Landowners

A participant from the Siuslaw National Forest discussed how they successfully networked among private landowners with the help of local RC&D units. Since the RC&D units hold periodic meetings, they were able to highlight the project objectives and progress and build upon the ever-increasing interest and energy of participants. However, others felt that the RC&D units in this area of the country (Oregon) are high-powered and have the capacity to act almost immediately. This may not be the case in other areas of the United States.

Communication Tactics

Throughout the workshop, participants reiterated that communication must exist between all related interest groups, not just the agency and not just to community-based groups. To this end, partnerships should be used to advocate ways to improve situations and increase awareness among *all* stakeholders. Some participants indicated that the national voices supporting collaborative endeavors have not done a good job at extending and communicating with other large NGOs and agencies on the work that is being successfully done. To this effect, American Forests has developed a national policy agenda for ecosystem restoration, as part of a clarifying memo on future direction (Appendix D). It is important to note, however, that even with proper and involved communication, some interest groups may undoubtedly choose not to collaborate. Therefore, in realizing that we all have the capacity to influence the larger process, it is important to identify ways to incorporate new thoughts into our daily work and expand communication between diverse interests.

Public Education

When implementing watershed restoration projects, involved parties must be careful to include not only local interests but remote or national groups, as well. Such hands-on education initiates collaborative learning processes, which are essential to the establishment of common ground and adaptive management strategies. Careful tactics can be used to facilitate this educational process. Specific examples of educational initiatives discussed during the workshop include the Clearwater National Forest involving intertribal youth in tree planting, secondary school teachers leading outdoor classes in restoration project areas, educational field tours, and media highlights. Participants believe that such open tactics help reduce the likelihood of costly and time constraining lawsuits and potentially reduce the occurrence of appeals.

Project Planning and Implementation

Many participants emphasized the importance of public involvement throughout project implementation, specifically in problem definition and monitoring exercises. Involvement in a variety of implementation stages will likely promote the awareness of diverse perspectives, help gain public interest, and ultimately contribute to the growth of more collaborative public initiatives.

Bridging the Gap

Often when people think of watersheds, they immediately envision impacts to water resources and the plight of aquatic species. They often do not think of community action and integrated land bases. Participants emphasized the need for a merger between these two factions. Shared efforts are needed to broaden the vision of interest groups- aligning species oriented non-government organizations (NGO) with resource or community groups. It is equally important to get those who feel excluded from the decision making process to the table. Even among interest groups and the agency, there is a need to build relationships so that critical issues can be breached through discussion rather than the appeal process. In essence, it was discussed that if you treat someone as the enemy, they will act as the enemy. This is no better explained than through the experience of tribal governments with federal agencies.

According to a representative from the Menominee Tribe, for nearly a century, tribes viewed the federal government as the enemy. Until discussions revealed the similarity between their interests, neither party treated the other with the necessary respect. This individual concluded that forums similar to this workshop provide perfect examples of how conflicting views, often tied to local culture, can be expressed respectfully and acted upon in a meaningful, united fashion.

4.2 Policy and Regulation

"It is often said that the Agency is like a big ship and that changing its direction is difficult and takes a long time. I think that a better example is that the Agency is more like a railroad where Congress has bought the right-of-way, laid the tracks, and provided the train, allowing the Agency to operate as it sees fit along the established routes. To establish a new route (watershed restoration) or to abandon the existing route (forest management), Congress will have to provide new right of way and track. For the Agency to jump the track and start in a new direction, will only lead to a wreck."

**Mike Fish
Weyerhaeuser**

The Role of Existing and New Authorities

The bulk of land management agencies involved in watershed restoration realize that there is a need for clarification on available authorities to complete projects and new options for legislation. Despite existing language, practitioners and project managers continue to be confused over applicable authorities and what may/may not be acceptable to reach project goals. This confusion is further exasperated by a lack of funds to carry out new and innovative methods. Currently, the Forest Service is continuing to work with the Council on Environmental Quality and Office of Management and Budget to help identify any voids in existing authority. However, before the agency targets new legislation, one must look at what is capable within the confines of existing authorities

and what kind of regulatory roadblocks project managers and practitioners are facing.² To this end, participants suggested that when the Washington Office begins its in-depth look at the legislative process and regulatory needs, community partners and interests should be relied upon to provide additional insight and associated checks/balances.

The Wyden Amendment

In 1998, Senator Wyden (D- OR) sponsored an amendment, which authorized the Forest Service to spend appropriated dollars outside of National Forest System boundaries for watershed restoration projects, as long as that money positively affects the Forest's watershed. The Siuslaw National Forest has been quite successful in using the Wyden Amendment to facilitate and expand their watershed restoration projects. Using soil and water, engineering, and fisheries funds, in cooperation with local RC&Ds, the Forest has been capable of addressing a multitude of economic development and natural resource management objectives. Initially, a request for proposals was circulated to determine which local projects were in need of funding (the Forest's decision, not law, required a minimum public contribution for 25% of the full project cost, the remainder could be covered under federal assistance). A defined set of criteria was developed to aid in the selection of implementable projects. At its close, the selection process identified eight projects that the agency was able to support. The Siuslaw National Forest hired an independent contractor to design the 8 projects (total cost: \$8,000) and then leveraged an additional \$250,000 for project implementation. Because of the reduced staff of technical specialists within the Siuslaw National Forest, the hiring of this independent contractor greatly facilitated project design and implementation. Process obstacles were further overcome by completing a programmatic Environmental Assessment for all 8 projects. The entire NEPA process took approximately two months. It is important to note, however, that these projects did not occur on federal land.

The National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 is the nation's formal declaration of environmental policy. As such, it affects every major land-use and management decision made by the federal government on federal land (Kenney, et al., 2000). In brief summary, the process associated with NEPA requires federal agencies to determine the impacts of a proposed action on the natural environment. This is accomplished through the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). Within the language of NEPA, specific notice is given to an agency's requirement to make diligent efforts in involving the public in the preparation and implementation of NEPA procedures. Such language offers the greatest opportunity for significant involvement of stakeholders. However, due to the time commitment associated with scoping, reviews and public comment periods, NEPA is often seen as a significant stumbling block to implementation. This needn't always be

² There is a staff paper done on what community work can be accomplished under current regulations and laws (Fred Weatherill, June 2000). For more information, contact Mr. Weatherill at (email) fweatherill/r5@fs.fed.us.

the case. To overcome some of the obstacles associated with the NEPA process, many participants described ways in which the Forest Service utilized a watershed scale analyses in its NEPA procedures, such as bundling a series of projects into a programmatic EA or EIS. Another approach, which was used on the Clearwater National Forest, was to assemble a NEPA project team who's members are relieved of all other duties, so that they can focus entirely upon the NEPA process. Such team development resulted in completing the NEPA process in months, rather than years. Others encouraged the importance of public involvement in project design to further streamline regulatory processes.

The Endangered Species Act

The Endangered Species Act (ESA) of 1973 was created to conserve, restore, and protect threatened and endangered species and their habitat within the United States. Specifically, the ESA provides protection for listed species and grants the US Fish and Wildlife Service (FWS) authority to administer the ESA for terrestrial species and non-anadromous fish (e.g., trout) and the US National Marine Fisheries Service (NMFS) with authority to administer the ESA for marine and anadromous fish (e.g., salmon). Under the ESA, every federal agency action is subject to Section 7 consultation. Under Section 7, two consultations are typically required: an informal consultation (typically between an agency and the FWS to determine whether any listed species are present in the area of federal activity) and/or a formal consultation. If such consultation indicates that an action may adversely affect a listed species or critical habitat, "biological opinions" must then be completed which determine if a given action will result in the taking of the species.

This consultation process is often listed as one of the greatest obstacles to watershed restoration due to the backlog of projects and lack of funding/staffing within FWS and NMFS. Whereas solutions to these problems lie heavily within the arenas of policy and budget processes, some workshop participants have been able to overcome obstacles by adopting large-scale project designs and applying programmatic consultations (i.e., those which address ESA issues for several project areas, lumped into a single defined project). (See Appendix E).

The HIRE Program

Within the President's budget for FY 2001, the Administration drafted a new initiative to support the creation of private-sector jobs in rural and forest dependent communities. The proposed permanent fund is called Healthy Investments in Rural Environments (HIRE) and it involves the reform and redirection of timber sale receipts and trust fund dollars to be used in restorative activities that give local workers preference in job assignments. Specifically, the initiative strives to create new jobs in rural and forest dependent communities, provide the Forest Service more management flexibility in addressing maintenance and forest health issues, and improve the accountability and manageability of the Agency's trust fund system.

To achieve these goals, the Forest Service proposes to reform traditional trust funds (i.e., Salvage Sale Fund, Knutson-Vandenberg, Reforestation Trust Fund, and Timber Sale Pipeline Restoration Fund) by directing all timber sale receipts directly to the Treasury. These funds would then be complimented with a new mandatory appropriation of \$300 million each year to fund the HIRE program. HIRE would be used to perform the same work required under the existing trust funds (e.g., providing money to complete reforestation, logging and thinning, riparian restoration, road maintenance and obliteration, and other infrastructure repairs). As such, HIRE has the potential to create and expand private-sector job opportunities in rural communities through an increase of funding and visibility of projects and through the creation of incentives for land managers for long-term maintenance and resource management using local workers. Simultaneously, the HIRE program also has potential to contribute to the simplification of Forest Service management efforts and improve overall financial accountability.

Many participants of the workshop recognized the array of restoration and rural job opportunities that may arise with full development of the HIRE program. Specifically, participants request that language within the initiative be reviewed and actively shaped by a consortium of interests (similar to those attending the workshop) as a “next step” following closure of the workshop. A summary of these recommendations and other follow-up activities can be found in Section 5.0.

4.3 Project Planning

Project Timelines

During workshop discussions, the issue of time constraints and limitations, as they relate to project implementation, were often raised. Watershed restoration does not utilize single-track implementation tactics that span short time frames. The goals and objectives associated with restoration are often far-reaching and typically prove problematic during planning, funding, and implementing stages. Because the timeframe associated with restoration is relatively unknown, managers must reflect upon the influence of time on a given set of objectives. For example, given road obliterations, what would happen if land managers decide to log a given area 50-100 years after a road had been obliterated? Or what would happen if funds allocated after a catastrophic event (e.g., floods or fires) begin to decrease over the years, despite a need for these activities to continue? Those involved in road obliteration noted that transportation analyses are typically completed but are never accurate enough to predict applicability over time. As a solution, participants in the workshop thought leadership within the Forest Service should review transportation systems, identifying the perceived needs for tomorrow and constructing temporary roads, which could be field-tested for usefulness over a three-year period.

The Role of the Public in Planning

As noted earlier, the involvement of public interests in project formulation is extremely important. While helping advance general activity support, public involvement promotes the consideration of diverse perspectives and helps establish collaborative efforts. Such

involvement helps promote stable watersheds, while assuring sound development and growth of nearby communities. Using the North Lochsa Face Project as a case example, the agency surveyed a large public pool (from Missoula to Lewiston) to help shape the design for the project. Public slide shows of the area, which presented historical images of the North Lochsa region, and public meetings were used to create a greater public understanding and level of support during these early stages of project development. However, as one participant noted, one cannot look only to local communities for support in project planning. The fact is that activities on a given National Forest may impact areas hundreds of miles from the initial source, and as a public resource, there needs to be broad-reaching public involvement in project development.

Project Scale

Throughout the workshop, the general question of project size and scale resurfaced. Participants questioned whether it was better to implement a series of small projects or focus entirely on a single conglomeration of activities. The question invariably differs from situation to situation, requiring project planners and managers to focus on those element that offer the most benefit. Currently, the trend in restoration is to undertake single large projects because at this expanded scale the activities best mimic natural trends within the landscape. The challenge lies in finding the correct scale at which one can integrate projects, especially under a scarcity of resources (be they funds, labor, expertise, etc.). Another challenge lies in how to integrate local communities into these large scale projects- many community based contractors are small scale industries and do not have the current capacity to compete or carry-out large projects. Perspective also lends its challenge, specifically how one should tie given activities into the greater watershed, drainage or ecosystem. Some participants suggested moving systematically through the landscape (regardless of roadless or wilderness), while others foresee a more targeted approach to site selection.

Prioritization

In Region 1, the emphasis for project prioritization has been to restore and maintain the "Last-of-the-Best" watersheds, or those areas deemed pristine. Many in the workshop stressed the need for more analysis and recognition of "ready-to-go" watersheds, which already have the capacity and energy necessary to proceed with restoring the landscape (including community capacity). There was some division among participants on whether some watersheds were beyond restoration, given their less-than-pristine nature (i.e., abandoned mines or urban portions of a watershed). However, some participants were quick to add that many of these areas have the greatest potential for community involvement because of the recognition and proximity of the impact.

4.4 Wildlife Habitat Issues

For conserving and recovering at-risk species and maintaining biodiversity, a strong consensus among conservation biologists recommends refugia or designated areas capable of providing high-quality habitat. Watersheds are often seen as the basic unit for such conservation strategies. However, obstacles arise given the myriad species-specific

agenda items that large and small conservation groups support. As one participant noted, "People who are most interested in fish rarely talk to those interested in preserving large mammals." As a result of these barriers, there are missed opportunities by the score.

Representatives from the Idaho Department of Fish and Game provided some insight into landscape scale efforts and how to integrate multiple objectives in managing wildlife habitat, specifically for elk. The North Lochsa Face in the Clearwater National Forest contributes 12% of the larger management unit for elk populations in Idaho (1,200 sq. miles in total). According to presenters, elk have historically experienced highly sustained populations. However, in the 1980s scientists began to witness a steady decline in recruitment. As a result, only bull harvests are currently permitted, with an enforced cap on the number of hunters permitted per unit area and limits on per capita takes (there is no longer a general hunting season for bull elk). These conditions are further exasperated by natural predation (e.g., bear and lion on young calves). Given these trends, the logical question arises: Why is such a decline taking place?

Scientists have long known that quality habitat is extremely important for the long-term survival of any species. Recognizing the elk's dependence on early successional plant stages, understanding the ecology of both its winter and summer range, and the impact of management on the quality of this habitat is integral to understanding the regional decline of the species. One positive link between the health of forests and the health of keystone species like elk, is the role of fire and harvest regimes in providing necessary disturbance events.

A public and private consortium of interests developed the Clearwater Elk Initiative as a response to these elk management needs. To date, it has assembled locally-based comments on two projects planned by the Forest Service. These watershed projects (in the Clearwater National Forest, and another in the state of Montana) demonstrate the role that private forestry companies are striving to play in restoration efforts in the intermountain west. Involved companies developed four principles under which they would operate:

- 1) Find the rightful place in conservation for foresters;
- 2) Collaborate with other natural resource specialists and citizens;
- 3) Combine benefits of restoration projects, because that is the way ecosystems work; and
- 4) Shift the Forest Service from endless planning to "priority doing", given the fact that on-the-ground work is what the agency does best.

To further address issues of land management and elk population decline within the state, the Clearwater Elk Recovery Team formed as a spin-off of the Clearwater Elk Initiative. Though fully supported by sportsmen interested in improving conditions for big game, the team is careful to not limit project objectives solely to elk benefits. Identifying the elk as a keystone species for this region, the team can promote ecosystem-based approaches to forest management- addressing not only the needs of elk, but also of forest interior and aquatic species. To date, the projects have utilized a good mix of

components including burning and harvest activities, geared to improve ecosystem stability.³

4.5 Labor and Training

Labor and workforce training issues emerged as an integral portion of most discussions during the workshop. As forest managers are faced with the newer concepts of ecosystem management and evolving regulation, the roles and requirements of forest workers, practitioners, and land managers are changing. Though the importance of traditional forest-related fields (i.e., loggers) cannot be questioned, local communities have begun investigating new ways in which these "traditional" skills can be combined with creative approaches to achieve sustainable forest management.

Training a New Workforce

The Redwood Community Action Agency (RCAA) was born of the Community Action Program during the 1960s war on poverty. In recent surveys, the RCAA discovered trends within the watershed industry showing the emergence of a huge new industry: restoration. In the coastal area of California, where RCAA is located, more people are employed in the restoration field than in timber production. Despite this fact, the misnomer that timber is the more stable of natural resource activities persists. It persists even when studies have shown that increases in timber production do not relate to increased job opportunities and instead, often coincide with various elements of community instability (e.g., increased welfare, increased domestic violence, etc.). Sensing a new frontier in job opportunities and improved community life, RCAA set out to provide and improve job-related skills related to restoration - transferring necessary skills among a variety of rural and urban communities.

Increased Opportunities for Local Communities

The Watershed Research and Training Center (WRTC) has completed a great deal of socioeconomic studies looking at the loss of jobs, as they relate to changes in timber harvest procedures on national forest system lands. As a result of decreased job opportunities within their community and as part of the Jobs in the Woods Program, the WRTC created a training program to move people from episodic jobs to more stable career options that allow families to stay together and build truly sustainable communities. Efforts were made to cross-train individuals in a variety of fields related to land management. However, despite the development of trained personnel, federal procurement procedures continue to favor large, mobile crews (due to cost and low-bids, see below). To combat these issues, and promote a greater understanding among local and distant stakeholders, a learning exchange must be established. As one participant stated, "Technical specialists get adequate career training but practitioners and others

³ Within the described project areas, commercial thinnings have been planned, due to the high levels of competition existing. This allows managers to maintain an older forest longer. Ponderosa Pine is very limited on slopes.

involved in restoration do not". Participants agree that this is unacceptable, and cannot continue if standards for restoration work are to develop.

Mobile Workforce Issues

Tree planting has historically relied upon the edict of quantity, not quality, in all aspects of the job. In the past, the quantity of trees planted by a crew drove the profitability of the industry. Today, however, as more and more land managers embrace the concept of ecosystem management and strive to restore forests back to a more natural state, the objectives of planting have changed. Despite the revolution in implementation, labor structures within the reforestation field are still largely comprised of huge teams of mobile workers and most often consist of immigrant labor. Education or training programs rarely exist for these workers, many of which do not fully understand the ecology of the forests they are hired to replant (e.g., the effects of shade, microclimates, and difference between tree species) and receive few if any work-related benefits. As with other aspects of restoration, the need for training is integral to these workers for both effectiveness and efficiency. Such training can be used to illustrate new techniques, promote planting certification, and ultimately increase pride among workers.

This situation is slowly improving. In 1996, procurement reforms were passed that discouraged the utilization of low-bid contracting in reforestation projects. Protection is also granted to mobile workforces under the Migrant Seasonal Workers Protection Act. However, as a participant from the Forest Service's Washington Office noted, it is obvious that there needs to be a cultural and leadership change with contractors and to some degree within the agency to continue to combat worker exploitation. Legislation, such as the HIRE program (described above), may help realign restoration funds to provide greater training and labor opportunities for forest workers and practitioners.

4.6 Monitoring/Evaluation

Monitoring is an essential step in restoration, for it helps identify successful strategies and helps determine the effectiveness of meeting specific water quality and habitat goals. In short, monitoring should take place in order to determine the feasibility and effectiveness of the implementation plan and its end results. Monitoring should also be used to reveal ways of modifying management prescriptions in order to achieve desired structures and functions within a watershed (i.e., adaptive management). Monitoring can also be used as a valuable tool to enlist the support and collaboration of local citizens and provide a jumping-off point for future policy discussion. Unfortunately, despite its importance, lack of monitoring is a common weakness among restoration efforts due to the instability of funds (i.e., no multi-year funding source) and limited personnel (both agency and non-agency affiliates).

Monitoring Aquatic Species Recruitment

The National Audubon Society (NAS) is currently implementing a restoration and monitoring project in a 10-mile basin of coastal Oregon. Over the course of 6-years, NAS has collected data such as water quality measures and various production numbers

for fish, macro-invertebrates, and amphibians. The restoration of the project area began 2-years after initial baseline information was gathered. Currently NAS is testing the applicability of life-cycle monitoring program for the project, which determines freshwater migration rates and productivity through the catch of out-migrants. The program, jointly developed with the Oregon Fish and Wildlife and citizen partners, has the goal of increasing the natural production of Coho salmon in the project region

Citizen involvement was an important aspect of the project, as such involvement leads to greater communication and understanding of project objectives. Partners included the Oregon Fish and Wildlife, Siuslaw National Forest and various watershed councils. Incentives for involvement were basic- to provide citizens with an opportunity to get "their feet wet" for a purpose.

Public Involvement

Participants had numerous examples of how the public can become engaged in watershed restoration monitoring processes.

