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OFFICE OF  
ECOSYSTEMS, TRIBAL AND  
PUBLIC AFFAIRS

June 22, 2012

Mark Brown  
Resource Management Plans for Western Oregon  
Bureau of Land Management  
PO Box 2965  
Portland, Oregon 97208

Received  
JUN 25 2012

Re: EPA Region 10 Comments on the Notice of Intent to revise Resource Management Plans and an associated Environmental Impact Statement for six Western Oregon Districts of the Bureau of Land Management (EPA Project #12-0020-BLM).

Dear Mr. Brown:

The Environmental Protection Agency (EPA) Region 10 has reviewed the BLM's March 9, 2012 Federal Register Notice of Intent to prepare an Environmental Impact Statement (EIS) and revised Resource Management Plans for six Western Oregon Districts.

The EPA will review the draft EIS in accordance with its responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act to review and comment in writing on the environmental impacts of major federal agency actions. The EPA's review will include evaluation of the anticipated environmental impacts as well as the adequacy of the EIS in meeting procedural and public disclosure requirements of NEPA.

It is the EPA's goal that the Resource Management Plan (RMP) Revision EIS promote full public disclosure of all foreseeable direct, indirect, and cumulative environmental impacts and mitigation, and be consistent with environmental and public involvement requirements of State and Federal laws, Executive Orders and policies. The EPA is particularly interested in seeing that the Plan revisions and EIS address and prioritize District and Plan Area direction, prescriptions, land allocations, desired conditions and associated goals, objectives, standards and guidelines to provide:

- 1) Water quality protection; protection of riparian areas and wetlands; and maintenance and restoration of watershed health to achieve water quality that fully supports beneficial uses of surface waters.
- 2) Cooperation with State/EPA TMDL development and implementation efforts.
- 3) Management approaches that produce self-sustaining, resilient ecological systems that can supply a variety of ecosystem services.
- 4) Management approaches that will maintain and restore (where necessary) an appropriate mixture of forest habitat types and seral stages to provide for the conservation and reproduction of the full complement of flora and fauna native to the BLM planning area.

- 5) Strong monitoring and adaptive management programs, including support for watershed analysis, and monitoring and evaluation of RMP effectiveness and watershed restoration success.
- 6) Management strategies that take into account the likely ecological implications of climate change and aim to provide a variety of habitats to maximize the potential for adaptation or organisms to a shifting climate over space and time.
- 7) An opportunity to assess the impacts of land management actions and to propose adaptive approaches to forest land management.
- 8) Contribution to the economic stability of local communities.

The comments that follow are intended to provide insight into forest management issues that the EPA believes to be significant and warrant treatment through the RMP and EIS development process. If you have any questions, please feel free to contact me at (503)326-2859 or by electronic mail at [kubo.teresa@epa.gov](mailto:kubo.teresa@epa.gov). Thank you for your willingness to consider our comments at this stage of the resource management planning and NEPA processes.

Sincerely,



Teresa Kubo

Environmental Review and Sediment Management Unit

## EPA Region 10 Comments NOI to Prepare Resource Management Plans for Western Oregon

### Aquatic and Riparian Resources

There are currently over 900 stream segments on the 303(d) list in the BLM planning area which are impaired by excess temperature, sediment, and other pollutants. These streams do not meet the water quality standards which are deemed to be protective of beneficial uses such as fish, aquatic life, and drinking water.

The aquatic conservation strategy (ACS) currently in place on BLM lands is recognized by the EPA and the Oregon Department of Environmental Quality as key to the implementation of total maximum daily loads (TMDLs) and meeting water quality standards. The ACS is also a critical element of Oregon Department of Environmental Quality's conditional approval of BLM's TMDL implementation strategy.

When the Northwest Forest Plan (NWFP) was adopted, studies showed 70 percent of streams on lands administered by the BLM to be out of compliance with CWA standards (FEMAT Report, Chapter V). Under the NWFP, watershed condition has been maintained or improved. The most recent summary of watershed status and trend<sup>1</sup> found that between 1994 and 2008 the majority of watersheds (69 percent) experienced positive change in condition scores. We believe that retaining key elements of the ACS is essential to continuing this progress.