- In Massachusetts, the National Wildlife Federation completed TMDL monitoring using volunteer citizens and was able to use the data to formulate successful policy. According to those involved, it elevated the approach and heightened interest in the issue.
- In the Flathead basin of Montana, groups were able to establish phosphate bans based upon community-based monitoring.
- In southern Oregon, watershed councils and teams of volunteers were able to gather data on species of rare fish. As a result, they found that the specific fish did not need to be listed and reported their findings to the Oregon Department of Fisheries.
- In Oregon, a charismatic science teacher created a center for ecological monitoring through a local high school. The collected data was highly valuable to the federal agencies and was viewed as a non-threatening source.
- Within the Federal government, a riparian team was established between BLM and the Forest Service. They brought about a change in grazing by looking not only at the biological success of willows and sedges along a riparian area but also looking at the approach from an economic standpoint (effects on grazing cattle size).

Socio-economic Monitoring and the Role of the Public

Whereas monitoring is typically depicted as a tool with a physical-science base, one must not underestimate the importance of socioeconomic monitoring to indicate the need for change within the social/cultural setting of a community.

Many see this facet of data collection as a roadblock to action. It is generally thought, for example, that threatened and endangered species are bad because of the "restrictions" they place on community development. Under such circumstances, a lack of motivation or the increasing level of fear burdens data collection. By delving into some of the socio-

economic trends and cultural views within a given community, the relevant biological data becomes that much more useful. An example of this includes a socioeconomic study from Idaho that linked the evaluation of ecosystem management with its impact on the closure of mills related to new management practices.

4.7 *By-Product Marketing*

Within the realm of watershed restoration, there is a great deal of ambiguity surrounding the role or importance of harvesting products as part of restoration efforts. Questions abound on whether harvesting should be considered a by-product of these activities or an objective of the over-all project. Such ambiguity often results in the criticism of watershed restoration on public lands.

In 1993, with funding from the Rural Community Assistance (RCA) program, the Watershed Research and Training Center (WRTC) began a program for community members affected by the President's Northwest Forest Plan. Retraining opportunities were offered in watershed restoration, road condition surveys, streambank stabilization, botanical/faunal surveys, GIS/GPS, and monitoring. At the time of its origination, local mills could not deal with the small diameter materials (defined as less than 7.5-inch dbh) that were extracted during many of these operations. As a result, the WRTC began thinning overstocked stands (identified as necessary for ecosystem management) and developed a yarder (triple drum that mobilized up and downhill) that could handle the resulting small-diameter materials. Despite their efforts, this initial endeavor proved uneconomical- costing an average of \$600/acre. Realizing that there must be a way to add value to these by-products, WRTC asked for assistance from the Forest Service and soon developed a small sort yard that produced communication poles, small sawtimber, and other materials. Further developments included the use of the "economizer" (or baby hew saw that produces 2x4 or 2x6) to capture value from the remaining materials. With additional assistance from the Forest Service's Forest Products Lab, WRTC is currently developing computer programs and drying technologies to further enhance the value-adding process for small diameter materials. What once provided a total of \$210/mbf for green hewn timber, has now evolved into products worth well over \$1,400/mbf (molding and flooring specialty items). These efforts prove that the large industrial model is not the only option for those implementing and trying to fund restoration activities.

Some participants were quick to express a bit of frustration even with such innovative methods, indicating that such practices will eventually drive activities with a specified volume target. Supporters argued that this is not the case. Restoration should be used to treat an area with a specific *vision* in mind and then look at products as by-products. In further support of this notion, Sustainable Northwest and the WRTC have teamed up and created a marketing network based upon non-commodity driven forestry.

4.8 *Funding and Contract Mechanisms*

Nearly every discussion during the course of the workshop evolved into a discourse on the unavailability or insecure nature of funding for watershed restoration work and the

complicated nature of contracts. Such concerns not only centered around the support of implementation efforts, but also how one plans and designs a project under limited financial means. Sustained, secure funding raised concern even more. Given the long-term nature of some of these projects, ensuring managers that funds will be available through the life of a project proved impossible. For example, with those projects ongoing in the Clearwater National Forest, FY99 brought enough appropriated funds to support 30 seasonal employees. However, for FY2000, there are only enough funds for 2 employees. Funding for FY2001 is still uncertain.

Participants noted the historical reactive nature of funding and the increasing need for the agency to be more proactive in its project implementation. One participant noted that "We can mobilize a workforce to react to a fire. What we need is the ability to mobilize that same work force to implement restoration projects when the forest is in prescription."

Contracts and Agreements

In discussing projects on public lands, the subject of contracts is often clouded. What is appropriate and not appropriate, what is secure and insecure, what works and what doesn't were discussed throughout the workshop. From these exchanges, it was generally accepted that challenge cost-share agreements were the most relied upon mechanism to complete much of the restoration work currently being done on national forests. As an example, the Clearwater National Forest currently exercises a Memorandum of Understanding with the Nez Perce Tribe, which allows a joint funding agreement (50% tribal, 50% federal government funds) to implement various phases of the restoration project. It should be noted, that Memorandums of Understanding do not allow passage of money. Only procurement avenues permit the exchange of funds.

Originally, the Clearwater National Forest utilized participating agreements when working with the Nez Perce Tribe. Under a participatory agreement, the government can contribute a maximum of 50% of the funds, with a minimum contribution of 20%. Recently, however, contract officers have become cautious with the use of such agreements, resulting in a need for clarification. Personnel within the Forest Service are working with the USDA Office of General Council in considering the reinstatement of participatory agreements sometime in the near future.

Other contracting authorities discussed during the workshop included Administrative Use authorities and salvage authorities. According to the Forest Service manual (2463-Administrative Use), the Agency is permitted to dispose of timber under Administrative use or Administrative Free Use sales only under certain conditions:

- If the removal of materials results in an improvement in value to the National Forest or other Federal land,
- If the removed material is to be used for fuel in camps operated by the Forest Service or other Federal agencies,
- If the removed material is to be used for research and demonstration projects,
- If material is being removed as part of disaster relief work conducted by public agencies, or

-
- If materials are being removed as part of an effort to protect or enhance the multiple-use nature of the National Forest.

With regard to salvage authorities, the Forest Service currently has limited authority to allow contractors to salvage material based upon product value. If the value of material involved in a project is more than \$10,000, such materials must be either advertised for sale or solicited for informal bids from potential purchasers. However, in some instances such material may be incorporated into a service contract, as long as bid negotiations demonstrate that the Government will receive compensation for the salvageable material in the form of a reduced contract price (Ringgold, 1998).

Stewardship Contracts

Given the fact that the Forest Service has reduced levels of funding and far less personnel to manage the necessary work, stewardship contracts can provide beneficial alternatives for multi-layered funding sources. Such contracting mechanisms have been experimented with since the early 1980s, when shrinking federal budgets, reduced personnel and increased multi-purpose demands were witnessed on a large scale within the public lands system. These new contracts were designed to improve administration efficiency by allowing for the consolidation of multiple stand improvement contracts (typically using end-results performance specifications) (Ringgold, 1998). Eventually, these contracts evolved into a more comprehensive approach to ecosystem management including objectives such as wildlife habitat improvement, development of dispersed recreation facilities, soil and water conservation, and aesthetic improvement. By the 1990s, the land stewardship concept broadened to include local and small business participation, alternative commodity sales strategies, and site specific planning by local stewardship councils as key concepts (Ringgold, 1998).

In essence, stewardship contracts provide a means of implementing ecosystem management policies through a shift in management focus from assigned target or commodity outputs towards one of desired future resource conditions- simultaneously contributing to the development of local, rural communities. Several participants had experimented with facets of stewardship contracting to implement watershed restoration projects.⁴ Some examples discussed during the workshop include:

- Bundled service contracts,
- End results contracts,
- Multi-year contracts,
- Designation by prescription, and
- Exchange goods for services (currently not authorized for use, but being tested within Congressional authorized pilot projects).

⁴ Please note, more information on stewardship contracting can be found in Ringgold, P. 1998. *Land Stewardship Contracting in the National Forests: A Community Guide to Existing Authorities*. Pinchot Institute for Conservation. Washington, DC.

During discussions, many participants noted the social obstacles associated with such work and the inability of low-value by-products to pay for the full cost of restoration.

Innovative funding opportunities

During portions of the workshop, discussions turned into small brainstorming sessions in which participants either disclosed innovative ways in which they funded watershed projects or ways in which they saw potential opportunity. One such potential opportunity included developing a bond issue for water rates reflecting the cost of water out of a watershed. The Plumas Corporation, in California, initiated a campaign for a new bond that uses collected money from water rates for restoration work above the dam. Another opportunity involved re-distributing national forest recreation fees, returning approximately 10% of such fees to support projects related to watershed health and restoration. Perhaps the largest revenue source for watershed improvements was seen within the public water and hydropower sector (e.g., through dam relicensing efforts, NEPA compliance or TMDL/Clean Water Act funding).

4.9 Other Key Issues That Surfaced

Role or Threat of Fire

The role of fire in restoration activities or how to reduce fuels as part of restoration efforts evolved into a central focus for the workshop. For decades, the agency has spent the bulk of its energy suppressing fire throughout the national forest system. Now, with extremely high levels of fuel lining the understory of many forest stands, some forests are at a high risk for catastrophic events. Resurrecting a positive relationship with fire has become a mainstay within the Agency and many foresters and land managers have begun to use prescribed fire and other management strategies that help promote natural disturbance regimes throughout the landscape.

Today the Forest Service relies on set of fire models and analyses that look at age-class distributions, structure, density, downed woody debris, patch dynamics and species distribution within a forest to determine how a fire might behave under given conditions. These models and analyses have resulted in some deviation from earlier predictions. Currently within many of the national forests, the understory is far denser and of different composition due to long-term fire exclusion (upper canopy consisting of more fire resistant species, while the understory contains a greater density of non-resistant species, thus providing a fuel ladder to the upper canopy).

How, then, can fire be applied to return these forests back to a natural condition, one that is more fire resistant than the current? As one participant stated, "These forests were born of fire" and therefore returning fire to the ecosystem is a natural and necessary action. Under managed fire, a series of successional burns are needed to complete a stand thinning – one burn to kill some of the standing biomass and a second to remove the resulting debris. However, given these requirements it is often difficult to assure the public that there will be adequate funding to complete the required number of burns.

Currently, the federal government has developed a "Cohesive Strategy" to treat fuels in the west. Emergency funds are also being made available in the FY2001 Interior Appropriations Bill.

Principles for Responsible Forest Restoration

The Grand Canyon Forests Partnership recently developed a list of principles that have been proposed as a fundamental framework for effective restoration of forest ecosystems. (Appendix F) This list was developed through a review of existing technology, tools, governing authorities, and credibility issues that surround current land management activities. Realizing that only a margin of the American public is tuned into the issue of restoration, the list promotes a level of inclusiveness that will ideally bolster involvement and understanding.

Restoration Principles

- 1) Start with ecological objectives.
- 2) Start small and increase in measured incremental steps.
- 3) Locate projects in areas with substantial agreement or defined restoration needs.
- 4) Utilize an open, inclusive process for identifying and designing projects.
- 5) Develop a thorough monitoring program.
- 6) Create an multi-party monitoring process to assure credible implementation.
- 7) Distribute costs/ benefits of restoration equitably.

Private Forest Initiatives

Representatives from the National Association of State Foresters (NASF) spent some time addressing the similarity between federal restoration projects and those on private lands. In general, similar techniques are used to reach restoration objectives, however different funding sources and different approaches exist for private landowners. On private lands, restoration activities are much more localized and therefore, silviculture is not as large a focus. In addition, the mixed ownership patterns within municipal watersheds often create a complexity in securing funds. Despite the existence of various incentives, such as those associated with the development of a Habitat Conservation Plan (in accordance with ESA), landowners often remain reluctant to commit due to the instability and complexity of funding sources.

Unlike many of the discussed public lands projects, the foremost intent of the state forester is prevention of impacts rather than restoration. As such, the NASF would like to see an identified role for state forestry in the watershed restoration process and also see a greater emphasis on working within the urban landscape, where the taxpayers are and can easily see results.

5.0 NEXT STEPS

At the close of the workshop, participants were asked to identify what the next steps should be to overcome some of the issues/obstacles related to watershed restoration. The following provides a summary of those issues raised during the discussion session.

Training

Several participants agreed that additional future workshops were needed to provide practical approaches to the problems being faced. Unlike this preliminary discussion-oriented event, future workshops can be designed as more “working” or “practical” in nature, during which some of the science (e.g., monitoring) is completed by participants. Such a design may help de-mystify the science for those enveloped by policy and breach still more barriers in understanding and communication.

Some participants suggested that the ideas uncovered in this workshop be incorporated into a “learning website” to facilitate the exchange of information to a much broader audience. The site could highlight specific projects, providing a history/background, assessment of current conditions, estimated costs/benefits, activities, and monitoring status. It could also contain an open message board to post frequently asked questions and answers.

Develop Working Groups to Bust Barriers

In states with a large percentage of federal holdings, people are largely more aware of the gridlock associated with federal policy and regulation. For others, there needs to be a better way to identify the barriers to implementation and ways to overcome them. As such, it was suggested that a group be formed to help identify these issues, while also finding solutions to existing problems (e.g., budget, regulatory, partnering, etc.)

Specifically, many participants would like to see a group convened to combat those issues surrounding NEPA. It was suggested that a NEPA process dialogue be formed between those individuals experiencing perceived barriers and involved agencies to address some of these issues.

Policy Action

Several participants noted that policy makers should continue to support experiments in community-based problem solving, while still retaining regulatory systems and demanding greater documentation and accountability. Others would like to see more immediate action, for example engaging a group to draft language for the 2002 Farm Bill to address “private land watershed management”. Others suggested that efforts be made to develop a small working group to begin formulating language for the HIRE program legislation. Suggested activities include finding ways to delink trust fund “reform” from the watershed management/community stability/quality employment provisions, refining such provisions (e.g., watershed restoration, contracting, community stability) to better

meet all the integrated goals; circulating the revised measures for comment; and eventually introducing the results to the 2001 Congress.

Development of an Incentives Program for Watershed Restoration

Because successes in restoration are often scattered and surrounded by uncertainties, several participants suggested that a program be developed to reward and bring recognition to existing successful efforts. Incentives can include formal recognition (similar to an award), training opportunities, career advancement, monetary awards, etc.

Securing Funding Sources for Watershed Restoration

Many participants echoed a need for more secure long-term funding for watershed related projects. Some suggest a provision of funds with parameters set for a "use or lose" basis.

Establishment of Demonstration Projects

Several participants suggested that a series of demonstration projects be designed to test innovative techniques or procedures for restoration. These projects could be designed with an integration of tourism, cultural aspects, water quality issues, counties and school involvement and should remain strictly experimental in nature. Funding could come from a variety of sources (e.g., NGO's, industry, private foundations, government, etc.) or could be supported through the development of an escrow account within the agency that would provide the necessary funds to support activities through the length of a given project.

Connection of Efforts to the Urban Community

Some participants reiterated the importance of "connecting forestry to the faucet". Currently the general public is unable to define a watershed, let alone identify its value to society. This disconnection stymies the success of restoration efforts by limiting support (both financial and physical) and promoting continued irresponsible behavior and management tactics. Through garden clubs or similar organizations, strides can be made to tie community-based forestry and restoration together within the greater urban and suburban environment.

Expanding a Diverse Coalition for Watershed Restoration

To address many of the "next steps" outlined above, participants suggested the development of an expanded support coalition. Beginning with many of those present at this workshop, attempts could be made to expand communication and informational networks to gain further support and momentum in the movement towards planning and implementing large-scale restoration efforts. Such coalitions could be an effective means of developing legislation and policy that encourage and protect those involved in activities.

Commitments to Next Steps

In the months following the Watershed Restoration Workshop, survey forms were distributed to all participants to determine which "next steps" they were willing to commit to and support. These forms were distributed as an attempt to further fuel interests generated during the workshop and to promote action-oriented follow-ups to the discussions that arose during the 3-day meeting. Appendix G contains both the original sign-on form and the results of survey. The inclusion of this information serves two purposes: to elicit additional interest in specific causes and to connect those individuals with similar interests and skills. Please take time to look over this appendix, and if you have not already committed your skills to a particular area, consider sending us your completed survey form.

6.0 SUMMARY

Based upon feedback and evaluations, the workshop proved successful in highlighting the complexity of projects existing within watershed restoration and the numerous ways in which people addressed different project conditions and challenges. Though many of these initial dialogues merely touched upon the surface of issues, recognizing the various layers of obstacles involved in watershed restoration was awakening for many of the participants. Several participants were struck by the issue of duplication- the same issues being faced within various regions of the country. Others were struck by the level of energy and commitment expressed within the agency and practitioners to reach the goals and objectives of restoration. For many, the gathering of different interests at the workshop provided a first step for dealing with the major obstacle of gaining common ground.

Given the number of degraded ecological systems around the world and the swiftness with which they grow, restoration has a valid and important role to play in the conservation and sustainability of our natural resources. Through concerted efforts of collaboration and community involvement, such activities can be used to improve valuable functions within our natural environment while protecting and sustaining the pool of interests that rely upon them.

LITERATURE CITED

Kenney, D., S. McAllister, W. Caile, and J. Peckham. 2000. The New Watershed Source Book- A Directory and Review of Watershed Initiatives in the Western United States. Natural Resources Law Center, University of Colorado School of Law. 460 p.

Maxwell, J., C. Edwards, M. Jensen, S. Paustian, H. Parrot, and D. Hill. 1995. A hierarchical framework of aquatic ecological units in North America. General Technical Report NC-176. St. Paul, MN: USDA Forest Service, North Central Forest Experiment Station.

Preister, K. and J. Kent. 1997. "Social Ecology: A New Pathway to Watershed Restoration". Watershed Restoration: Principles and Practices. American Fisheries Society. 549p.

Ringgold, P. 1998. Land Stewardship Contracting in the National Forests: A Community Guide to Existing Authorities. Pinchot Institute for Conservation. Washington, DC. 185p.

Sedell, J., M. Sharpe, D. Dravnieks Apple, M. Copenhagen and M. Furniss. 2000. Water and the Forest Service. USDA Forest Service Washington Office. FS-660. January 2000.





Issues/Obstacles to Watershed Restoration Projects Identified during Telephone Interviews 12/1 – 12/10

Procedure: During December 1999, approximately 45 organizations were contacted to scope current issues/obstacles to the implementation of watershed restoration projects. These telephone interviews consisted of open-ended questions and were designed to illustrate the overall goals/accomplishments of an organization's project, indicate where collaborative efforts occurred and what conditions fueled (or extinguished) these efforts, funding/implementation concerns, outreach issues, monitoring methods, and the surrounding foundations of policy and/or science. The conversations that ensued produced the following groups of key issues/obstacles.

- A. Identification of benchmarks or desired goals/outputs.
 - What are the reference points for restoration?
 - What is the total potential of a watershed?
 - What is the historical potential of the watershed?
 - Defined goals/objectives of efforts (multi-discipline)
- B. Monitoring and Assessment
 - Identification of indicators to measure current condition and monitor progress.
 - Accurate assessment of non-point and point sources.
 - Macro-invertebrate monitoring
 - Commitment to post-monitoring
 - Funding
 - Role of certification.
- C. Forest Integrity
 - Defined as diverse composition, diverse age-structure, minimal fragmentation.
 - Role of land acquisition and easements
 - Forest conversions
- D. Water Flow/Water Quality
 - Fencing efforts
 - Rock/brush dams
 - Sedimentation control (plantings, bioengineering)
 - Animal waste
 - Point and non-point pollution
 - Energy dissipation devices (vortex-rock weirs)
- E. Level of Effort
 - Identification of areas which need restoration and efforts to protect those that don't.
 - Project scale (temporal and spatial)
- F. Mapping
 - Early identification of critical elements within the watershed (land ownership, biological indicators, geology, topology, etc) to assist with planning efforts.
 - Infrastructure necessary to develop GIS planning tools.
- G. Roads
 - Road deterioration and maintenance
 - Road design and engineering
 - Road decommissioning
 - Road paving to control sedimentation

H. Habitat Improvements

- Redeposit of large woody debris into streams.
- Role of land acquisition and easements.
- T/E species
- Culvert replacements
- Re-establishment of channels
- Habitat corridors through riparian conservation
- Society of Landscape Architects concept of "emerald beltways" throughout New England to connect city greenways with local habitat.