We also recognize that the interim Riparian Reserve buffers established under the NWFP ACS were not intended to be static. Likewise, they were not they intended to be "no management" zones. There may be instances where management is appropriate in order to move a stand toward meeting ACS objectives. The extent to which riparian management is needed and appropriate has been the subject of analysis and discussion for many months within the context of the riparian thinning Endangered Species Act Section 7 Consultation elevation on the Siuslaw National Forest. The EPA has been involved with and supportive of the efforts of the science team tasked with addressing the questions raised through the elevation. We recommend that the findings of the science team and the forthcoming management recommendations be considered in the BLM planning process.

We also support the principles of "Ecological Forestry" as established in the General Technical Report NRS-19<sup>2</sup> and applied under the BLM Secretarial Pilot Projects<sup>3</sup>. We note, however that a strategy for applying these principles within riparian corridors has not been fully developed. We support the overarching objectives of promoting tree and understory species diversity; increasing structural complexity; and facilitating the development of large structures in young stands. If the DEIS includes an alternative that extends these objectives to riparian areas, we recommend that the alternative include a requirement that riparian management be tailored by forest type, and consistent with confirmed potential natural vegetation targets utilized in TMDLs and the anti-degradation provisions of the CWA (Section 303(d); 40 CFR §131.12.).

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<sup>1</sup> Lanigan et al. USDA 2012. Watershed Condition Status and Trend. GTR PNW-GTR-856.

<sup>2</sup> Franklin, J.F, Mitchell, R.J., and Brian J. Palik. 2007. Natural Disturbance and Stand Development Principles for Ecological Forestry. GRT NRS-19.

<sup>3</sup> <http://www.blm.gov/ot/resources/forests/index.php> Accessed June 12, 2012

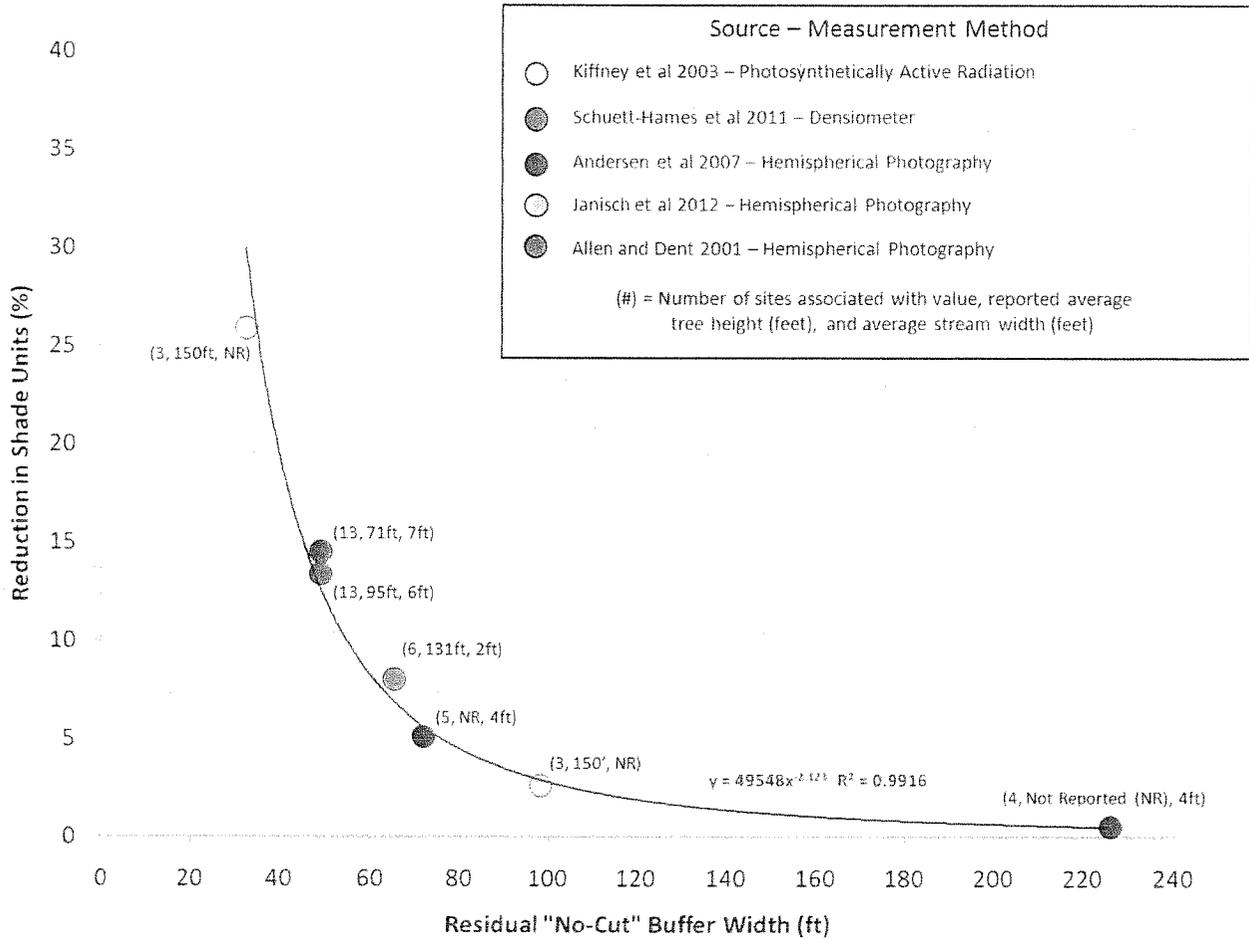
The Roseburg Secretarial Demonstration Pilot Project<sup>4</sup> is one of three pilot projects on BLM land in western Oregon intended to demonstrate the principles of Ecological Forestry on the ground. The Draft Environmental Assessment for the Roseburg pilot includes an alternative that considers a limited amount of riparian treatment (21 acres). Within those Riparian Reserve acres, the Environmental Assessment proposes a minimum “no-treatment” area of 35-feet on intermittent and perennial non-fish-bearing streams and 60-feet on all other streams. A moderate variable density thinning prescription to a relative density of 25 to 30 would be applied outside of the “no-treatment” areas. The EPA does not object to this approach given 1) the limited acreage involved; 2) the current condition of the acres proposed for treatment; and 3) the stated treatment objectives. We do not believe, however, that this would be an appropriate strategy to apply on a broad scale.

Potential effects associated with riparian management will vary according to site conditions and forest type. We maintain, however, that impacts to shade and stream temperatures from timber harvest within 100 feet of streams have been widely demonstrated. The EPA has reviewed a number of original studies conducted on forestlands in the Pacific Northwest that used a Before-After/Control-Impact design to investigate the effects of riparian buffers on stream shade and temperature conditions. Figure 1 illustrates reported shade loss in these studies resulting from a narrowing of the riparian buffer width. The x-axis shows the “no-cut” buffer width left next to the stream following clear-cut harvest activities. The y-axis is the reported average shade loss associated with the narrowing of the riparian buffer width. Also included in this figure is a trend line for this data ( $r^2=0.99$ ). We encourage the BLM to consider these results as alternatives are developed. The full annotated bibliography prepared by the EPA (from which Figure 1 is derived) is available at <ftp://ftp.epa.gov/reg10ftp/forestry/>.

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<sup>4</sup> <http://www.blm.gov/or/districts/roseburg/plans/files/PilotProjectEA.pdf>

Figure 1 - Measured shade loss associated with various "no-cut" riparian buffer widths



Finally, the EPA supports the "Framework to Guide Forest Service and Bureau of Land Management Land Use Plan Revisions and Amendments for Western Oregon, Western Washington, and Northern California" (Framework) that was finalized April 11, 2011, and transmitted to the field on June 6, 2011. The Framework identifies general concepts that the Regional Interagency Executive Committee agreed is relevant to plan revisions. The following are the agreed-upon principles that relate to aquatic and riparian management:

- The health of watersheds and aquatic and riparian (A/R) ecosystems should be maintained or restored within the context of broad ownership patterns and in collaboration with partners.
- National Forest System lands and lands managed by BLM should contribute to a network of properly functioning watersheds supporting A/R-dependent species at the landscape scale.
- Results of landscape analysis(es) and plans for recovery of Endangered Species Act listed A/R dependent species and impaired waterbodies should be considered and, where relevant, incorporated.