I. Policy/Regulations

1. General

- Legal issues involving property rights
- Political power struggles.

2. Regulations

- Permit process (state and federal)
- Land acquisition.
- Existing poor BMPs (not enforced)
- Reporting process required by EPA/USFS funded projects cumbersome
- NEPA
- Cohen Bill in MA. Requires 250 ft. buffer along all 1-2 order streams/rivers.
- EPA regulating forestry non-point with TMDL approach (no longer exempt)
- Role of Farm Bill (influence language within 2002 Farm Bill to provide funds for watershed protection)

3. Contract Policies

- Create more authorities in USFS to facilitate work with non-profits and tribes
- No consistency with USFS projects due to low bid requirement (provide some small scale projects to promote small, local involvement- can't compete with large firms).
- With regard to USFS work, local contractors required to do too much in terms of stewardship, which they had to pay for (loggers). Discouraged from USFS work.
- Low bid contracts are restrictive. Should be based on high quality to utilize specialized work force and small outfits.
- Stewardship contracting on USFS lands. Need for guidebook.

J. Funding

- Role of EPA funds
- Role of USFWS funds (Partners for Wildlife Program)
- In-kind donations from cities and private industry
- Stewardship contracting on USFS lands. Need for guidebook.
- Role of Farm Bill (influence language within 2002 Farm Bill to provide funds for watershed protection)
- Cumbersome federal grant process
- Cost-share programs (w/ conservation organizations, NRCS)
- NEPA. Funds to implement but not to complete NEPA required surveys, assessments or writing.
- Role of American Heritage Rivers Initiative
- Role of ACOE on large-scale projects
- In OR, percent of state lottery funds goes towards watershed restoration (implementation and monitoring).
- USFS grant writers are often silviculturists and don't pursue the right partnerships.

K. Project Design/Priority Setting/Planning

- Organization of assessments and efforts across the watershed (not individual projects).
- Prioritize protection strategies
- Prioritize land acquisition strategies

- Staggering of projects from headwaters down.
- Develop planning process.
- Integrated projects (currently very linear).
- Role of SDU.
- Management Plan development.
- Follow-up maintenance (oftentimes restoration is on-going)

L. Community Education and Outreach

- Promote programs through existing assistance offices (USDA Service Centers)
- Promote "good neighbor" policies and peer-to-peer training
- Personal contact vs. public meetings
- Problems in perception, trust and credibility
- Role of media (radio, paper)
- Pilot projects and demo. projects
- Tours of demonstration projects for legislators, local landowners, school groups, newspapers)
- Newsletters
- Watershed facts printed on fast-food placemats.
- Ecological understanding.

M. Rewards/Incentives

- Media coverage of jobs well done (PR boost).
- Economic incentives/cost-share
- Stewardship Incentive Program (New Mexico State Forestry)

N. Collaborative Stewardship

- Development of watershed councils with coordinators
- Utilizing industry for political clout and technical/financial assistance
- Facilitating multi-disciplinary and diverse group
- In areas heavy with agriculture interests, work with local conservation districts
- Communication and trust building
- Facilitation
- Agency role not as organizer, but provide impetus for bottom up efforts and direction.
- In PA, state has assigned full-time, senior people as watershed coordinators to facilitate issues within the agency.
- In VA, organized inter-agency coordinating committee which developed a communication matrix to facilitate technical, financial and planning assistance within communities. Part of over-all roundtable.

O. Labor Force

- In agriculture communities, land holders do work (no volunteers on property).
- Role of displaced workers and state-funded education programs (Jobs in the Woods)
- Labor shortage in some states. Using inmate labor.
- Lack of trained practitioners.
- Role of volunteers, student groups.

P. Pilot Projects

- Show what works and what doesn't before broad applications across landscape.

Q. Land Ownership/Traditional Rights/Culture

- Working with local land trusts to determine ownership patterns.
- Water rights along rivers/streams
- How change long-ingrained behavior?

R. Threatened/Endangered Species or Indicator Species

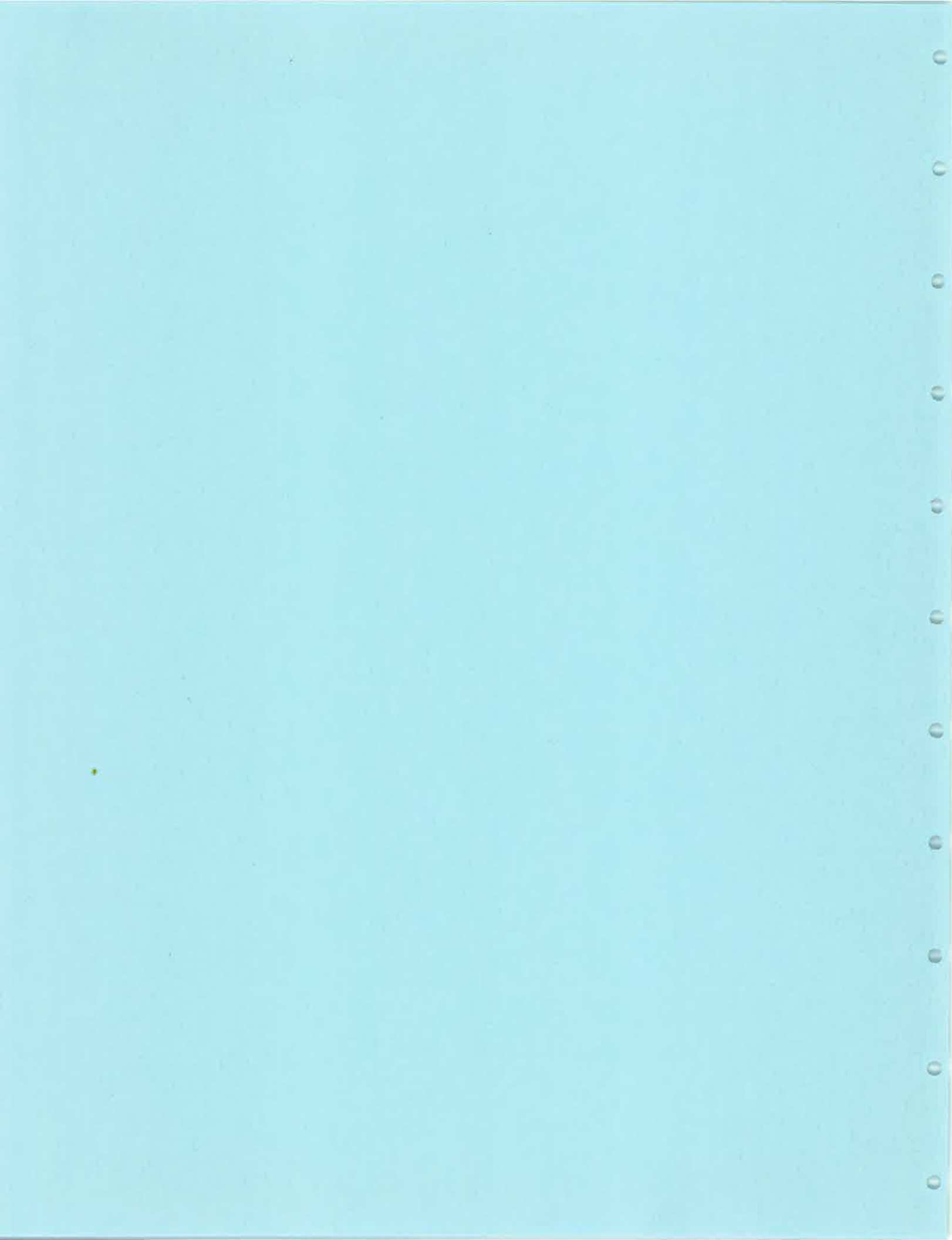
- NEPA
- Returning native fisheries
- Permit processes cause backlogs on work.

S. Technical Assistance

- Staff cut-backs cause shortages, despite increased requests for assistance.
- Lack of qualified hydrogeologists and geomorphologists for consultation
- Role of universities and research institutions

T. Recreation Pressures

- Horses
- ORVs



WATERSHED RESTORATION WORKSHOP

Clearwater National Forest

Sponsored by:
Pinchot Institute for Conservation
USDA Forest Service

July 10-13, 2000

AGENDA

***Objective:** To contribute to a national dialogue for exploring options and strategies for effective implementation of community-based restoration efforts.*

Monday, July 10

Val-U Inn, Missoula MT

- 5:00 pm *Arrival/Registration*
- 6:00 *Welcome and Introductions.* Mary Mitsos, Pinchot Institute for Conservation.
- 6:30 *Welcome to Region .* Dale Bosworth, Regional Forester
- 7:00 *Restoration on the Clearwater National Forest.* Jim Caswell, Clearwater National Forest
- 8:00 *Logistics for the next 2-days.* John Keerseemaker, Clearwater National Forest
- 8:30 *Adjourn*

Tuesday, July 11

Powell Ranger District, Clearwater National Forest

- 7:00 AM *Coffee and Continental Breakfast.*
- 7:30 *Depart Missoula.*
- 8:00 *Arrive Powell Ranger Station, Clearwater NF*
(Note: Entering Pacific Time)
- 8:20 *Depart Powell for field discussions.*
- 9:00 *Arrive Stop 1: Doe Creek/Deep Saddle*
Orientation to Project Area. Anne Conner, Clearwater National Forest.
Partnerships and Activities.
Background to Watershed Restoration and Policy.
Prioritizaion and Project Planning.
Open Discussion.
- 10:30 *Depart for Stop 2.*
- 11:00 *Lunch (discussions)*

- 12:00 *Stop 2: Squaw Creek/Obliterated Road*
Orientation to Project Area. Anne Conner, Clearwater National Forest.
Ecological and Wildlife Habitat Issues.
Labor Issues.
Monitoring/Evaluation.
Open Discussion.
- 2:30 *Depart for Camp.*
- 6:00 *Arrive at Mex Mountain.*
- 6:30 *Dinner and social.*
- 7:30 *Evening entertainment.*

Wednesday, July 12

Lochsa Ranger District, Clearwater National Forest

- 6:30 AM *Coffee and Breakfast.*
- 8:00 *Depart Mex Mountain for Stop 3.*
- 8:30 *Arrive Stop 3: Canyon Creek Overlook*
 - Orientation to Project Area. Kris Hazelbaker and Byron Bonney, Clearwater National Forest and Greg Servheen, Idaho Department of Fish and Game.
 - Small Diameter Utilization.
 - Compliance with Existing Legislation and Regulations
 - Wildlife Habitat and Population Recovery.
 - Open Discussion.
- 9:30 *Depart for Stop 4.*
- 10:30 *Arrive Stop 4: Pete King Overlook*
 - Orientation to Project Area. Kris Hazelbaker and Byron Bonney of Clearwater National Forest and Greg Servheen of Idaho Department of Fish and Game.
 - Continuation of Simialr Discussions from Stop 3.
- 12:30 *Lunch w/ continued discussions*
- 1:00 *Depart for Stop 5.*
- 1:30 *Arrive Stop 5: East Bridge*
 - Orientation to Project Area. Kris Hazelbaker and Byron Bonney, Clearwater National Forest and Greg Servheen, Idaho Department of Fish and Game.
 - Role of Fire
 - Funding
 - Public Outreach
 - Open Discussion.
- 3:00 *Adjourn/Depart for Missoula*

[OPTION: Stop along the route to Missoula at Lolo Hot Springs for swimming and/or dinner]

7:30 (MT) *Arrive at Missoula.*
(Note: Arrive Mountain Time)

Thursday, July 13
Val-U Inn, Missoula MT

7:00-9:00 AM *Summary/Close Out Session.*

- Overview Discussion of Workshop.
- Development of "Next Steps".
- Evaluation of Workshop.



**Watershed Restoration Workshop
Addendum/Corrections to Participant List
July 10-13, 2000
Clearwater National Forest**

Sponsored by the Pinchot Institute for Conservation and USDA Forest Service

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**Watershed Restoration Workshop
Addendum/Corrections to Participant List
July 10-13, 2000
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**Watershed Restoration Workshop
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July 10-13, 2000
Clearwater National Forest**

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**Watershed Restoration Workshop
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**Watershed Restoration Workshop
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July 10-13, 2000
Clearwater National Forest**

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WASHINGTON OUTLOOK

As we enter our 125th year of tree and forest advocacy, **AMERICAN FORESTS** introduces a national policy agenda for ecosystem restoration and maintenance. The agenda, which presents core values and goals to guide our policy activities, will evolve as we learn and as social, economic, and environmental conditions change. We welcome your comments.

The agenda focuses on helping communities plan and implement actions to restore and maintain healthy ecosystems and communities. It has three goals:

- Provide tools and resources to help build community capacity to assess ecological issues related to trees and forests, and to plan and implement actions.
- Increase public and private investment in tree and forest actions that restore and maintain healthy ecosystems and communities.
- Heighten public awareness of the interdependence of ecosystems and communities through accessible research information, inclusive policy dialogue, and communication.

Despite the best efforts of public and private entities, America's urban and rural forests are damaged and are threatened by human and natural forces: sprawl, lack of care, poor harvesting practices, wildfire, and insects and disease. In many places ecosystem integrity is at risk. When trees and forests are damaged, ecological services such as air and water quality and wildlife and fish habitat are degraded and nearby communities suffer, sometimes showing signs of economic and social decline.

In order to work toward a vision of sustainable ecosystems and communities, we believe it is necessary to focus on actions to restore and maintain trees and forests as critical components and indicators of healthy ecosystems. Americans from all walks of life, cultural and ethnic backgrounds, and political persuasions care deeply about trees and forests. We believe that actions to restore and maintain forest ecosystems represent a common objective among diverse interests and will find broad support in communities across the nation.

CORE BELIEFS AND PRINCIPLES

1. Technical tools, information, and financial assistance are essential to help communities assess ecological issues related to trees and forests, and to plan and implement actions.
2. Private landowners must be reached with information about the ecological importance of their lands in the larger landscape and offered technical and financial assistance or incentives to help restore and maintain their lands in forest and conservation uses.
3. Planning for ecosystem restoration should be done at a large enough scale to consider the ecological linkages between urban and rural communities, particularly along watersheds.

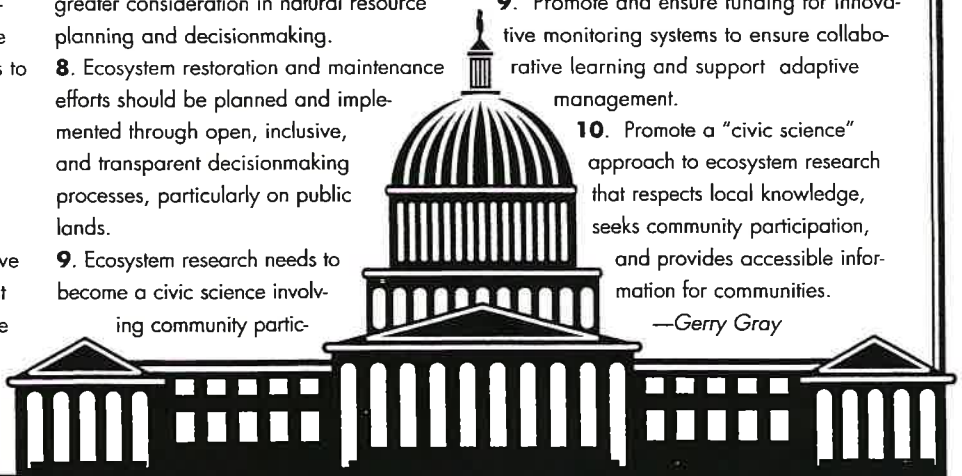
Despite the best efforts of public and private entities, America's urban and rural forests have been damaged & continue to be threatened by human and natural forces

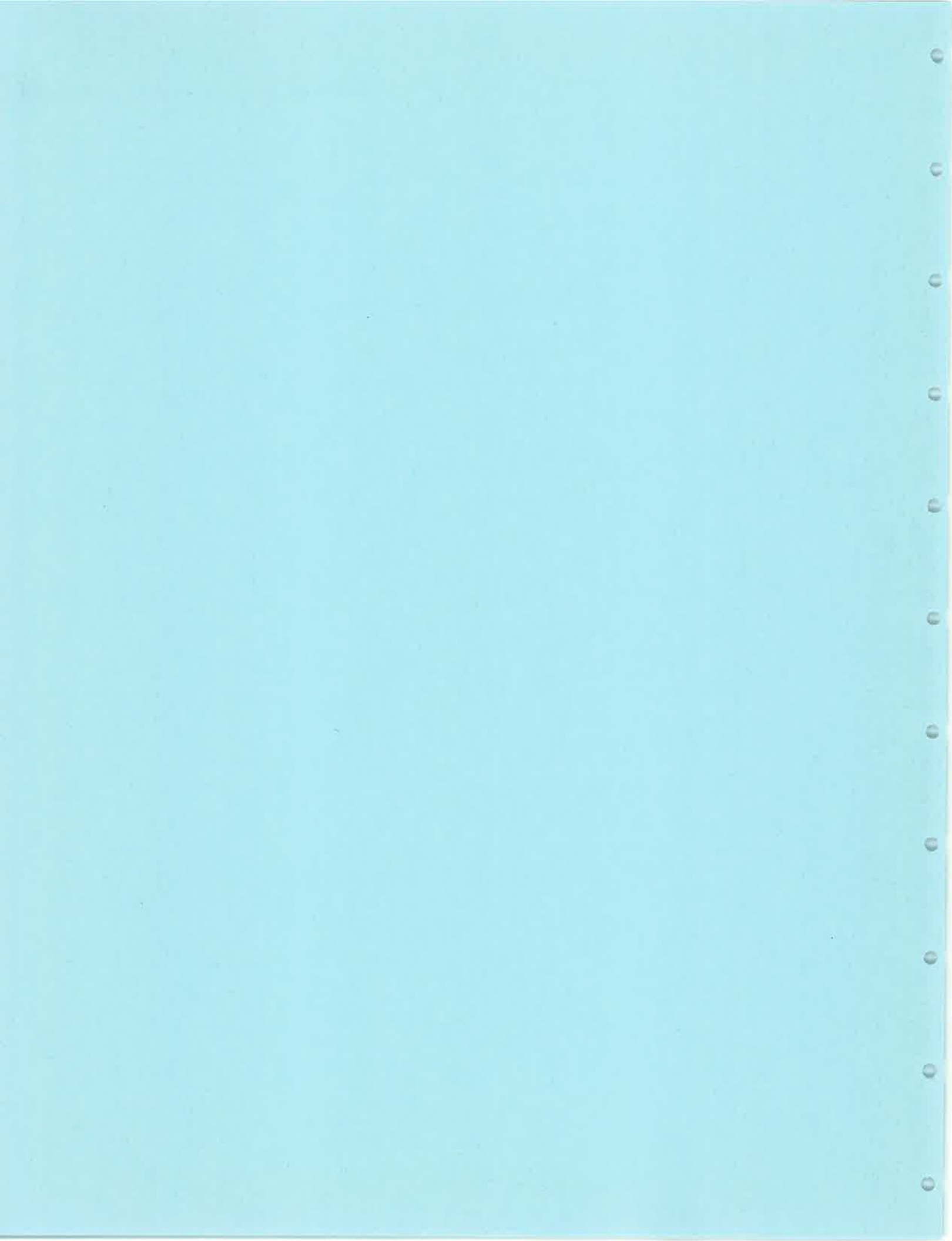
4. Restoration strategies must focus on maintaining the capacity of ecosystems to provide ecological services for all dependent species human and non-human.
5. Long-term investment is needed to restore and maintain ecosystem health and to build the capacity of communities to sustain local economies based on ecosystem stewardship.
6. An ecosystem workforce is needed to restore and maintain healthy ecosystems, combining trained workers and citizen volunteers.
7. The economic value of the ecological services provided by trees and forests needs greater consideration in natural resource planning and decisionmaking.
8. Ecosystem restoration and maintenance efforts should be planned and implemented through open, inclusive, and transparent decisionmaking processes, particularly on public lands.
9. Ecosystem research needs to become a civic science involving community participants and providing accessible information for community use.
10. A commitment to monitoring ecological, social, and economic conditions is essential to work toward a vision of sustainable ecosystems and communities.