- Riparian reserves or management/conservation areas should be designated and include sensitive areas that contribute to ensuring high quality water, substrate, woody debris, nutrients, and A/R habitats.
- The primary management emphasis for riparian reserves or management/conservation areas should be protection and restoration of A/R habitats, water quality, and drinking water.
- Treatments designed to meet A/R objectives should balance short term ecological impacts against long term gains for the enhancement of aquatic and riparian resources. Where consistent with A/R objectives, these may provide economic and social benefits.
- Treatments in riparian reserves or management/conservation areas within dry, fire-prone vegetation types should be designed to improve stand resiliency and structure and should be targeted within wildland urban interface areas, or where current species composition, stand density, or stand structure are not ecologically sustainable.
- Watersheds providing refugia for Endangered Species Act listed fish and other A/R dependent species, or with the greatest restoration potential for providing refugia, should be high priority for protection and restoration.
- Protection should be provided for population strongholds for listed or proposed A/R dependent species and narrow endemics.
- Stream access for all life stages of aquatic species should be maintained and restored except where preventing or reducing movement of nonnative or invasive species is desired.
- Emphasis should be placed on the elimination, reduction, and mitigation for adverse effects from roads on A/R resources, and on the restoration and closure of unneeded roads.
- New information regarding climate change, fire prone ecosystems, A/R dependent species recovery, and water quality protection/restoration should be periodically incorporated into A/R plan components.
- Aquatic and Riparian monitoring components and, where feasible, elements to support broader scale A/R monitoring should be included.

**Cumulative Impacts to Aquatic Habitat**

Thom and Jones<sup>5</sup> found that private non-industrial lands in western Oregon are characterized by higher fine sediment levels, lower wood volumes and number of key (large) wood pieces, lower densities of deep pools, and lower levels of shading. They also found that on the private lands surveyed, very few stream reaches had high quality habitat largely due to sediment loading. Within this context, federal lands play a key role in terms of providing areas of high quality refugia. Without high quality refugia, moderate quality areas cannot support a large abundance of salmonids through periods of frequent disturbance<sup>7</sup>. We recommend that the DEIS fully discuss the ecological role of BLM lands within areas of mixed ownership. This would include an examination of all potential sediment sources, including roads, harvest activity and debris flow. This analysis should also consider the potential for blowdown post harvest. Riparian blowdown has implications for future large wood recruitment, bank stability, sediment delivery, and temperature. For additional discussion on the analysis of cumulative impacts, see the “Cumulative Impacts” section on page 11 of these comments.

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<sup>5</sup> Thom, B.A., and K.K. Jones. 1999. Stream Habitat Conditions on Industrial Forest Lands in Coastal Streams of Western Oregon. Special Report to the Oregon Forest Industries Council. Oregon Department of Fish and Wildlife, Corvallis, OR.

**Source Water/Drinking Water**

BLM lands in Western Oregon provide drinking water to over one million Oregonians through 113 community water systems<sup>6</sup>. In addition, there are many Oregonians not served by community water systems that rely on BLM lands for drinking water. The EPA recognizes that providing high quality drinking water to protect human health is a high priority for the BLM. Under the NWFP a number of these source water watersheds are designated as Tier 2 Key Watersheds. Within Key Watersheds, management is guided by watershed analysis, road building in inventoried roadless areas is restricted, and priority is given to restoration. These measures have resulted in a higher level of improved watershed conditions in Key Watersheds than in non-Key watersheds<sup>1,7</sup>.

The identification and management of Key Watersheds has helped to provide clean source water to public intakes and wells, thus preserving the use of public funds that would otherwise be spent to upgrade treatment facilities to remove contaminants downstream. Where Key Watersheds have been identified, we recommend that they be maintained, and managed consistent with existing standards and guidelines or information obtained from watershed analysis and source water protection strategies.

For the planning area as a whole, we recommend that the Draft EIS:

- Identify all source water protection areas within or downstream of the project area.
- Identify all activities that could potentially affect source water areas (including sediment generating activities such as harvest and road management, and chemical use associated with silvicultural activities).
- Identify all potential contaminants that may result from the proposed project.
- Identify all measures that would be taken to protect the source water protection areas in the draft EIS.