PUBLIC POLICY GOALS

1. Increase support for policy research on the economic value of ecological services provided by trees and forests.
2. Increase technical and financial resources available to help communities assess ecosystem conditions and to plan and implement actions.
3. Heighten recognition of the public benefits of private forests and promote voluntary and/or incentive-based measures for ecosystem restoration and maintenance efforts by private landowners.
4. Encourage open and inclusive public processes in the planning and implementation of ecosystem restoration and maintenance projects.
5. Promote laws and policies that encourage collaboration among agencies, interests, and organizations rather than adversarial actions.
6. Increase public and private investment in ecosystem restoration and in building the capacity of communities to maintain healthy ecosystems.
7. Heighten awareness of the ecological linkages between urban and rural communities.
8. Promote the creation of an ecosystem workforce through training and apprenticeship programs and new job opportunities.
9. Promote and ensure funding for innovative monitoring systems to ensure collaborative learning and support adaptive management.
10. Promote a "civic science" approach to ecosystem research that respects local knowledge, seeks community participation, and provides accessible information for communities.

—Gerry Gray







UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

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September 23, 1998

F/NW

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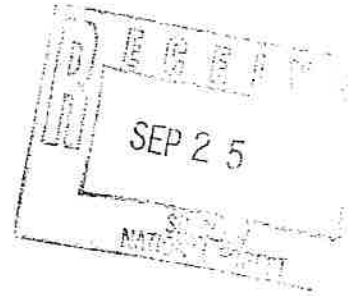
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RE: Section 7 Informal Consultation for Ongoing Programmatic Actions on the Siuslaw National Forest, Salem District-Bureau of Land Management (BLM), and Eugene District-BLM that May Affect Oregon Coast Coho Salmon within the Oregon Coast Range Province, Oregon

Dear Messrs. Furnish, Manning, and Williamson:

This responds to your September 17, 1998, letter and Biological Assessment (BA), received on September 21, 1998, requesting initiation of formal and informal consultation on ongoing programmatic actions which may affect Oregon Coast coho salmon (*Oncorhynchus kisutch*) within the Oregon Coast Range Province under the Northwest Forest Plan (NFP). An original conference was initiated in November 7 and 14, 1996, BAs from the Siuslaw National Forest (NF), a November 15, 1996, BA from the Eugene District Bureau of Land Management (BLM), and a November 18, 1996, BA from the Salem District BLM for Oregon Coast steelhead (*O. mykiss*). Informal conferencing was completed with a November 27, 1996, concurrence letter from William Stelle, Jr. (National Marine Fisheries Service (NMFS)) to Judy Nelson (Eugene District BLM), James Furnish (Siuslaw NF), and Van Manning (Salem District BLM). Additional analyses of the programs and the recent listing of Oregon Coast coho salmon as threatened under the Endangered Species Act (ESA) (August 10, 1998, 63 FR 42587) warrants



the current consultation. Critical habitat for Oregon Coast coho salmon has not yet been designated. This consultation has been completed pursuant to the ESA and its implementing regulations (50 CFR § 402) and constitutes informal consultation for listed Oregon Coast coho salmon.

The Level 1 teams for the Siuslaw NF, Salem District BLM, and Eugene District BLM prepared the BA as established by guidance provided in the February 26, 1997, interagency streamlining consultation agreement (FS/NMFS/FWS/BLM, 1997). Effects determinations were made by the Level 1 teams following procedures described in NMFS (1996) and NMFS (1997).

The proposed actions in the BA were separated into two categories: (1) actions found to "may affect, but not likely to adversely affect (NLAA)" Oregon Coast coho salmon; and (2) actions found to "may affect and likely to adversely affect" (LAA) Oregon Coast coho salmon. Formal consultation regarding the LAA actions will be concluded with the issuance of a biological opinion from the NMFS. The NMFS concludes informal consultation on the NLAA actions with this concurrence letter. The NLAA actions that are the subject of this concurrence letter are listed below in the attached excerpt from the BA (Table 1).

The NMFS was informed of an editing error in the BA (September 22, 1998, personal communication between Bob Ruediger, Salem BLM, and Garwin Yip, NMFS). In Table 5x (page 61), the effects of conifer stand establishment/development and riparian restoration on the stream influence zone should be "restore," rather than "degrade."

The NMFS concurs with the Level 1 team's determination that these NLAA actions include appropriate measures to avoid or minimize adverse impacts to Oregon Coast coho salmon. This concurrence is based on: 1) the subject activities occurring as described in the BA (excerpt attached); and 2) the project design criteria in the BA (excerpt attached) being followed. This letter constitutes concurrence with the NLAA effect determinations for the following categories of ongoing actions: hazard tree removal, tree topping (snag creation), fertilization, special forest products (except firewood), road prism salvage, environmental education (without instream activities), conifer stand establishment/development and riparian restoration, prescription burns, blowdown and ice-damage salvage, and noxious weed control. The Level 1 team agreed that since the effect determinations at the watershed scale are the same for Oregon Coast coho salmon as for other candidate anadromous fish species, the effect determinations for the subject actions of this consultation, which are NLAA for Oregon Coast coho salmon, are also NLAA for Oregon Coast steelhead and sea-run cutthroat trout.

The two requirements for an NLAA determination for Oregon Coast coho salmon are: (1) the action does not have the potential to hinder attainment of relevant properly functioning indicators at the watershed scale of reference; and (2) the action has a negligible (extremely low) probability of causing take of the species. The NMFS concurs with the Level 1 team that the programmatic actions listed in Table 1 meet those two requirements and are therefore not likely to adversely affect Oregon Coast coho salmon. The NMFS also concurs with the Level 1 team's

determinations that these actions, if implemented as described in the BA, are consistent with the LRMP Opinion (NMFS 1997), include appropriate measures to avoid or minimize adverse impacts to Oregon Coast coho salmon, and are consistent with the Aquatic Conservation Strategy objectives.

This concludes informal consultation on these actions in accordance with 50 CFR § 402.14(b)(1). The Siuslaw NF, the Salem District BLM, or the Eugene District BLM must reinitiate this ESA consultation if new information becomes available or circumstances occur that may affect listed species in a manner or to an extent not previously considered, or if a new species is listed or critical habitat is designated that may be affected by the actions. If you have any questions please contact Garwin Yip, of my staff, at (503) 230-5419.

Sincerely,

A handwritten signature in black ink, appearing to read 'William Stelle, Jr.', with a long horizontal flourish extending to the right.

William Stelle, Jr.
Regional Administrator

Enclosures

Table 1. Ongoing actions on the Siuslaw National Forest, Salem District BLM, and Eugene District BLM that are not likely to adversely affect Oregon Coast coho salmon, and conditions of concurrence.

PROGRAM	CONDITIONS OF CONCURRENCE
Hazard Tree Removal	1. Remove minimum number of trees required for safety. 2. Conduct activities to limit need for additional access or disturbance to other vegetation. 3. Use felled trees as large woody debris in the riparian area or stream, when practical.
Tree Topping (Snag Creation)	1. A fishery biologist shall evaluate snag creation plans in riparian reserves to ensure that effects are negligible. 2. Use only foot access unless trees are adjoining developed accesses.
Fertilization	1. Keep fertilizer out of all active water channels, natural and man-made. 2. Retain a minimum 100' buffer along active water channels for aerial applications, and 50' foot for vehicle or hand application unless specific plans include riparian fertilization. 3. Establish staging and storage areas for equipment and fertilizer outside of riparian zone.
Special Forest Products (except firewood)	None
Road Prism Salvage	None
Environmental Education (without instream activities)	Activities shall avoid sensitive areas such as streambanks and spawning areas.
Conifer Stand Establishment /Development and Riparian Restoration	Maintain a buffer of trees and brush along active water channels to provide for adequate shade.
Prescription burns (broadcast burns, pile and burn, understory burn, etc)	Do not apply or allow foam or retardants to enter live streams.
Blowdown and Ice-Damage Salvage	Use appropriate yarding systems necessary to prevent resource damage and comply with NFP S&Gs.

Table 1. Ongoing actions on the Siuslaw National Forest, Salem District BLM, and Eugene District BLM that are not likely to adversely affect Oregon Coast coho salmon, and conditions of concurrence (continued).

PROGRAM	CONDITIONS OF CONCURRENCE
Noxious Weed Control	1. When spraying herbicide, keep at least 50 feet from water. 2. Comply with 1988 FEIS for Managing Competing and Unwanted Vegetation.

References Cited

- National Marine Fisheries Service (NMFS). 1996. Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale. NMFS, Environmental and Technical Services Division, Habitat Conservation Program, 525 NE Oregon Street, Portland, Oregon. August. 28 pages.
- National Marine Fisheries Service (NMFS). 1997. Biological opinion and conference opinion on implementation of Land and Resource Management Plans (USFS) and Resource Management Plans (BLM). 75 pages plus 3 attachments. March 18.
- USFS/NMFS/FWS/BLM. 1997. Streamlining Consultation Procedures Under Section 7 of the Endangered Species Act - February 1997 Procedure Guidance. 2 page memorandum, 25 page guidance document, and 4 attachments. February 26.

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Salem District BLM
1717 Fabry Road SE
Salem, OR 97306

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Siuslaw National Forest
P.O. Box 1148
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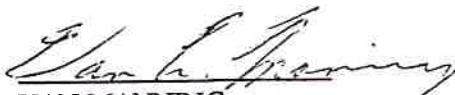
Elizabeth Holmes Gaar
Attn: Garwin Yip
National Marine Fisheries Service
Habitat Conservation Division
525 NE Oregon St., Suite 500
Portland, OR 97232-2737

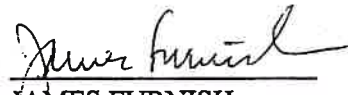
Dear Ms. Gaar:

Per regulations on interagency cooperation (50 CFR 402) pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (as amended), this letter and the enclosed Biological Assessment (BA) constitute a request to the National Marine Fisheries Service (NMFS) for formal and informal consultation for Oregon Coast coho salmon. The enclosed BA documents ongoing programmatic actions on the Salem District-BLM, Siuslaw National Forest, and Eugene District-BLM which "may affect" the Oregon Coast coho salmon within the Oregon Coast Range Province, which will be listed as Threatened on October 9, 1998 (63 FR 42587; August 10, 1998).

Effects determinations reached by the Oregon Coast Range Provincial Level 1 team (summarized in the BA Information Table) for the various projects are either "may affect, not likely to adversely affect" (NLAA) or "may affect, likely to adversely affect" (LAA). These programmatics are covered by and meet the terms and conditions of the Biological Opinion/Conference Opinion on the LRMPs/RMPs (March 19, 1997).

If you have any questions, please contact Bob Ruediger (Salem BLM, 503-375-5608), Mike Clady (Siuslaw NF, 541-750-7053), or Neil Armantrout (Eugene BLM, 541-683-6451).


VAN MANNING
District Manager
Salem District BLM


JAMES FURNISH
Forest Supervisor
Siuslaw National Forest


DENIS WILLIAMSON
District Manager
Eugene District BLM

1 Enclosure
1 - Biological Assessment





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

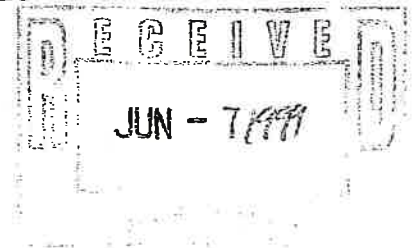
Northwest Region
7600 Sand Point Way, NE
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June 4, 1999

James Furnish
U.S. Forest Service
Siuslaw National Forest
P.O. Box 1148
Corvallis, Oregon 97339

Denis Williamson
Bureau of Land Management
Eugene District Office
P.O. Box 10226
Eugene, Oregon 97440-2226

Van Manning
Bureau of Land Management
Salem District Office
1717 Fabry road SE
Salem, Oregon 97306



Re: ESA Section 7 Consultation for Programmatic Actions in the U.S. Forest Service -
Siuslaw National Forest, Salem District Bureau of Land Management (BLM), and Eugene
District BLM, that are Likely to Adversely Affect Oregon Coast Coho Salmon within the
Oregon Coast Range Province

Dear Messrs. Furnish, Manning, and Williamson:

This responds to your September 17, 1998, letter and biological assessment (BA), addressed to Elizabeth Holmes Gaar, National Marine Fisheries Service (NMFS), requesting formal and informal consultation on programmatic actions on the Siuslaw National Forest (NF), Salem District Bureau of Land Management (BLM), and Eugene District BLM which may affect Oregon Coast coho salmon within the Oregon Coast Range Province.

BACKGROUND

The objective of this biological opinion (Opinion) is to determine whether the programmatic actions of the U.S. Forest Service (USFS) and BLM in the Oregon Coast Range Province are likely to jeopardize the continued existence of the threatened Oregon Coast coho salmon (*Oncorhynchus kisutch*) or result in the destruction or adverse modification of their proposed critical habitat.



The Oregon Coast coho salmon Evolutionarily Significant Unit¹ (ESU) was listed as threatened under the Endangered Species Act (ESA) by the NMFS on August 10, 1998 (63 FR 42587). Critical habitat for Oregon Coast coho salmon was proposed by the NMFS on May 10, 1999 (64 FR 24998). This consultation is undertaken pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR § 402, and constitutes formal consultation for the portion of the listed Oregon Coast coho salmon ESU within the Oregon Coast Range Province. Hereafter, all mention of Oregon Coast coho salmon are in reference to the Oregon Coast Range Province portion of the ESU.

The Land and Resource Management Plan for the Siuslaw National Forest, and the Resource Management Plans for the Salem District BLM and Eugene District BLM, as amended by USDA-FS and USDI-BLM (1994) [hereafter referred to as the Northwest Forest Plan (NFP)], were the subject of a formal programmatic ESA consultation. Consultation was concluded with the issuance of a March 18, 1997, Biological Opinion and Conference Opinion (NMFS 1997a; hereafter referred to as the LRMP Opinion). The LRMP Opinion evaluated the effects of USFS and BLM land management plans on many anadromous salmonid ESUs, including Oregon Coast coho salmon, and consequently provides an important basis for many of NMFS' determinations. At the time the LRMP Opinion was issued, Oregon Coast coho salmon was a proposed species. In a September 29, 1998, letter from William Stelle, Jr. (NMFS) to Robert W. Williams (USFS) and Elaine Y. Zielinski (BLM), the LRMP Opinion was adopted as a biological opinion for Oregon Coast coho salmon.

In addition to compliance with ESA regulations, this Opinion has been prepared in accordance with direction established in the May 31, 1995, interagency agreement for Streamlining Consultation Procedures Under Section 7 of the ESA. An interagency consultation process for implementing the streamlining agreement was jointly adopted by the USFS, BLM, U.S. Fish and Wildlife Service, and the NMFS on August 29, 1995, and revised and updated on February 26, 1997. In response to the direction to ensure early and frequent interagency coordination throughout the consultation process, a fisheries interagency team (referred to as "Level-1 team") with NMFS, USFS, and BLM was formed within the Oregon Coast Range Province. Each project (except projects the action agency determines will have "no effect" on listed species) is reviewed by the Level-1 team. The Level-1 team utilizes the procedures established in NMFS (1996) to determine the effects of proposed actions relative to the environmental baseline at project and watershed scales, using criteria based on the species' biological requirements. Protective measures in addition to those initially included in the proposed actions may be developed during the Level-1 team review.

During the last half of 1996, the Level-1 team reviewed programmatic actions on USFS- and BLM-administered land within the Oregon Coast Range Province. Biological assessments were

¹For the purposes of conservation under the Endangered Species Act, an Evolutionarily Significant Unit (ESU) is a distinct population segment that is substantially reproductively isolated from other conspecific population units and represents an important component in the evolutionary legacy of the species (Waples, 1991).

submitted to the NMFS in November and December, 1996, for conferencing on Oregon Coast coho salmon and Oregon Coast steelhead, proposed for listing (July 25, 1995, 60 FR 38011; and August 9, 1996, 61 FR 41541, respectively) under the ESA. On March 6, 1997, the NMFS issued a conference opinion for on-going (through May 31, 1998) and proposed actions in the Siuslaw NF, Salem District BLM, and Eugene District BLM that may affect, and are likely to adversely affect (LAA), Oregon Coast coho salmon or Oregon Coast steelhead. The expiration date was provided with the intention that the Level-1 team would review the programmatic actions in more detail. At that time, the NMFS determined that Oregon Coast coho salmon did not warrant listing under the ESA (May 6, 1997, 62 FR 24588), so upon expiration of the conference opinion, the action agencies requested reinitiation of conferencing on Oregon Coast steelhead. However, the status of Oregon Coast steelhead under the ESA became candidate (March 19, 1998, 63 FR 13347), and the conference was not warranted. Oregon Coast coho salmon were listed as threatened under the ESA on August 10, 1998 (63 FR 42587). Informal consultation for programmatic actions which NMFS concurred were "not likely to adversely affect" Oregon Coast coho salmon was concluded on September 23, 1998.

The BA documents the environmental baseline at the fourth-field hydrologic unit code² watershed (hereafter referred to as fourth-field basin) scale and effects determinations at the project scale. In addition, the BA provides documentation demonstrating that the projects are consistent with the NFP Aquatic Conservation Strategy (ACS). Because consistency with the ACS is typically analyzed at the fifth-field HUC (watershed) scale, the effects determinations were also analyzed at that scale. Baseline descriptions and effects determinations for each programmatic action proposed in the BA were completed by the USFS and BLM. The Level-1 team collaborated on the project scale and fifth-field watershed scale determinations. The documentation supporting those baselines and effects determinations at each spatial scale are included in the BA and hereby incorporated into this Opinion by reference.

This Opinion concludes that the effects of the USFS and BLM programmatic actions, together with the cumulative effects and effects of the environmental baseline within the Oregon Coast Range Province, are not likely to jeopardize the continued existence of the Oregon Coast coho salmon. The NMFS concurs that implementation of these actions will not result in the destruction or adverse modification of proposed critical habitat for Oregon Coast coho salmon.

² Stream drainages can be arranged in nested hierarchies, in which a large drainage is composed of smaller drainages. The USFS and BLM use a system in which these drainages are numbered in a computer data base for analytical purposes. The number identifier of a particular drainage in this data base is called its hydrologic unit code, or HUC. This HUC increases with decreasing drainage area, thus a fourth-field HUC (such as the Siuslaw River basin) is composed of several fifth-field HUCs (such as Wolf Creek, Lake Creek, etc., hereafter referred to as a watershed), and so on. The Northwest Forest Plan determined that the scale of watershed analyses should be 20 to 200 square miles, which often corresponds to a fifth field watershed. Fifth-field watersheds are hierarchal subdivisions of western Oregon river subbasins that were cooperatively delineated by the USFS and BLM to facilitate watershed analysis. Fifth-field watersheds (approximately 20-200 square miles in size) provide a proper context for assessing many processes and features affecting ecosystem function. In this consultation, fourth-field basins are referred to as Section 7 watersheds in the BA.

Incidental take of Oregon Coast coho salmon resulting from the programmatic actions that are the subject of this Opinion is also authorized [see Incidental Take Statement (ITS)].

PROPOSED ACTIONS

The BA describes the programmatic actions and their potential effects on Oregon Coast coho salmon. Some of the actions in the BA were determined to be "may affect, but not likely to adversely affect" (NLAA) Oregon Coast coho salmon, and the others were determined to be "may affect, and likely to adversely affect" (LAA) this species. The NLAA actions were addressed in a September 23, 1998, concurrence letter from the NMFS. The 17 categories of programmatic actions that were determined to be LAA are the subject of this Opinion. Tailhold permits have been added to the programmatic category "Discretionary Rights of Ways," as requested in your March 4, 1999, letter to Rick Applegate (NMFS).

The USFS and BLM requested formal consultation on the following 17 programmatic actions that may affect and are likely to adversely affect Oregon Coast coho salmon: road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, discretionary road use permits, discretionary rights of way, near-stream and instream surveys, environmental education with instream activities, pump chances, water withdrawal permits, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance. The ESA implementing regulations define "Effects of the action" as, "...the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline.... Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration" (50 CFR §402.02). The programmatic actions of discretionary road use permits, discretionary rights of way, and water withdrawal permits, fit into the category of interrelated and interdependent actions. Without knowing the details of these interrelated and interdependent actions, the NMFS cannot effectively analyze effects of those programmatic actions. Therefore, the NMFS is withdrawing the programmatic actions of discretionary road use permits, discretionary rights of way, and water withdrawal permits from this consultation. This Opinion will conclude formal consultation on the following 14 programmatic actions: road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, near-stream and instream surveys, environmental education with instream activities, pump chances, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance. Hereafter, all reference to programmatic excludes the categories of discretionary road use permits, discretionary rights of way, and water withdrawal permits.

Although consultation on Oregon Coast steelhead (*O. mykiss*) and sea-run cutthroat trout (*O. clarki clarki*) is not warranted at this time, the Level-1 team agreed that the effect

determinations for the programmatic actions of this Opinion, which are LAA for Oregon Coast coho salmon, are also LAA for Oregon Coast steelhead and sea-run cutthroat trout.

The proposed actions are programmatic, meaning that each category of actions may include a number of individual actions, which, when grouped together, represent a program. Since the individual actions may occur at many individual sites across the landscape (e.g., conifer stand development), on a routine basis (e.g., road maintenance), or sporadically (e.g., requests for road use permits), the Level-1 team felt that these kinds of actions should be assessed programmatically.

Following are descriptions of each programmatic action. In addition to the following descriptions, the Level-1 team developed project design criteria for specific programmatic actions to further minimize the likelihood of impacts to Oregon Coast coho salmon (see BA and ITS).

Road Maintenance

These activities are designed to maintain safety and control, and prevent road erosion and sedimentation. This category includes any road maintenance activities using heavy equipment, including surface maintenance (grading, leveling), drainage maintenance and repair, vegetation management (brushing, limbing, seeding, and mulching), hauling waste or fill for road surfaces or ditches, surface replacement (paving, repaving, chip-sealing, and rocking), small tree or slide removal, snowplowing, dust abatement, and maintenance and repair of structures (relief or channel culverts, bridges). Road maintenance due to storm events such as small slide removal and stabilization or culvert and drainage repair is performed as exigencies arise.

Aquatic Habitat Projects

Aquatic habitat projects are completed for the purpose of restoring spawning, rearing, and migratory conditions in streams and lakes. They are constructed or created within the stream channel or the immediate floodplain to improve aquatic habitat, channel stability or fish passage, and the maintenance thereof. Projects include the placement of large woody debris (LWD) (whole trees or portions of trees), boulders and gravel into the channel, excavation of side channels and alcoves, and stream bank and channel stabilization. Project access roads are rehabilitated with techniques which include seeding, waterbarring, ripping, and blocking. Fish passage improvements include the replacement of barrier culverts with passable culverts, pipe-arches, or bridges; construction of fish ladders and placement/construction of sills (boulder, wood, concrete) to improve access to culverts. Work may be accomplished using manual labor, heavy equipment, or helicopters, and may involve the use of this equipment in the stream channel.

Trail Maintenance and Construction

Trail maintenance is implemented to improve safety, prevent erosion, and prevent damage to resources. Trails are constructed in response to recreational use. This category covers trails which are primarily for hiking or equestrian use. Trail maintenance and reconstruction of existing trails involves actions such as removing leaning and down trees from the trail, diverting

erosive water off trails (e.g. waterbars, drain dips, culverts), repair of erosion sites (addition of gravel or logs in wet sites), construction/improvements to stream crossings, brushing, improving the tread, and constructing and maintaining rock crib walls to support unstable trail sections. Trail construction includes construction of new trails and the relocation or extension of existing trails. This category does not include actions which are not directly related to the repair or construction of trails or trail stream crossings. It does not include maintenance or construction of trails for motorcycle/off-highway vehicle use.

Meadow Maintenance

This is done in limited, localized areas, mainly to enhance food resources and habitat for elk. Meadows, some of which are adjacent to streams, are maintained in early seral stages by mowing and burning.

Road Decommissioning and Obliteration

This category includes the removal of those elements of a road that reroute hillslope drainage and present slope stability hazards from unnecessary, unstable, or poorly located roads. It also includes dispersed recreational campsite removal. This category includes actions such as bridge and culvert removal, removal of asphalt and gravel, subsoiling of road surfaces, outsloping, waterbarring, fill removal, sidecast pullback, revegetating with native, non-native, or non-invasive species, and roadway barricading to exclude vehicular traffic.

Repair of Storm Damaged Roads

These projects are implemented to maintain safety, open access and prevent further damage to resources resulting from storm related damage to roads. Projects involve action such as the removal of large slides; reconstruction, repair, or relocation of roads damaged by surface erosion, high streamflows, fill failure, culvert failure, and landslides; stabilization of slopes; and the repair or replacement of bridges and culverts. Work is accomplished using heavy equipment and may occur in the wet season and involve work in the stream channels.

Near-stream and Instream Surveys

These are surveys to assess stream condition, aquatic invertebrate populations, plant, wildlife and other resources in adjacent riparian areas. This program consists of walking surveys done in and near streams, and includes aquatic habitat inventory, and botany, mollusk, amphibian, cultural resource (including test pits: test pits are approximately 1 square meter in size), and riparian vegetation surveys and monitoring. Near-stream surveys refers to surveys done on stream banks or within 25 feet of stream reaches with proposed or listed fish species. This category includes snorkeling and spawning surveys, but does not include direct capture (traps, seines, gill nets, etc.) or electrofishing.

Environmental Education with Instream Activities

These are programs that teach people about the life histories of salmon and their place in Pacific Northwest culture, other life in streams, the current crisis surrounding declines in runs of these fish, and ways to help alleviate the situation. It includes programs such as Salmon Watch, which

takes classes of school children to look at spawning salmon, and to do other activities like collecting macroinvertebrates and measuring water quality in and along the stream.

Pump Chances

This is for maintenance and use of sites for water withdrawal during prescription burns, emergency fire conditions, or road maintenance. Access to pump chances is maintained by removing brush from trails to access points, trees from helicopter landing sites, and the installation of boulders (or similar) to increase pool depth. Most pump chances are located on fish bearing streams, although typically water for fire is not withdrawn in a given year. Withdrawals are for fire control, dust abatement, and compacting gravel roads.

Firewood Collection

These permits allow members of the public to cut and haul away waste wood from landings, blown down conifers, and live or down alder along roads. Permits are issued for both commercial and noncommercial purposes and are often issued to allow legal removal of logs lying close to roads before they are stolen.

Public Use of Developed Sites and Dispersed Public Use

This allows access to and use of public lands for recreation. Developed recreation sites include campgrounds, day use areas, and interpretive sites. Dispersed public use includes the use of Federal lands for short term camping, fishing, hunting, hiking, boating, wildlife watching, and similar activities other than in developed facilities.

Developed Boat Ramps

This allows lake or river access for the purpose of recreating on surface waters. This includes maintenance and use of developed boat ramps for loading and unloading boats by hand or from trailers, and associated staging and parking areas, docking facilities, and other developments such as picnic or sanitation facilities. The role of developed boat ramps in harvesting sensitive species is not covered by this programmatic assessment.

Non-Riparian Rock Quarries

These provide a source of rock and gravel for use in road construction and maintenance and for other activities such as restoration projects. Activities include drilling, blasting, crushing, and hauling of materials on new or existing roads, and stockpiling material from decommissioned roads.

Infrastructure Maintenance

This is the maintenance of infrastructure improvements in Riparian Reserves for use by the public and for administrative purposes. This includes the maintenance of developments such as campgrounds, interpretive sites, education sites, storage areas, administrative sites, and similar improvements. Maintenance may include activities such as pruning of brush and trees, operation of sewage facilities, maintaining roads and other surfaces, maintaining buildings, and operation of sanitary facilities using hand tools and power equipment.

The proposed programmatic actions comply with the Record of Decision and Standards and Guidelines of the NFP (USDA-FS and USDI-BLM 1994), the Siuslaw National Forest Land and Resource Management Plan (USDA-FS 1990), the Salem District BLM Resource Management Plan (RMP) (USDI-BLM 1995a), and the Eugene District BLM RMP (USDI-BLM 1995b). In addition, these programmatic actions are consistent with the LRMP Opinion.

BIOLOGICAL INFORMATION

The Oregon Coast coho salmon ESU was listed under the ESA on August 10, 1998 (63 FR 42587). Although there are currently limited data to assess population numbers or trends, the NMFS believes that all coho salmon stocks comprising the Oregon Coast coho salmon ESU are depressed relative to past abundance. The status and relevant biological information concerning Oregon Coast coho salmon are well described in Attachment 1 of the LRMP Opinion, proposed and final rule listings from the Federal Register (July 25, 1995, 60 FR 38011; and May 6, 1997, 62 FR 24588, respectively), and Weitkamp *et al.* (1995).

Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from about 1965 to about 1975 and has fluctuated at a low level since that time (Nickelson *et al.* 1992). Spawning escapements for this ESU may be at less than 5% of abundance in the early 1900s. Contemporary production of coho salmon may be less than 10% of the historic production (Nickelson *et al.* 1992). Average spawner abundance has been relatively constant since the late 1970s, but preharvest abundance has declined. Average recruits-per-spawner may also be declining. The Oregon Coast coho salmon ESU, although not at immediate danger of extinction, may become endangered in the future if present trends continue (Weitkamp *et al.* 1995).

Oregon Coast coho salmon, as with other anadromous salmonids, face numerous and varied influences which affect their productivity. Their present depressed condition is the result of several longstanding, human-induced factors (e.g., habitat degradation, harvest, water diversions, and artificial propagation) that exacerbate the adverse effects of natural environmental variability (drought, floods, and poor ocean conditions). NMFS (1997b) identifies and discusses the following freshwater factors that contribute to the decline of coho salmon: changes in channel morphology, substrate changes in streams, loss of instream roughness, loss of estuarine rearing habitat, loss of wetlands, loss/degradation of riparian areas, water quality degradation, changes in flow, blockage/passage impediments, elimination of habitat, direct take, and cumulative effects. Evidence exists of genetic differentiation within this ESU, although currently there is no clear geographic pattern to this differentiation (Weitkamp *et al.* 1995).

CRITICAL HABITAT

Critical habitat for Oregon Coast coho salmon was proposed by the NMFS on May 10, 1999 (64 FR 24998), and includes Oregon coastal river basins (freshwater and estuarine areas) between Cape Blanco and the Columbia River. Freshwater critical habitat includes all waterways, substrates, and adjacent riparian areas—areas adjacent to a stream that provides the

following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter—below longstanding, natural impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) and several dams that block access to former coho salmon habitat.

EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by its implementing regulations (50 CFR § 402). When the NMFS issues a conference or biological opinion, it uses the best scientific and commercial data available to separately determine whether a proposed Federal action is likely to: (1) jeopardize the continued existence of a proposed or listed species, and/or (2) destroy or adversely modify a proposed or listed species' critical habitat.

Attachment 2 of the LRMP Opinion describes the criteria the NMFS uses in the jeopardy analysis for USFS and BLM projects within the range of the NFP. In summary, NMFS considers two steps: (1) Is the proposed action in compliance with the standard and guidelines for the relevant land allocations, and (2) Does the proposed action meet all pertinent ACS objectives. Actions meeting these conditions will result in improved habitat conditions, and thereby increase freshwater survival of Oregon Coast coho salmon. Therefore, programmatic actions by the administrative units that comply with NFP standards and guidelines and do not prevent or retard attainment of ACS objectives are not likely to jeopardize Oregon Coast coho salmon (Attachment 2 of the LRMP Opinion).

The NMFS also uses NMFS (1996) to help assess whether actions destroy or modify critical habitat (i.e., habitat alterations that appreciably diminish the value of critical habitat for both the survival and recovery of a listed species). Activities that would destroy or adversely modify a species' critical habitat would also likely jeopardize that species.

Biological Requirements

The biological requirements of Oregon Coast coho salmon are discussed in Weitcamp *et al.* (1995) and the LRMP Opinion. The first step in the method the NMFS uses in applying the ESA standards of Section 7(a)(2) to Pacific salmonids is to define the species' biological requirements that are most relevant to each consultation. The NMFS finds that these biological requirements are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for the survival and recovery of Oregon Coast coho salmon. Individual environmental factors include water quality, habitat access, physical habitat elements, river channel condition, and hydrology. These are measurable variables, with properly functioning values determined by the best available information as those necessary for sufficient prespawning survival and distribution, spawning success, egg-to-smolt survival, smolt emigration survival and timing, and smolt condition to allow the long-term survival of the species. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of these species.

Action Area

Action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR § 402.02). For the purposes of this consultation, the action area includes those portions of the Siuslaw NF, Salem District BLM, and Eugene District BLM within the Oregon Coast coho salmon ESU and river reaches downstream of the administrative unit boundaries that may be affected by Federal land management activities. The programmatic actions covered in this Opinion cover six fourth-field basins--Nehalem, Wilson/Trask/Nestucca, Siletz/Yaquina, Alsea, Siuslaw, and Siltcoos--within the Oregon Coast coho salmon ESU.

Federal lands comprise 24% (October 6, 1998, pers. comm. between Garwin Yip, NMFS, and Neil Armantrout, BLM) to 28% (819,984 of 2,949,944 acres; October 8, 1998, pers. comm. between Garwin Yip, NMFS, and Mike Clady, Siuslaw NF) of the Oregon Coast coho salmon ESU, and is broken down in the following percentages within each of the fourth-field basins: 0.7% of the Nehalem Watershed (October 5, 1998, pers. comm. between Garwin Yip, NMFS, and Bob Ruediger, BLM); 26% of the Wilson/Trask/Nestucca Watershed; 16% of the Siletz/Yaquina Watershed; 64% of the Alsea Watershed; 52% of the Siuslaw Watershed; and 38% of the Siltcoos watershed (SNF *et al.* 1995).

Environmental Baseline

Due to the large scale of the action area for these programmatic actions, individual fourth-field basins and fifth-field watersheds will have varying levels of importance towards meeting the biological requirements of the ESU in terms of properly functioning freshwater habitat parameters. Overall, the programmatic actions addressed in this Opinion are considered to have only minor effects, if any, to habitat parameters. In evaluating the effects of the programmatic actions, the Level-1 team determined that when effects occur, they will only be short-term and will not degrade the baseline conditions. The Level-1 team's review and tracking of projects implemented under this Opinion will assure that this assumption is reevaluated within one year.

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem (NMFS and USFWS 1998). The environmental baseline for the action area covered by this Opinion includes the Siuslaw NF, Salem District BLM, and Eugene District BLM within the Oregon Coast coho salmon ESU. There are six fourth-field basins within the Oregon Coast Range Province: Nehalem, Wilson/Trask/Nestucca, Siletz/Yaquina, Alsea, Siuslaw, and Siltcoos. Due to the programmatic nature of this consultation, the Level-1 team decided to assess the environmental baseline for the programmatic actions at the fourth-field basin scale, using the methodology described in NMFS (1996).

Discussions of baseline conditions for each fourth-field basin contained in this section are necessarily generalized because available assessments of the baseline conditions of the associated fifth-field watersheds or sixth-field subwatersheds were combined to arrive at the baseline

condition of each fourth-field basin. Tables 4a-f in the BA provide summaries of the environmental baseline of the fourth-field basins.

The general environmental baseline affecting Pacific salmonids has been described in various documents. FEMAT (1993) provides a regional assessment of aquatic ecosystems within the range of the northern spotted owl (including Oregon Coast coho salmon), particularly with regard to land management actions. Chapter V of FEMAT (1993) focuses on current aquatic habitat conditions and the effects of degraded habitat on fish populations. Page V-2 notes that "[a]quatic ecosystems in the range of the northern spotted owl exhibit signs of degradation and ecological stress." The present depressed condition for coho salmon populations in Oregon is the result of several longstanding, human-induced factors (e.g., habitat degradation, water diversions, harvest, and artificial propagation) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions (August 10, 1998, 63 FR 42587). Aquatic habitat degradation has resulted from a wide range of land- and water-use practices including timber harvest, road construction, mining, grazing, agriculture, construction and operation of dams, irrigation, and flood control (Spence *et al.* 1996). Most of these activities occur on USFS- and BLM-administered lands within the Oregon Coast Range Province.

In general, these activities have: (1) reduced connectivity between streams, riparian areas, floodplains, and uplands; (2) significantly increased sediment yields, leading to pool filling and reduction in spawning and rearing habitat; (3) reduced or eliminated instream replenishment of LWD which serves to trap sediment, stabilize stream banks, form pools, and provide cover; (4) reduced or eliminated vegetative canopy that minimizes stream temperature fluctuations; (5) reduced stream complexity by causing streams to become straighter, wider, and shallower which reduces spawning and rearing habitat and increases temperature fluctuations; (6) altered peak flow volume and timing; (7) altered water tables and base flow; and (8) contributed to degraded water quality by adding toxicants through mining and pest control (FEMAT 1993; Rhodes *et al.* 1994; Spence *et al.* 1996).

In general, the Nehalem, Siletz/Yaquina, Alsea, Siuslaw, and Siltcoos fourth-field basins are characterized by a majority of the habitat indicators not properly functioning. The majority of the Wilson/Trask/Nehalem fourth-field basin is at risk. In combination, for the six fourth-field basins within the Oregon Coast Range Province, four of the habitat indicators were considered properly functioning, 32 of the habitat indicators were considered at risk, and 62 of the habitat indicators were considered not properly functioning. The following habitat indicators were not properly functioning in all of the fourth-field basins: overall water quality [303(d) reaches], large woody debris, road density and location, disturbance history, and stream influence zone.

In summary, the principle ways in which land management policies have contributed to the decline of salmon habitat include: (1) overemphasis on production of non-fishery commodities resulting in losses of riparian and fish habitat; (2) failure to take a biologically conservative or risk-averse approach to planning land management actions when inadequate information exists about the relationship between land management actions and fish habitat; (3) planning land

management activities on a site-specific basis rather than on a broader, watershed scale; and (4) reductions in the number, size, and distribution of remaining high-quality habitat areas (such as roadless and minimally developed areas) that serve as biological refugia for anadromous fish subpopulations (FEMAT 1993; Rhodes *et al.* 1994).

ANALYSIS OF EFFECTS

The BA and supporting information document compliance for each of the programmatic actions with the following critical components of the NFP: standards and guidelines, watershed analysis, watershed restoration, land allocations, and the ACS objectives. The Level-1 team reviewed the categories of programmatic actions and confirmed that they were consistent with the ACS. This is documented in the BA for each of the programmatic actions. Additionally, the Level-1 team found that the subject actions are consistent with the reasonable and prudent measures and terms and conditions of the LRMP Opinion and developed additional project design criteria to further minimize the likelihood of impacts to Oregon Coast coho salmon.

Effects of Proposed Actions

Individual and groups of actions (programs or projects) implemented in accordance with management direction in the LRMPs and RMPs are expected to affect Oregon Coast coho salmon in a variety of ways. Some may result in adverse effects to salmonid habitat, while others are expected to maintain or restore habitat conditions. Because all actions will be designed and mitigated in accordance with the ACS objectives, land allocations, and standards and guidelines, any associated adverse effects (e.g., increased sediment production) are expected to be generally minor in magnitude and short-lived in duration. Chapter V of FEMAT (1993) discusses generally the potential adverse effects of these actions on fish habitat and populations.

The site- and watershed-scale environmental baseline and expected effects associated with individual or groups of projects were evaluated by using the procedures outlined in NMFS (1996; Attachment 3 in the LRMP Opinion). These evaluation methods were designed to ensure that Level-1 teams can efficiently provide adequate information in BAs to evaluate effects of actions subject to ESA Section 7 conferences and consultations. Effects of actions are expressed in terms of the expected effect (i.e., restore, maintain, or degrade) on each of 17 aquatic habitat indicators in the project area (site and watershed scales), as described in the Checklist completed for each action.

The evaluation procedures in NMFS (1996) are based on a "Matrix of Pathways and Indicators" (Matrix), a holistic method for characterizing environmental baseline conditions and predicting the effects of human activities on those baseline conditions. The Matrix provides generalized ranges of functional values (i.e., properly functioning, at risk, and not properly functioning) for aquatic, riparian, and watershed parameters. The NMFS acknowledges that generalized values provided in the Matrix may not be appropriate for all watersheds within the range of Pacific salmonids or even within the range of a single ESU. Therefore, we encourage development of more biologically appropriate matrices (referred to as "modified" matrices) in specific

physiographic areas. The NMFS, in conjunction with the USFS, BLM, and Oregon Department of Fish and Wildlife (ODFW), has modified the Matrix for the Oregon Coast Range Province (Table 1).

Effect determinations were assigned to the programmatic categories based on the potential for actions within the category to affect Oregon Coast coho salmon or their habitat. All of the individual actions do not necessarily have the same effect as the more general programmatic category. Where or when a particular action occurs may determine whether that particular action is given an effect determination of "no effect," "may affect, NLAA," or "may affect, LAA."