**Cumulative Impacts to Source Water**

Finally, we note that many of the source water watersheds in the planning area are in mixed (checkerboard) ownership. Within these watersheds, land in private ownership is often managed more intensively than is federal land. In these instances, it is often the federal lands which have the large intact blocks able to provide the ecosystem services (temperature regulation, nutrient cycling, filtration, flow attenuation, and storage) necessary to maintain high quality drinking water. We recommend that cumulative impacts to drinking water systems be considered within this context. For additional discussion on the analysis of cumulative impacts, see the “Cumulative Impacts” section on page 11 of these comments.

**Late-Successional Habitat**

Within the project area, BLM lands contain the majority of late-successional forest. Consistent with the Framework, we make the following recommendations:

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<sup>6</sup> USDA Forest Service and USDI Bureau of Land Management. 1996. Public lands in Oregon and Washington. Map and data compiled by the U.S. Forest Service and Bureau of Land Management. U.S. Government Printing Office: 1996-793-998.  
<sup>7</sup> Gallo, K.; Lanigan, S.H., Eldred, P., Gordon, S.N., Moyer, C. 2005. Northwest Forest Plan-the first 10 years (1994-2003): preliminary assessment of the condition of watersheds. Gen. Tech. Rep. PNW-GTR-647. Portland, OR: U.S.D.A., Forest Service, Pacific Northwest Research Station. 133p.

- Design plans to restore, maintain, and enhance appropriate levels of late-successional and old-growth forests to provide for the conservation of late-successional and old-growth dependent species and provide for a well-distributed, functional, interacting forest ecosystem on Federal lands.
- Design plans to make late-successional and old-growth forest ecosystems resilient to impacts from loss due to large scale-fire, insect, and disease epidemics while maintaining natural ecological processes and functions. Natural range of variation and climate change should be considered in developing strategies for sustaining late-successional habitat.
- Design plans to maintain late-successional and old-growth forests to best sustain these ecosystems in the landscape and to develop young stands into late-successional habitat consistent with agency authorizing legislation and land use plan objectives.
- Design plans to provide connectivity among late-successional and old-growth forests on Federal lands.
- Plans should be consistent with US Fish and Wildlife Service and National Oceanic and Atmospheric Administration recovery plans, critical habitat designations, and with agency guidelines for management of candidate, rare and sensitive species.
- Plans should include monitoring and adaptive management provisions, including mechanisms for periodic revisions/amendments to incorporate new science.
- Plans should recognize that different management approaches may be necessary among physiographic provinces to provide for a functional, interacting late-successional and old-growth forest ecosystem on Federal lands.
- Agencies, through plans or other mechanisms, should provide for step-down landscape analyses at appropriate scales to inform project planning, as needed.
- Plans should use the best available science to guide management in late-successional and old-growth forests, in particular as related to climate, riparian thinning, and restoration actions.

### **Dry Forest Management**

The management of dry forest types presents significant challenge due to increasing fuel loads, increasing fire frequency, concerns over wildlife habitat, and the management of water resources, particularly given the likely changes in climate projected over the next 50 to 100 years. Current landscape condition reflects 20<sup>th</sup> century forest management, and differs from the historical condition. To restore the functions of dry forest, it will be necessary to learn from the past and adapt to anticipated changes of the future.

We support moving toward ecosystem restoration and forest health as a management goal. We offer the following recommendations, consistent with the Framework document, as the BLM establishes standards and guidelines in support of moving dry forests within the planning area toward desired structural stages:

- Set restoration goals and priorities through a combination of ecological need, efficacy of treatments, and public support.
- Consider the current and potential growth of the wildland urban interface, and avenues to mitigate the impact of increasing population.
- Recognize that while managing for ecosystems that occurred 150 to 200 years ago may not be possible, the historical range of variation can still serve as a useful approximation of sustainable

conditions, and help shape restoration goals. As information is gained on future ranges of variation, it should be used to guide project objectives.

- Emphasize the restoration of resilient landscapes as the best way to maintain habitats in the face of climate change. Resilience requires restoring and maintaining sustainable structure, function and composition of ecosystems at multiple scales.
- Use a risk management strategy to deal with uncertainty, including uncertainty in future climate. Identify a range of possible future scenarios and spread risk by implementing different levels and types of management that address the different scenarios. In developing management options assess the landscape drivers of disturbance.
- Characterize risk based on a combination of historical regimes, recent trends, current conditions, fire behavior models, and potential future range of variability in climate. Risk will differ for different values and system components. The BLM will need to consider tradeoffs among different values.
- Protect biological refugia – they are critical to maintaining ecosystem function. Native species and related life-supporting processes at province to individual tree scales have been adversely affected by past management. This has influenced food web, population, and habitat dynamics of many native terrestrial and aquatic species. Restoration of process and function depends on refugia.