The Level-1 team determined that the effects of the programmatic actions would be the same in each of the fourth-field basins within the Oregon Coast coho salmon ESU. Therefore, individual Checklists for each action, in each watershed, were not prepared. Rather, one Checklist, with the environmental baseline only, was prepared for each fourth-field basin, and one Checklist with only the program effects was prepared for each programmatic action (these Checklists and supporting information are located in the BA).

Since actions were assessed without knowing site-specific conditions, the interagency team assigned what they felt were conservative effect determinations. Most of these actions are considered to have only minor effects on Oregon Coast coho salmon or their habitat. These effects are generally from the potential for minor amounts of sediment to reach streams, loss of LWD, disturbance to riparian vegetation, and/or disturbance to eggs, juvenile, or adult fish. The Level-1 team identified project design criteria in the BA for each programmatic action in order to avoid or minimize any potential adverse affects associated with these activities. Some individual actions covered in a programmatic category may have insignificant, discountable, beneficial, or no effect on Oregon Coast coho salmon.

Individual actions will be analyzed to determine if they fit under one of the programmatic categories addressed in this Opinion. They will also determine if the programmatic effect determination is correct for the individual action. Project files shall document the effect determination and that the project is covered by this programmatic Opinion. If the effect determination is the same as the programmatic effect determination or less (e.g., programmatic effect determination is LAA, and the individual action is NLAA), no additional consultation is necessary. Although a project may fit within one of the programmatic actions, and is consistent with the effect determination, the action agency has the option of consulting individually on that project. This commonly occurs on projects that are larger in scope than the programmatic intended. All projects covered by this Opinion will be documented on a report form similar to that presented in Appendix 1 of the BA and will be organized by fifth-field watersheds. The Level-1 team will meet as needed to review the reports. If during the review, it is decided that impacts are greater than anticipated, this consultation will be reinitiated to address the impacts (e.g., require Level-1 team review of all actions prior to implementation or addition of more terms and conditions).

Table 1. Matrix of factors and indicators for the Oregon Coast Range Province . Interim Version, revised July 20, 1998.

NOTE: All measures apply to "broad valley floor" reaches (gradient of 4% or less; Rosgen type C channel), and primarily to 3rd- and 4th-order streams. The intermediate At Risk Category includes all situations not described as either Properly Functioning or Not Properly Functioning.

Factor: Indicator	Properly Functioning	Not Properly Functioning
Water Quality: 7-day max. temperature	$\leq 60^1$	$\geq 68^2$
Water Quality: Turbidity	Similar frequency and duration relative to unimpacted streams in the basin	Higher frequency and duration relative to unimpacted streams in the basin
Water Quality: Chronic chemical contamination/ nutrient input	No biological evidence of contamination	Obvious biological evidence of contamination (e.g., fish kills, deformed fish, algal blooms)
Water Quality: Overall	No CWA 303(d) designated reaches ³	>1 CWA 303(d) reach ³
Habitat Access	Within the watershed, no barriers created by humans that inhibit upstream or downstream passage of any salmonid life stage to historical habitat	One or more artificial barriers that prevent upstream or downstream passage of any salmonid life stage to historical habitat
Habitat Elements: Substrate (use method most appropriate to your data set) N.B., "trouble" reaches flagged by one method also tend to be flagged by the other method	$\geq 50\%$ of riffle habitat is gravel dominated, with very little embeddedness. $\leq 5\%$ of riffles are dominated by fines ⁴ - or -	$\leq 20\%$ of riffle habitat is gravel dominated, or gravel/cobble with large degree of embeddedness. $\geq 10\%$ of riffles are dominated by fines ⁴ - or -
	in low gradient riffle, $<10\%$ of substrate is sand or silt ⁴	low gradient riffle has $>25\%$ sand or silt ⁴
Habitat Elements: Large Woody Debris	≥ 80 pieces/mile that are 24" diam., 50' long OR that are 1.5 X channel width. No evidence or record of cleanout or mgt. related debris flows ⁵	≤ 30 pieces/mile (same size definition as at left). Evidence or record of stream cleanout or mgt. related debris flows ⁵

Factor: Indicator	Properly Functioning	Not Properly Functioning
Habitat Elements: % of area in pools	Basaltic Headlands: $\geq 35\%^6$	Basaltic Headlands: $\leq 20\%^6$
	Rest of Province: $\geq 50\%^7$	Rest of Province: $\leq 30\%^7$
Habitat Elements: Pool Quality	$\geq 20\%$ of habitat units $> 1\text{m}$ deep ⁸	$\leq 10\%$ of habitat units $> 1\text{m}$ deep ⁹
Habitat Element:: Pool frequency (all pools)	< 8 channel widths between pools ¹⁰	≥ 20 channel widths between pools ¹⁰
Habitat Elements: Off-channel habitat	Frequent backwaters with cover, and low energy, off-channel areas (ponds, oxbows) make up $\geq 10\%$ of area	Few or not backwater, off-channel ponds and oxbows make up $\leq 5\%$ of stream area
Channel condition/ dynamics: Streambank condition	Relatively stable banks. Few or no areas of active erosion	Highly unstable banks. Many areas of exposed soil & streambank cutting
Channel condition/ dynamics: Floodplain connectivity	Logjams and other feature create pools and secondary channels, which trap debris and food and maintain a high water table that provides cool late-season flows. Floodplain well vegetated.	Secondary channels lacking. Unconstrained main channel often downcut to bedrock and relatively short, without pools, meanders, and collections of debris and food. Warm, low, late-season flows.
Watershed conditions: Road density/location; drainage network N.B., it was noted that WAs to date have shown road densities to be 2-3 miles per square mile	≤ 2 miles per square mile. No valley bottom roads (if unstable area, no midslope roads). ¹¹	≥ 3 miles per square mile. Some valley bottom roads (if unstable area, some midslope roads).
Watershed conditions: Disturbance history	Terrestrial veg. conditions show that watershed is relatively intact	Watershed is fragmented and highly impacted
Watershed conditions: Stream influence zone	Zones are relatively intact, with $\geq 80\%$ undisturbed by mgt. & settlement activities	Zones have been substantially altered, with $\leq 60\%$ of these areas undisturbed by mgt. & settlement activities
Watershed conditions: Refugia N.B., "Refugia" are implied in the cited reference as: unaltered areas of riverine habitat that continue to function in ways that sustain native species and biotic communities	Habitat refugia exist and are adequately buffered. Existing refugia are sufficient in size, number, and connectivity to maintain viable populations or sub-populations	Adequate habitat refugia do not exist to maintain viable fish populations.

- ¹ Bjornn, T.C. and D.W. Reiser. 1991. Habitat requirements of salmonids in streams. Pages 83-138 in W.R. Meehan (ed.), *Influences of forest and rangeland management on salmonid fishes and their habitats*. Am. Fish. Soc. Spec. Pub. 19. Bethesda, MD. 751 pages.
 - Oregon Department of Environmental Quality. 1995. *Temperature: 1992-1994 Water Quality Standards Review*. Final Issue paper. Portland, Oregon.
 - ² Reiser, D.W. and T.C. Bjornn. 1979. Habitat requirements of anadromous salmonids. Chapter 1 in W.R. Meehan (tech. ed.), *Influence of forest and rangeland management on anadromous fish habitat in western United States and Canada*. General Technical Report PNW-96. Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Portland.
 - ³ The Clean Water Act, Section 303(d), requires each state to identify streams, rivers and lakes that do not meet water quality standards. The Oregon Department of Environmental Quality establishes a list of these waters and submits them to U.S. Environmental Protection Agency biennially.
 - ⁴ Professional judgement supported by Siuslaw National Forest stream inventory data.
 - ⁵ National Marine Fisheries Service. 1996. *Making Endangered Species Act determinations of effect for individual or grouped actions at the watershed scale*. Environmental and Technical Services Division, Habitat Conservation Branch. August. 28 pages.
 - Biological Opinion on Implementation of Interim Strategies for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH). National Marine Fisheries Service, Northwest Region, January 23, 1995.
 - ⁶ Siuslaw National Forest. 1995. *Cummins/Tenmile Watershed Analysis*. Siuslaw National Forest, Waldport Ranger District. February.
 - ⁷ Washington Timber/Fish Wildlife Cooperative Monitoring Evaluation and Research Committee. 1993. *Watershed Analysis Manual (Version 2.0)*. Washington Department of Natural Resources.
 - ⁸ Personal communications between Siuslaw National Forest personnel and ODFW researchers in the Coast Range.
 - ⁹ Siuslaw National Forest. 1994. *North Fork Siuslaw Watershed Analysis*. Siuslaw National Forest, Mapleton Ranger District. December.
 - Reeves, G.H., F.H. Everest, and T.E. Nickelson. 1989. *Identification of Physical Habitats Limiting the Production of Coho Salmon in Western Oregon and Washington*. USDA Forest Service General Technical Report PNW-GTR-245.
 - ¹⁰ Oregon Department of Fish and Wildlife, Research Section. 1993. *ODFW Aquatic Inventory Project: Habitat Benchmarks*. Corvallis, Oregon.
 - ¹¹ Cederholm, C.J., J. Reul, and E. Salo. 1981. *Proceedings from the Conference Salmon Spawning Gravel: A Renewable Resource in the Pacific Northwest?* Pages 38-74. Report 39. Washington Water Research Center.
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Site-specific analyses indicate that any adverse impacts from the proposed programmatic actions are expected to be of limited extent and duration. The NMFS finds that temporary adverse effects to Pacific salmonids and their habitat may occur with the proposed programmatic actions. The spatial and temporal extent of potential adverse effects which may lead to incidental take is described for each project in the BA. However, in each case, these adverse impacts will not retard nor prevent attainment of properly functioning habitat indicators important to Pacific salmonids at the project scale.

Taking a conservative approach, the following group of actions were determined “may affect, LAA” Oregon Coast coho salmon: road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, near-stream and instream surveys, environmental education with instream activities, pump chances, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance. Largely, however, the work will not result in adverse effects. Where they do occur, adverse effects are expected to be limited in time, duration and scope, and are expected to be non-significant when analyzed at a fifth-field watershed scale. The potential effects of the above programmatic actions and associated activities on the aquatic environment are summarized below.

Road Maintenance

Road maintenance activities have the potential to deliver sediment into channels, create turbidity, reduce potential LWD, and degrade the stream influence zone (within one site potential tree). Beneficial effects occur where maintenance reduces the potential for catastrophic erosion and sediment delivery to stream channels.

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs, and the removal of LWD. There is also the potential for these actions to have a short-term adverse effect on the drainage network. Road maintenance activities will tend to restore substrate habitat conditions by reducing long-term sediment inputs and can potentially restore habitat access by correcting fish passage barriers associated with roads.

Aquatic Habitat Projects

Since these involve work in the stream, these projects have the potential to deliver sediment, create turbidity, have fuel/oil spills, cause streambank erosion, disturb the stream influence zone, disturb fish, and cause incidental mortality. These projects are expected to provide ecological benefits, such as improved spawning and rearing habitat, while recovery of natural processes occur.

These actions may cause a short-term degradation of water quality due to sediment inputs and chemical contamination. Streambank condition and habitat substrate may also be adversely affected in the short-term. Aquatic habitat projects will tend to restore habitat conditions by improving water temperature, habitat substrate, LWD, pool frequency and quality, off-channel habitat, refugia, width/depth ratio of the stream, streambank condition and floodplain

connectivity in the long-term. There is also a potential for these actions to restore habitat access by correcting fish passage barriers.

Trail Maintenance and Construction

Trail maintenance and construction have the potential for sediment delivery to streams, create turbidity, disturbance at stream crossings or when trails are near streams, and chemical contamination. Beneficial effects occur where maintenance reduces potential adverse impacts to stream channels (e.g., lessens streambank erosion).

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs and chemical contamination. They also have the potential to adversely affect LWD and riparian reserves. Trail maintenance activities will tend to restore habitat substrate conditions in the long-term by reducing sediment inputs, and may potentially restore streambank conditions.

Meadow Maintenance

Meadow maintenance prevents recruitment of LWD into channels by maintaining the area in early seral stages, and causes negative effects on functioning of any affected stream influence zones. The extent of meadow maintenance activity within the Oregon Coast Range Province is very limited.

Road Decommissioning and Obliteration

Road decommissioning and obliteration have the potential for sediment delivery to streams and creating turbidity. Long-term beneficial effects result from restoration of hydrologic functions, reduced risk of washouts and landslides, and reduction of sediment delivery to streams.

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs. In the long-term, road decommissioning and obliteration will tend to restore habitat substrate by reducing the risk of sediment delivery to streams and restore fish passage by correcting fish barriers caused by roads. Road decommissioning projects will also tend to restore hydrology by reducing peak flows and reducing the drainage network. Watershed conditions will also be improved as road densities are reduced and riparian reserves are restored. These projects may also potentially improve floodplain connectivity.

Repair of Storm Damaged Roads

Repair of storm damaged roads have the potential for sediment delivery to streams, creating turbidity, reducing potential LWD, and causing incidental mortality. Beneficial effects occur where maintenance reduces potential adverse impacts to stream channels.

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs. There is also the potential for an adverse effect on LWD. In the long-term, repairing damaged roads will restore water quality and habitat substrate by the reducing the risk of large sediment inputs, and may potentially improve habitat access by correcting fish passage barriers.

Near-stream and Instream Surveys

These actions could result in disturbance of fish or crushing of eggs. These actions will maintain current habitat conditions for all habitat indicators.

Environmental Education with Instream Activities

Environmental education can result in trampling of riparian areas and/or harassment of spawning fish. These activities will maintain all the habitat indicators, with a potential for degradation of the riparian reserves.

Pump Chances

Maintenance and use of pump chances can result in disturbance, entrainment, and loss of fish. These activities will maintain current habitat conditions for all habitat indicators.

Firewood Collection

Firewood collection results in removing logs, some from stream influence zones, and subsequent reductions in LWD recruitment into stream channels. Permitted firewood collection reduces the incidences of theft of firewood.

Public Use of Developed Sites and Dispersed Public Use

Public use can result in the alteration of habitat, disturbance of fish, and degradation of water quality. These actions may degrade riparian reserves. They also have the potential to degrade water quality due to short-term sediment inputs and/or chemical contamination. There is also the potential for degradation of habitat substrate, channel width/depth ratio and streambank condition associated with the public use of developed and undeveloped areas near anadromous streams.

Developed Boat Ramps

Use of boat ramps can cause fish disturbance by people and gear entering, leaving, and floating on the water, and the potential for transient turbidity or release of harmful materials into the water. Maintenance of ramps and associated facilities can reduce overall impacts on riparian areas by controlling access and reducing the potential for silt or other impurities that might enter the water. These activities have the potential to degrade water quality due to sediment inputs and chemical contamination.

Non-Riparian Rock Quarries

Rock quarry operation and hauling rocks can result in sediment delivery to streams. Activities associated with non-riparian rock quarries have the potential to cause short-term degradation of water quality and habitat substrate due to sediment inputs.

Infrastructure Maintenance

Adverse effects may result from provision of human access to aquatic habitats, from the potential for periodic short-term degradation in water quality, and potential decreases in vegetation. Beneficial effects occur when maintenance reduces the potential for water quality degradation and improves the control of human access to waters and riparian areas.

These actions may cause short-term degradation of water quality due to sediment inputs and have the potential to degrade riparian reserves and impact water quality by chemical contamination. Infrastructure maintenance activities also have the potential to restore water quality by reducing chemical contaminant and sediment inputs to streams in the long-term. These activities also may potentially restore habitat substrate, streambank condition and riparian reserves.

Because of the potentially large number and wide geographic range of the activities covered in this Opinion, a continuing tracking of the overall watershed effects associated with these programmatic actions is important. As part of the subsequent Level-1 team review of programmatic actions, the USFS and BLM will report the number of actions within each category at the fifth-field watershed level. This will assist the Level-1 team in monitoring trends in the number and location of certain activities and their impacts on the environmental baseline. The net effects of these activities will be added to the environmental baseline for each fifth-field watershed and will be taken into account in subsequent consultations for any projects in these areas. An annual total of the number of projects covered by this Opinion will also be provided at the fourth-field basin level to allow monitoring of trends across the entire ESU.

Cumulative Effects

Cumulative effects are defined as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR § 402.02). Cumulative effects in the Oregon Coast Range Province are discussed on pages 41-43 of the LRMP Opinion. These respective analyses of the biological requirements, environmental baseline or cumulative effects described above are incorporated herein by this reference.

Gradual improvements in habitat conditions for salmonids are expected on Federal lands as a result of NFP implementation. Significant improvements in Oregon Coast coho salmon production outside of USFS and BLM land is unlikely without changes in forestry, agricultural, and other practices occurring within non-Federal riparian areas. The NMFS is aware that significant efforts, such as OCSRI (1997), have been developed to improve conservation of Coast coho salmon populations on non-Federal land. The NMFS is not aware of any general changes to existing State and private activities within the action area that would cause greater impacts than presently occur to Oregon Coast coho salmon.

Until improvements in non-Federal land management practices are actually implemented, the NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Now that the Oregon Coast coho salmon ESU is listed under the ESA, the NMFS assumes that non-Federal land owners in those areas will also take steps to curtail or avoid land management practices that would result in the take of those species. Such actions may be prohibited by Section 9 of the ESA, and subject to the incidental take permitting process under Section 10 of the ESA. Future Federal actions, including the on-going operation of hatcheries, harvest, and land management activities will be reviewed through separate Section 7 processes.

In addition, non-Federal actions that require authorization under Section 10 of the ESA would be considered in the environmental baseline for future Section 7 consultations.

SECTION 7(a)(2) DETERMINATIONS

Based on the information and analysis described in this Opinion, the NMFS has determined that implementation of the programmatic actions is not likely to jeopardize the continued existence of Oregon Coast coho salmon. The bases for this determination are the following:

1. The proposed programmatic actions have been determined to be consistent with the NFP ACS objectives (as documented in the BA). These actions have also been determined to be consistent with the terms and conditions of the LRMP Opinion.
2. Some of the programmatic actions described in this Opinion will result in long-term improvement of habitat conditions for Oregon Coast coho salmon. Degradation of habitat conditions, where applicable, is generally short-term and of limited scope.
3. Because programmatic actions addressed in this Opinion may result in more than a negligible likelihood of incidental take, the Level-1 team has developed a set of project design criteria (reiterated as terms and conditions in the ITS, below) to minimize the likelihood of incidental take.
4. The Level-1 team may review individual proposed actions to determine if action-specific circumstances would necessitate additional measures through reinitiation, to avoid or minimize adverse effects beyond those listed in the ITS of this Opinion.
5. The USFS and BLM will provide the Level-1 team with reports of the total number and net effects of actions in each category by fifth-field watershed to update the environmental baseline. The Level-1 team will monitor trends in the number and location of individual actions and assess overall watershed impacts to the environmental baseline associated with these programmatic actions.
6. If, during the review, the Level-1 team decides that impacts are greater than anticipated, this consultation will be reinitiated to address the impacts (e.g., require Level-1 team review of all actions prior to implementation or add more terms and conditions).

In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BA and documents incorporated by reference. Based upon the BA and Level-1 team review, NMFS concurs that the proposed programmatic actions are consistent with the NFP and its associated components (i.e., the ACS objectives, standards and guidelines, watershed analysis, watershed restoration, and land allocations).

Project type analyses indicate that any adverse impacts from the proposed programmatic actions are expected to be of limited extent and duration. The NMFS finds that temporary adverse

effects to Oregon Coast coho salmon and their habitat may occur with the proposed programmatic actions. However, in each case, these adverse impacts will not substantively retard nor prevent attainment of properly functioning habitat indicators important to Oregon Coast coho salmon at the project scale. At the watershed scale, the net effect of the proposed programmatic actions maintains and restores watershed habitat indicators and ecological processes that define the biological requirements of Oregon Coast coho salmon.

Therefore, NMFS concludes that when the effects of these proposed programmatic actions are added to the environmental baseline and cumulative effects occurring in the relevant action areas, they are not likely to jeopardize the continued existence of Oregon Coast coho salmon. In addition, NMFS concludes that the proposed programmatic actions will not result in the destruction or adverse modification of proposed critical habitat for Oregon Coast coho salmon.

REINITIATION OF CONSULTATION

Reinitiation of this consultation is required if discretionary Federal involvement over the action has been retained or authorized and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (4) If a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR § 402.16). The LRMP opinion (page 51) lists examples of situations or findings requiring reinitiation of consultation.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement (ITS) specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

The measures described below are non-discretionary. They must be implemented by the USFS and BLM so that they become binding conditions necessary in order for the exemption in section 7(o)(2) to apply. The USFS and BLM have a continuing duty to regulate the programmatic actions covered in this ITS. If the USFS or BLM (1) fails to adhere to the terms and conditions of the ITS, and/or (2) fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of the Take

The NMFS anticipates that some programmatic actions which are fully consistent with the LRMP and RMP standards and guidelines may still have more than a negligible likelihood to result in incidental take of listed Oregon Coast coho salmon. Incidental take associated with these programmatic actions is expected from detrimental effects on aquatic habitat parameters including substrate quality, turbidity, and suspended sediment levels, all of which may directly affect the life history of these fish.

Adverse effects of management actions such as these are largely unquantifiable in the short-term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though the NMFS expects some low level of incidental take to occur due to these actions, the best scientific and commercial data available are not sufficient to enable the NMFS to estimate a specific amount of incidental take to the species themselves. In these instances, the NMFS designates the expected level of take as "unquantifiable."

This ITS is effective for one year from the date of its issuance. At that time, the NMFS will evaluate the effectiveness of the review and tracking requirements. The USFS and BLM will need to reinitiate this consultation to obtain additional incidental take for the programmatic actions addressed in this Opinion.

Effect of the Take

In this Opinion, the NMFS has determined that the level of anticipated take associated with road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, near-stream and instream surveys, environmental education with instream activities, pump chances, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance is not likely to result in jeopardy to the listed Oregon Coast coho salmon.

Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of Oregon Coast coho salmon resulting from individual actions within the categories of programmatic actions described below.

The USFS and BLM shall:

1. Beneficial Actions (summarized from the LRMP Opinion, pages 64-65)
 - A. Apply the results of watershed analysis, use interagency review processes and consider expected benefits to Oregon Coast coho salmon during the design and prioritization of instream habitat enhancement and restoration projects, culvert replacement upgrades, and road decommissioning actions. To promote long-term ecosystem recovery, actions that restore landscapes and aquatic ecosystem processes should be prioritized over instream habitat enhancement projects that provide short-term benefits.
 - B. Ensure that the timing of any work within intermittent or perennial stream channels associated with these projects is designed to minimize short-term adverse effects to aquatic habitat and Oregon Coast coho salmon.
 - C. Ensure that applicable Best Management Practices (BMPs) are used to minimize short-term adverse effects to aquatic habitat and Oregon Coast coho salmon. Implement appropriate monitoring measures to document compliance with BMPs.
 - D. Assess the associated watershed-scale environmental baseline and effects of each proposed action to ensure that each project is appropriate and timely.
2. Incorporate the project design criteria, as described in the BA and reiterated below as terms and conditions.
3. Document and report all actions that are covered by this ITS.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the USFS and BLM must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary. The USFS and BLM shall do the following:

1. Beneficial Actions (summarized from the LRMP Opinion, page 70)
 - A. Provide sufficient documentation of information and criteria used to design and prioritize instream habitat enhancement and restoration projects, culvert replacement upgrades, and road decommissioning actions at the Level 1 project review stage.

- B. Provide sufficient documentation for Level 1 team review to demonstrate that the timing of in-channel work associated with the subject projects will minimize short-term adverse effects to aquatic habitat.
 - C. Provide documentation of compliance with applicable BMPs to supplement larger-scale (e.g., regional) implementation monitoring programs. Documentation of compliance with BMPs shall be aggregated with other monitoring data and included, where possible, in implementation monitoring reports.
 - D. To ensure that proposed projects are appropriate and timely, utilize information and recommendations from completed watershed analysis reports when determining the watershed-scale environmental baseline and effects of proposed actions using the Matrix and Checklist.
2. Incorporate the project design criteria, as described in the BA and largely reiterated below as terms and conditions

Road Maintenance

- Dispose waste in stable sites only.
- Do not dispose waste on active floodplains (approximately 100 feet from the stream channel).
- Leave vegetation in ditches, when possible.
- Where sediment risks warrant, use filter strips (straw bales, or similar, if vegetation strips are not available) – do not create additional diversion potential.
- Maximize maintenance activities during the dry season to avoid wet periods.
- Clean ditches of slide materials.
- Follow the ODFW Guidelines for Timing of In-Water Work, except where the potential for greater damage to water quality and fish habitat exists if the emergency road maintenance is not performed as soon as possible.

Aquatic Habitat Projects

- Follow ODFW Guidelines for Timing of In-Water Work.
- Stabilize potential erosion areas.
- Minimize the number of access points through the riparian areas.
- Minimize time in which heavy equipment is in the stream channel.
- Include an approved spill containment plan.
- Control sedimentation.
- No conifers should be felled in the riparian area unless conifers are fully stocked.
- Ensure culvert removal restores natural drainage pattern.
- Stabilize potential erosion areas.

Trail Maintenance and Construction

- Follow ODFW Guidelines for Timing of In-Water Work.
- Do not remove down wood from site (except to clear trail).

Road Decommissioning and Obliteration

- Dispose waste in stable sites or within existing road prism only.
- Do not dispose fill on floodplain except to restore natural contour of roadbed.
- Leave vegetation in ditches, when possible.
- Maximize activities during the dry season.
- Follow ODFW Guidelines for Timing of In-Water Work.

Repair of Storm Damaged Roads

- Dispose waste in stable sites only.
- Do not dispose waste on active floodplains (approximately 100 feet from the stream channel).
- Maximize activities during the dry season to avoid wet periods.
- When culverts are replaced, design outlets to minimize erosion.
- Follow ODFW Guidelines for Timing of In-Water Work.

Near-stream and Instream Surveys

- Minimize amount of disturbance/stress to fish.
- Avoid walking on fish redds.
- For cultural resource test pits, locate excavated material away from streambank. Replace all material back into pits when survey is complete.

Environmental Education with Instream Activities

- Use a number of streams for trips and adjust use to minimize impacts on any one stream.
- Minimize disturbance to spawning steelhead/salmon while viewing them.

Pump Chances

- A fish biologist shall evaluate it to determine (1) any need for fish screens and passage, and (2) effects on flows and downstream habitat.

Public Use of Developed Sites and Dispersed Public Use

- Limit activities harming riparian vegetation, and fish or their habitat.
- Implement a rehabilitation program where needed.

Developed Boat Ramps

- Manage and maintain ramps and associated areas to limit impacts on vegetation, water quality (including petroleum products), and sediment production.

Non-Riparian Rock Quarries

- Develop and implement an approved site management plan.
- Maintain all road accesses adequately, with seasonal stipulations, if appropriate.
- Minimize sediment to the degree practical and employ sediment control measures where appropriate.

Infrastructure Maintenance

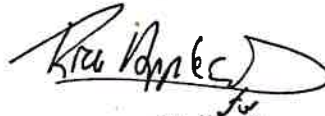
- Manage human activities to reduce impacts on stream or riparian areas.
- Restore riparian vegetation to the degree possible.
- Where chronic problems (e.g. erosion, water quality, or disturbance) exist in key habitat areas, consider relocation and rehabilitation of the site.

3. Reporting Requirements

- A. All projects covered by this Opinion shall be documented on a report form similar to that presented in Appendix 1 of the BA and shall be organized by fifth field watersheds. If a different form is proposed to be used, it shall be presented to the Level-1 team. The Level-1 team shall agree that the form is adequate to document similar information.
- B. The USFS and BLM shall present the results of the reporting to the Level-1 team within one year of issuance of this ITS.

Questions regarding consultation on these actions should be directed to Garwin Yip, of my staff, at (503) 230-5419.

Sincerely,

A handwritten signature in black ink, appearing to read "Wm Stelle, Jr.", with a stylized flourish at the end.

William Stelle, Jr.
Regional Administrator

REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the sources of data, information and references used in developing this consultation.

Forest Ecosystem Management Assessment Team (FEMAT). 1993. Forest ecosystem management: An ecological, economic, and social assessment. U.S. Forest Service, National Marine Fisheries Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, and Environmental Protection Agency. July.

National Marine Fisheries Service (NMFS). 1996. Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale. NMFS, Environmental and Technical Services Division, Habitat Conservation Branch, 525 NE Oregon Street, Portland, Oregon. August. 28 pages.

National Marine Fisheries Service (NMFS). 1997a. Biological and conference opinion on implementation of Land and Resource Management Plans (USFS) and Resource Management Plans (BLM). Conducted by: National Marine Fisheries Service, Northwest Region. March 18. 75 pages plus 3 attachments.

National Marine Fisheries Service (NMFS). 1997b. Coastal coho habitat factors for decline and protective efforts in Oregon. NMFS, Northwest Region, Habitat Conservation Program. April 24. 85 p.

National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS). 1998. Endangered Species Consultation Handbook -- Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act. March.

Nickelson, T.E., J.W. Nicholas, A.M. McGie, R.B. Lindsay, D.L. Bottom, R.J. Kaiser, and S.E. Jacobs. 1992. Status of anadromous salmonids in Oregon coastal basins. Unpublished manuscript. Oregon Department of Fish and Wildlife, Research and Development Section, Corvallis, and Ocean Salmon Management, Newport. 83 pages.

Oregon Coastal Salmon Restoration Initiative (OCSRI). 1997. Oregon's plan for conservation and restoration of anadromous salmonids in coastal river basins. March, 1997.

Rhodes J.J., D.A. McCullough, and F.A. Espinosa, Jr. 1994. A coarse screening process for potential application in ESA consultations. Columbia River Intertribal Fish Commission. Prepared under NMFS/BIA Inter-Agency Agreement 40ABNF3. December.

Siuslaw National Forest (SNF), Bureau of Land Management, and Pacific Northwest Forest and Range Experiment Station. 1995. Assessment report, Federal lands in and adjacent to Oregon Coast Province. July.

Spence, B.C., G.A. Lomnický, R.M. Hughes, and R.P. Novitzki. 1996. An ecosystem approach to salmonid conservation. Management Technology Report TR-4501-96-6057. ManTech Environmental Research Services Corp., Corvallis, OR. December. 356 p.

United States Department of Agriculture - Forest Service (USDA-FS). 1990. Land and Resource Management Plan for the Siuslaw National Forest, Pacific Northwest Region. Siuslaw National Forest, 4077 SW Research Way, P.O. Box 1148, Corvallis, Oregon 97339.

United States Department of Agriculture - Forest Service and United States Department of the Interior - Bureau of Land Management (USDA-FS and USDI-BLM). 1994. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the Northern Spotted Owl; standards and guidelines for management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl. Washington, D.C. April 13, 1994. 74 p. plus attachments.

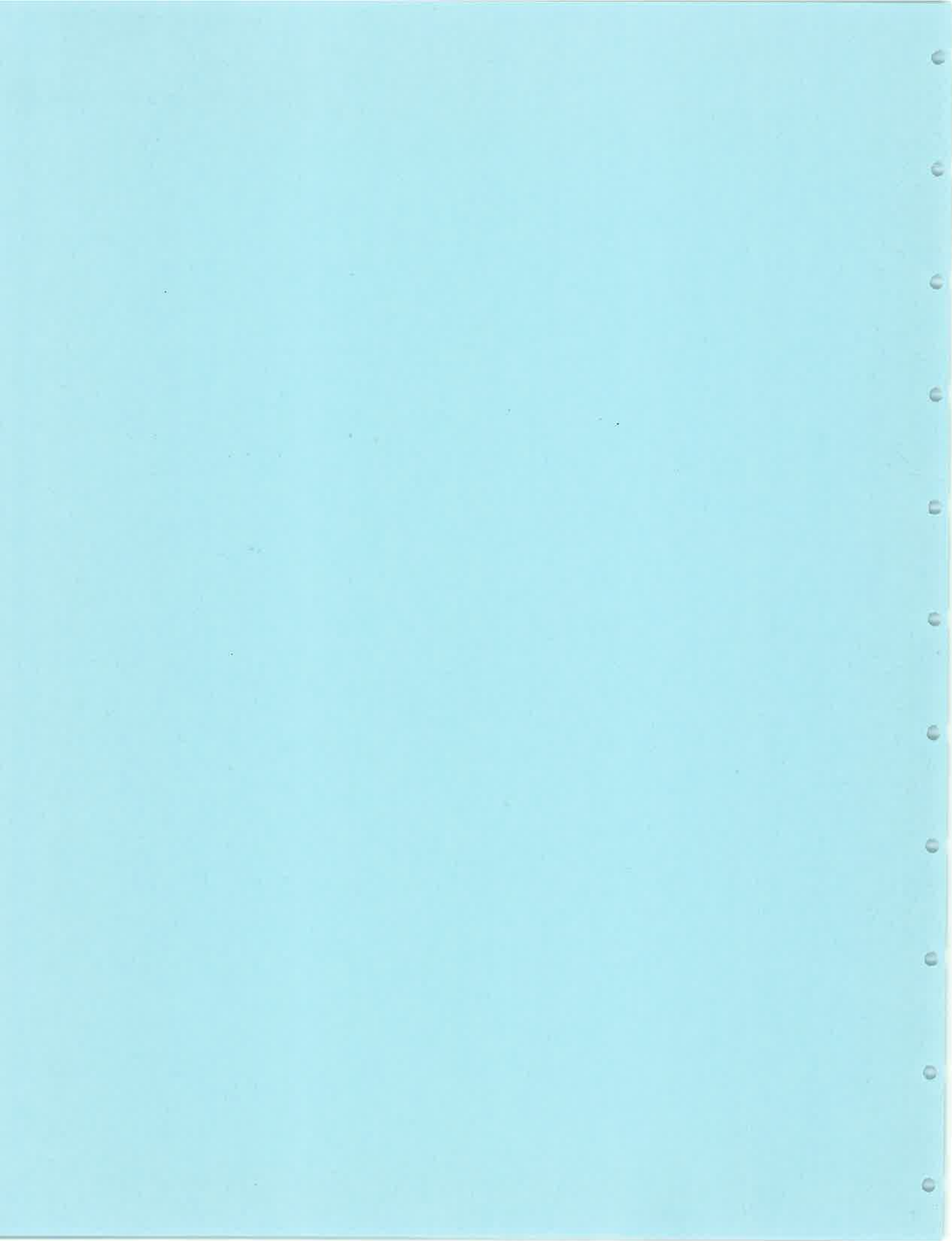
United States Department of the Interior - Bureau of Land Management (USDI-BLM). 1995a. Salem District Record of Decision and Resource Management Plan. Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306. May. 76 pages plus 10 appendices.

United States Department of the Interior - Bureau of Land Management (USDI-BLM). 1995b. Eugene District Record of Decision and Resource Management Plan. Eugene District Office, 2890 Chad Drive, Eugene, Oregon 97408. June. 263 pages.

Waples, R. 1991. Definition of a "species" under the Endangered Species Act: application to Pacific salmon. NOAA Tech. Memo. NMFS F/NWC-194. National Marine Fisheries Service, 525 NE Oregon St., Suite 500, Portland, Oregon. 29 p.

Weitkamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-24, 258 p.





A Declaration of Principles for Responsible Forest Restoration

We have tried on a large scale the experiment of preferring ourselves to the exclusion of all other creatures, with results that are manifestly disastrous...To answer to the perpetual crisis of our presence in this abounding and dangerous world, we have only the perpetual obligation of care. Wendell Berry,
Another Turn of the Crank

The Grand Canyon Forests Partnership was created by a diverse collection of groups and individuals, each deeply concerned about the health and long-term viability of the forests of the southern Colorado Plateau. Through working together, this group created a vision and strategy for restoration of these forests which represents their collective desire to care for these lands in a responsible manner.

Yet, we recognize that care for the land, by itself, is not adequate insurance against the inadvertent damage of land, either in its use or in our efforts to correct misuse. With this awareness, we have formulated the following set of principles that we propose as fundamental preconditions for the responsible implementation of restoration efforts. Together they serve to create a balancing weight of restraint against our almost instinctual urge to act. It is our strong conviction that any significant restoration initiative implemented on public lands should include measures reflecting these principles. They represent a minimum measure of insurance against both our well-intended ignorance and our potential for careless misuse.

Principles of Responsible Restoration

Principal I: Start small, increase scale in measured incremental steps

Restoration as a scientific discipline is relatively young. Restoration as a set of concepts and practices has a longer history but is often more of an aggregation of local knowledge, institutional culture and custom, and practitioner perceptions. Given these conditions, it would be unwise to assume we can accurately predict consequences of restoration actions. Consequently, restoration initiatives should start at scales compatible with the knowledge and experience available in each area. Restoration efforts must have a solid scientific foundation and include extensive and ongoing monitoring and evaluation which informs any subsequent activity. Implementation should proceed in incremental steps e.g. small test plots preceding larger treatment blocks; treatment blocks preceding landscape scale implementation. Regional scale restoration activities should be postponed until adequate information and experience is gained at these more modest scales.

Principal II: Locate projects in areas with substantial agreement on restoration needs

Despite the substantial risks for large scale disturbances in many areas of our public lands, certain restoration treatments in these areas may also create impacts which could jeopardize the very values we hope to protect. Consequently, restoration experiments should begin in areas with the substantial agreement on the need for treatments. Attempting to initiate relatively untested restoration strategies in controversial areas such as National Parks, Wilderness Areas, or roadless areas will only perpetuate conflict and substantially delay support for responsible restoration experiments. Conversely, there are areas in which risks to human life and values have already targeted an area for treatment. Such areas make logical test sites since treatment would likely occur irrespective of restoration priorities.

Much of the current resistance towards implementing restoration programs is based in the fear that such treatments will soon be widely applied across broad areas without adequate knowledge and experience of the potential negative impacts. Taken together, Principles one and two provide the basis for developing a

program of experimentation and an associated map of suitable sites with which a bounded, incremental process of learning and experimentation can be initiated.

Principal III: Utilize an inclusive, transparent and comprehensive process for identifying and designing restoration projects.

There are three important elements in developing an effective restoration strategy. First, all interested stakeholders should be given the chance for substantive involvement. Repeated experience throughout the country has demonstrated that land management and restoration is not simply a scientific or technical process, it is also fundamentally a social one. This implies that we need to understand the range of groups who feel they have a stake in the outcome of a restoration program. We need to clearly understand their issues. And, we need to create effective provisions for their involvement in the process. To achieve these involvement goals, we will need to understand the limitations and particular needs each stakeholder group has for participating in such a process. Participatory mechanisms can then be developed which provide equal access to the process.

Second, new approaches to disseminating the products of this process need to be developed which recognize the different levels of understanding and experience present in each major stakeholder group. The value of this commitment to accessible information is larger than the success of a particular restoration project. Our larger success in reorienting human values and behavior towards a culture and practice of restoration will require the support, participation and long-term commitment of a broad-base of the public. For example, restoration will inherently involve value judgements and tradeoffs. If the public is not well informed about these choices, it is subject to easy capture by those with a narrow self interest and the ability to promote this self-interest. In a similar vein, if the public is not deeply committed to the purposes of restoration, it will be unwilling to make the personal trade-offs and sacrifices that effective restoration efforts will inevitably necessitate.

Third, the scope of restoration must include the full range of activities necessary to truly restore ecological functions, not simply those that are most popular or profitable. To this end, the development of a restoration strategy needs to contain inclusive processes which look at the range of elements of a comprehensive restoration strategy such as stand modification, hydrological function, riparian system improvements, natural processes (fire, insects disease etc.), or soil improvement. Focusing exclusively on one component of a restoration process such as stand modification through tree harvest will inevitably compromise the credibility of the larger effort.

Principal IV: Convene an extensive and well-balanced research program to evaluate effectiveness

We need to acknowledge at the outset of our restoration efforts that there are substantial areas of uncertainty which surround restoration theory and practice. This uncertainty not only affects the effectiveness of practices, it has a dramatic impact on public understanding and acceptance in a restoration program. At the same time, it is essential that restoration practices have a rigorous scientific foundation which distinguishes between values, perceptions and replicable phenomena. Thus, an essential first step in a responsible restoration process, particularly those with potential impacts on larger landscapes, is the development of a comprehensive research agenda associated with the project. A first step in this research agenda is to carefully document the questions which give rise to uncertainty. Some of these questions may already have been clarified in previous research but the results not widely disseminated or understood. Other questions may still be largely unexamined. This set of questions forms the basis of a research program which can begin to inform both the theory and ongoing practices of restoration. It also provides the framework for an ongoing dialogue and education of the broad set of constituencies who are concerned about the effectiveness of restoration practices.

Principal V: Create an all-party monitoring process to assure credible implementation

One of the core components of an effective research program is the formulation of a comprehensive monitoring program. In order to assess the effectiveness of restoration treatments, we must have ways to evaluate the impacts and responses to these treatments. This feedback must then be incorporated as modifications in subsequent restoration activities enabling an adaptive, responsive management approach.

It is now widely recognized that past and current monitoring programs are generally under-funded, incomplete and largely incomprehensible to the non-specialist. In past periods of high trust in public land management agencies, these deficiencies in monitoring were inconsequential. However, in this period of intense public scrutiny of public land management, effective and inclusive monitoring programs are essential.

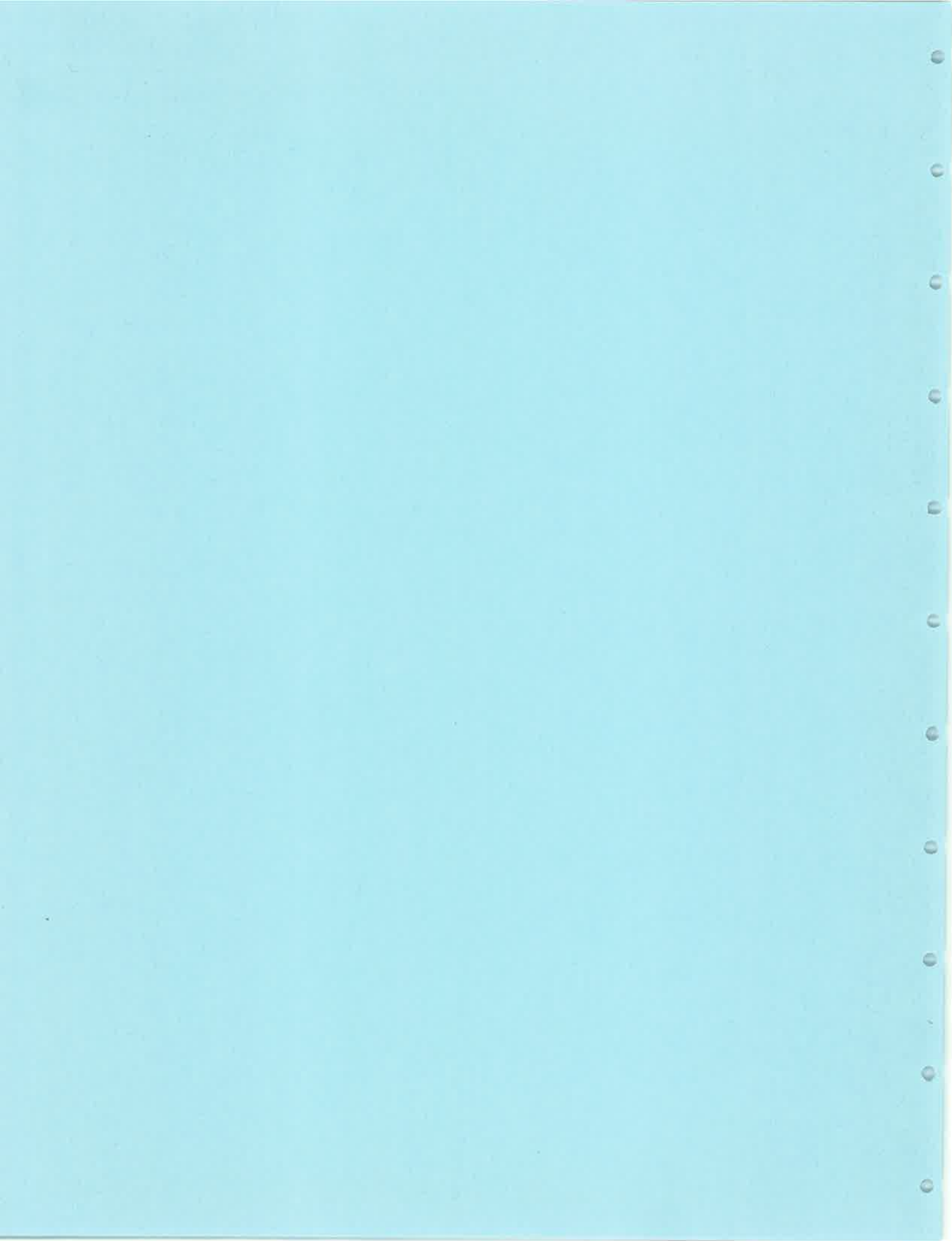
To this end, restoration programs should include provisions to secure adequate funding and support for developing comprehensive monitoring programs. Implementation of these monitoring programs should include provisions enabling interested stakeholders to take part, both in designing monitoring protocol, and in evaluating information gathered. As with other aspects of research, a sincere effort should be made to prepare and disseminate the results of this monitoring in ways that inform the broader public. In this way we may begin to provide timely feedback on the consequences of not only restoration activities, but the larger sphere of human actions and behavior which are effecting the ecological integrity of living systems.

Principal VI: Strive to distribute the costs and benefits of restoration equitably

We must recognize from the outset that restoration is not value neutral. Designing and implementing restoration programs will involve assigning priorities that affect how costs and benefits are distributed, both among humans and in the larger living systems. Designing restoration treatments for one species may lead to declines in another. Providing protection for one area may increase the risks to another.

A core principal of responsible restoration is the sincere effort to distribute these costs and benefits as equitably and justly as possible. In order to do so, we must explicitly discuss the range of trade-offs which are created as we favor certain values or features over others. This also implies that we attempt to insure that all parties affected by these choices, both human and non-human, are adequately represented in this process. Our current systems of adversarial politics and law are poorly suited for such considerations.

At the heart of a sincere restoration movement will be new forums and processes of engagement which consider these issues in new ways. These will be places and spaces which affirm the clear boundaries and limits necessary for protection, and embrace the necessity for care, each as integral remedies in the restoration--the healing--of our land and our people.



NEXT STEP SIGN-ON SHEET

Please take a moment to read through these lists of "next step" working groups. These tasks were identified in the final closeout session of the Watershed Restoration Workshop- but of course, are not limited to only those concerns outlined below. Express your interest in a given working group by simply checking the adjacent box. If you have an innovative idea or wish to explore other issues/concerns, please include a description at the end of the document. As such, this sign-on sheet is designed primarily to initiate efforts among interested parties. Per usual, progress and continued activity are reliant upon adequate levels of program and financial support.

We thank you in advance for you interest and enthusiasm.

☐

TRAINING WORKING GROUP

Participants of the workshop discussed the importance of training and education in the field of watershed restoration. To this end, several individuals suggested that additional workshops (i.e., practical in nature, regionally scoped, nationally scoped, etc.) be developed. Such workshops could be used to help de-mystify the science for those enveloped by policy and breach still more barriers in understanding and communication. Additionally, participants suggested the development of a "learning website" based upon the information gleaned from this workshop. As suggested, the site could highlight specific projects, provide a history/background on restoration efforts, assess current conditions, estimate the costs/benefits associated with activities, and monitor the status of efforts. The website could also contain an open message board to post frequently asked questions and answers.

If you are interested in participating in helping develop future workshops, design/develop an interactive web site, or become active in other facets of public education or training, please check the adjacent box.

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POLICY WORKING GROUPS

In states with a large percentage of federal holdings, people are largely more aware of the gridlock associated with federal policy and regulation. For others, there needs to be a better way to identify the barriers to implementation and ways to overcome them. As such, it was suggested that a series of groups be formed to help identify these issues, while also finding solutions to existing problems (e.g., budget, regulatory, partnering, etc.).

In all likelihood, this larger working group will be broken down into smaller teams, depending on the interests of involved persons. For example, specific working groups can be formed to discuss NEPA process, the 2002 Farm Bill, the HIRE program, and other regulatory/policy issues.

If you are interested in becoming involved in discussing the role of policy in watershed restoration and how current/future initiatives can be shaped to help improve project efficiency and effectiveness, please check the adjacent box.

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INCENTIVES PROGRAM WORKING GROUP

Because successes in restoration are often scattered and surrounded by uncertainties, several participants suggested that a program be developed to reward and bring recognition to existing successful efforts. Incentives can include formal recognition (similar to an award), training opportunities, career advancement, monetary awards, etc.

If you are interested in working on the design, development, or implementation of a watershed restoration incentives program, please check the adjacent box.

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DEMONSTRATION PROJECT WORKING GROUP

Several participants expressed the need for effective demonstration projects to test innovative techniques or procedures for restoration. These projects could be designed with an integration of water quality issues, ecological concerns, and social and cultural factors. Innovative funding sources could be researched and tested, while various levels and kinds of community involvement could be experimented with.

If you are interested in working on the design, selection, funding, evaluation, or other aspects of a demonstration project, please check the adjacent box.

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URBAN COMMUNITY WORKING GROUP

The need to "connect forestry to the faucet" is an important part of watershed restoration-providing an understandable objective behind projects and lending credibility and support for many on-going efforts. Historically, citizens have been unable to understand the connection and value of healthy watersheds to their communities. This disconnection stymies the success of restoration efforts by limiting support (both financial and physical). Therefore, strides must be made to highlight the importance of restoration efforts with the greater urban and suburban environment.

If you are interested in working on public education and outreach, media spotlights, the design of urban-oriented projects or other activities designed to "re-connect" urban and rural communities, please check the adjacent box.

☐

NETWORK BUILDING WORKING GROUP

To address many of the "next steps" outlined the workshop's closeout session, the need for an expanded support coalition was apparent. Beginning with many of those present at this workshop, attempts should be made to expand communication and informational networks to gain further support and momentum in the movement towards planning and implementing restoration efforts. Such coalitions could likely provide effective influence on future legislation and policy related to secure jobs, environmental protection, and sustainable community development.

If you are interested in helping expand such coalitions through email or discussion networks, newsletter distribution, hosting/designing regional gathering, or through other venues, please check the adjacent box.

Please provide your contact information.

Name: _____
Organization: _____
Address: _____
Phone/Fax: (ph) _____ (fax) _____
Email: _____

~ THANKS ~

NEXT STEP COMMITMENTS

Training Working Group

The following participants expressed interest in participating in various facets of training and public education related to the field of watershed restoration.

Christoph Buchler
Applegate Partnership
5884 Griffen Lane
Medford, OR 97501
(ph) 541-772-6671

Policy Working Group

The following participants expressed interest in beginning discussions on the role of policy in watershed restoration and how current and future initiatives can be used to improve project efficiency and effectiveness.

Carol Daly
Flathead Economic Policy Center
919 Elk Park Rd.
Columbia Falls, MT 59912
(ph) 406-892-8155 (fax) 406-892-8161
(email) cdaly@digisys.net

Greg Schildwachter
Intermountain Forest Association
200 E. Pine
Missoula, MT 59802
(ph) 406-542-1220 (fax) 406-542-8274
(email) greg@ifia.com

John Sebelius
USDA Forest Service, Research
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(email) jsebelius@fs.fed.us

Gregg Servheen
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1540 Warner Ave.
Lewiston, ID 83501
(ph) 208-299-5010 (fax) 208-799-5012
(email) gservhee@idfg.state.id.us

Demonstration Project Working Group

The following participants expressed interest in working on the design, selection, funding, evaluation or other aspects of watershed restoration demonstration projects.

Christoph Buchler
Applegate Partnership
5884 Griffen Lane
Medford, OR 97501
(ph) 541-772-6671

Carol Daly
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Mike Fish
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Gregg Servheen
Idaho Fish and Game Department
1540 Warner Ave.
Lewiston, ID 83501
(ph) 208-299-5010 (fax) 208-799-5012
(email) gservee@idfg.state.id.us

Urban Community Working Group

The following participant expressed interest in "connecting forestry to the faucet"- that is improving public education and outreach to reconnect urban and rural communities in the effort to restore degraded watersheds.

Jan Zender
Yellow Dog Watershed Preserve
PO Box 5
Big Bay, MI 49808
(ph) 906-345-9223 (fax) 906-345-9473
(email) yellowdog@portup.com

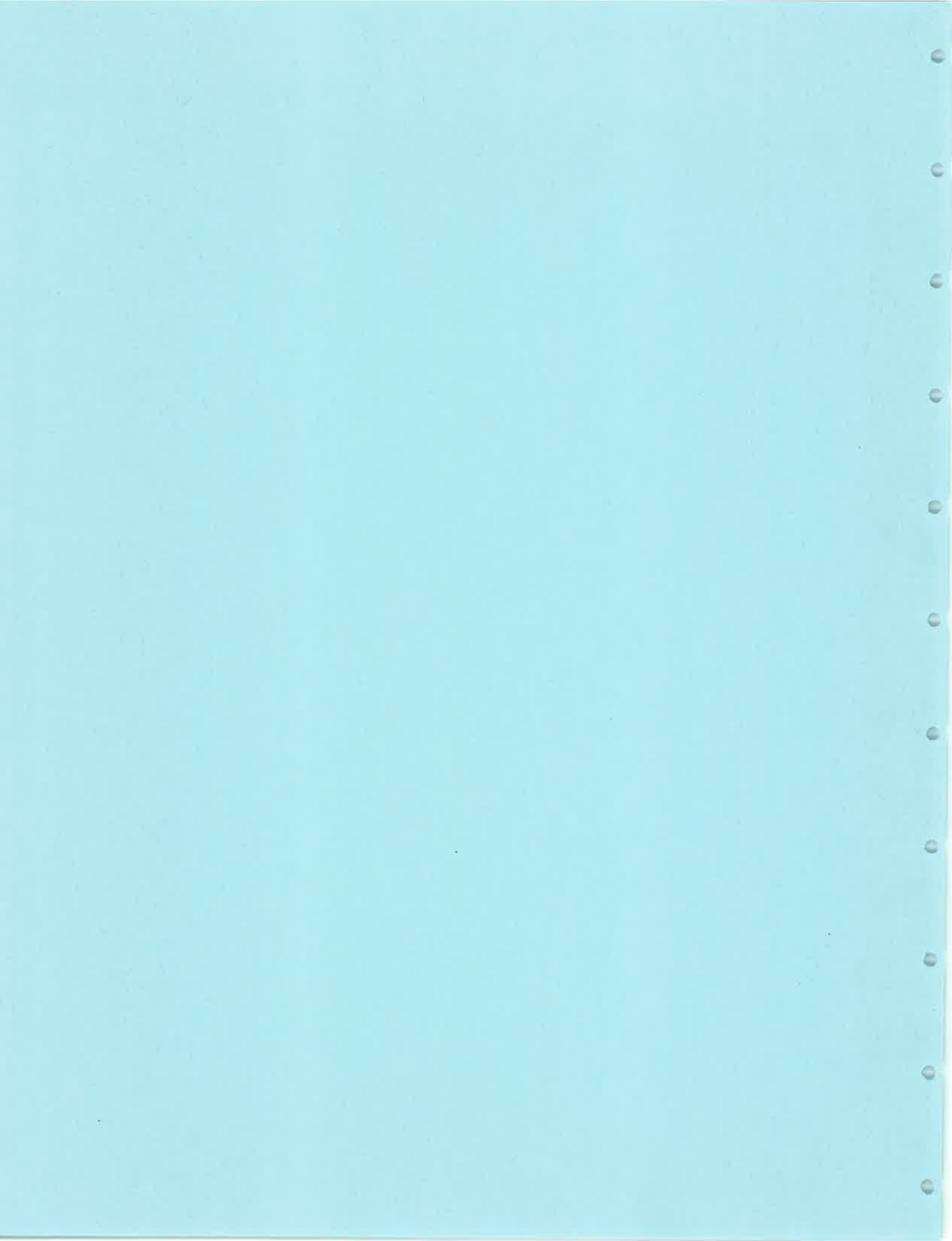
Network Building Working Group

The following participants expressed interest in helping expand support coalitions for watershed restoration.

Vance Russel
Kleinschmidt Associates
133 L Street, Suite C
Sacramento, CA 95814

(ph) 916-447-7802 (fax) 916-447-7748
(email) Vance.Russell@Kleinschmidtusa.com

Gregg Servheen
Idaho Fish and Game Department
1540 Warner Ave.
Lewiston, ID 83501
(ph) 208-299-5010 (fax) 208-799-5012
(email) gservhee@idfg.state.id.us



TRANSIT FEEDBACK

During the (sometimes) long drives between discussion stops, participants were handed small slips of paper on which specific questions were asked. These questions were designed to initiate some "transit" dialogue, while also provide us with written account of ways participants have faced difficult obstacles in a variety of situation. The following provides a summary of responses to these questions.

PARTNERSHIPS

Participants were asked to list the types of partners they have used to implement watershed restoration project. In their submission, some participants indicated that the groups that emerged to work on restoration issues worked "loosely" together, similar to a consensus group. to move restoration projects forward. Among the partners listed:

- Motorized and non-motorized recreationists.
- Wilderness advocates
- Species advocates (trout, grizzly, etc.)
- Neighboring landowners
- Ski area operators
- Loggers
- Miners
- Grazers
- Hunters
- State Agencies (e.g., Dept. of Transportation, Dept. of Fish & Wildlife, Div. of State Lands, Dept. of Forestry, Dept. of Environmental Protection, etc.)
- Federal Agencies (e.g., USFS, USFWS, BLM, NRCS, Army COE, EPA, NPS, etc.)
- Local Volunteers (e.g., scouts, species advocates, hunting clubs, school districts, soil/water conservation districts, fraternal organizations).
- Watershed council members.
- Resource Conservation & Development Districts.
- Industrial timberland owners.
- Private foundations.
- Tribal interests (e.g., Colville Confederated Tribe, Nez Perce Tribe, etc.)
- Local government and community leaders
- Local community colleges
- Corporate partners (non-forestry based)
- Regional and National NGOs (e.g., coalitions, forest watch groups, environmental organizations, etc.)
- Farmers
- Prison inmates
- Universities
- Members of Congress and Staff

One participant noted that the most important partners are not those with official title or funding, but those with leadership skills, energy, and focus.

ROLE OF VOLUNTEER OR CONTRACT LABOR

Participants were asked to indicate if they had ever utilized volunteers, contract labor or other labor sources to complete their various restoration projects. They were then asked to identify which kinds of work these individuals performed.

Volunteers

- Teachers and youth groups
- Participating landowners
- Prison inmates
- Citizen watershed groups

Contract Labor

- Equipment operators (e.g., earth movers,)
- dam building
- construction (e.g., solar kilns)
- Americorps & CCC

Others

- Partnerships with tribes and government entities.
- Salmon corps.
- Timber sale purchasers

Types of Work Performed

- Culvert Replacement
- Vegetative restoration (tree/herbaceous planting, pole cutting, mulching, seeding,)
- Road Obliteration
- Restoration monitoring
- Mapping (e.g., noxious weed populations, wetland resources)
- Litter collection and removal.
- Bridge construction
- Project planning
- Contract development
- Bid review
- Wildlife surveys
- In-stream projects
- Erosion control efforts
- Livestock exclusion fencing

FUNDING

Participants were asked to list the sources of funding they had used for implementing watershed restoration activities. Among these:

- State (OR): Oregon Lottery Funding, OR Dept of Fish and Wildlife, OR Watershed Enhancement Board
- State (CA): SB271 funds, SB291 funds, CA Wildlife Conservation Board, Dept. of Water Resources (urban stream restoration grants), State Coastal Conservancy.
- USFWS
- Industry
- USFS (cost-share, challenge cost-share, K-V, appropriated funds, Jobs in the Woods funds, RCA funds)
- BLM
- Bureau of Reclamation
- NGOs (e.g., American Forests, Trout Unlimited, National Fish & Wildlife Foundation, Noxious Weed Trust Funds,)
- EPA (e.g., 319 non-point pollution grants)
- NRCS (e.g., PL566)
- Tribal funds.
- State trails funds

- Foundations (e.g., Hewlitt Foundation, Kendall Foundation, National Fish & Wildlife Foundation)
- Society for Range Management

TECHNICAL ASSISTANCE NEEDS

Participants were asked to identify what kinds of technical assistance needed to implement restoration projects. The responses included:

- Examples of cooperative agreements with the USFS (non-profit and for profit organizations).
- Foundation grants development to support program efforts and provide funding for coalition building and technical/experience exchange.
- Examples/guidance of funding opportunities and suitable foundation support.
- Assistance with the NEPA process.
- Assistance with ESA issues.
- Continued networking opportunities.
- Education (restoration techniques, grant writing, partnership building skills, marketing).
- Community assistance.
- Grant writing and partnership building skill development.
- Building organizational capacity and leadership skills for community-based organizations.
- Marketing assistance.
- Community assistance and/or small business development.
- Simplification of grants, agreements, and acquisition processes.
- GIS and other technical instruction.