### **Endangered Species Act**

Management under the RMPs may impact endangered, threatened or candidate species listed under the Endangered Species Act, their habitats, as well as state sensitive species. We recommend that the Plan revisions adhere to the following principles:

- The plan revisions should take into consideration Fish and Wildlife Service and National Marine Fisheries Service recovery plans and critical habitat designations.
- The plan components related to species and ecosystem recovery should be grounded in existing conservation efforts underway throughout the planning area.
- The plans should include provisions to maintain and restore functional critical habitat.
- The plans should consider recovery plan recommendations.
- Landscape analyses at appropriate scales should inform recovery plan and critical habitat elements in the plan revisions.
- The plans should strive to achieve habitat conditions suitable to maintain viable populations well distributed on federal lands within the capability of lands in the planning area.

### **Monitoring**

Monitoring is a critical component of adaptive management and an important activity for ecosystem management. It is also necessary to ensure that management actions are consistent with forest and management direction and that they comply with applicable laws and policies. Monitoring provides information to determine whether management direction is being followed, whether desired results are being achieved, and whether underlying assumptions are valid. Monitoring plans must be realistic in terms of anticipated budget levels and availability of staff. The focus of regional monitoring is effectiveness monitoring, whereas the focus at the unit level monitoring is on implementation monitoring and monitoring plan objectives and goals.

Consistent with the Framework, we make the following recommendations related to monitoring at the BLM district scale:

- Plan revisions should include monitoring to address questions relevant to land managers at the planning unit scale. Typically these questions involve elements of resource management plan direction where there is:
  - Greatest scientific uncertainty
  - Less operational experience
  - Greatest ecological sensitivity

High risk of social or ecological change or the direction of change is uncertain.
- Results of implementation monitoring should be reported periodically.
- Monitoring should include not only the collection of data, but also its evaluation. Evaluation products should be used within an adaptive management framework to adjust plan components (see Adaptive Management Comments below).
- Monitoring at the BLM district scale should, where appropriate, contribute to regional-scale monitoring.

Monitoring at the regional scale, while not generally part of the decision for a specific plan, is important and should take into account the following:

- Monitoring strategies should be evaluated periodically to determine if questions and protocols are still relevant and if changes are needed.
- Interagency collaborations should be emphasized to improve consistency, enable the sharing of methods, and reduce redundancy and cost.
- Watershed condition and trend on Federal lands should be monitored.
- Condition and trend of late-successional Federal forests should be monitored.
- As habitat models become more reliable for prediction, BLM should investigate opportunities for emphasizing habitat monitoring and de-emphasizing population monitoring.

The BLM should continue evaluating new science and technology to update monitoring strategies to improve quality and efficiency.

**Climate Change Effects**

Ongoing climate change research as summarized by the United Nations Intergovernmental Panel on Climate Change (IPCC) ([www.ipcc.ch](http://www.ipcc.ch)) concludes that climate is already changing; that the change will accelerate, and that human greenhouse gas emissions, primarily carbon dioxide, are the main sources of accelerated climate change. Effects of climate change may include changes in hydrology, weather patterns, precipitation rates, chemical reaction rates, and susceptibility to fire and insect outbreaks.

- Planning should consider greenhouse gas emissions and sinks in order to understand potential impacts of management actions and develop potential alternatives.
- Planning should use new scientific information, tools and technology where it can increase federal and public understanding of climate change.

- Plans should include plan components providing for adaptation to reduce the negative impacts of climate change on ecological, economic, and social systems.
- Sustaining ecosystem services, resilient forests, grasslands, and communities should be the focus of any climate change adaptation strategy.

### **Cumulative Impacts**

The EPA has issued guidance on how we are to provide comments on the assessment of cumulative impacts, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents*, which can be found on the EPA's Office of Federal Activities home page at:

<http://www.epa.gov/compliance/resources/nepa.html>. The guidance states that in order to assess the adequacy of the cumulative impacts assessment, five key areas should be considered. The EPA will assess whether the cumulative effects analysis:

1. Identifies resources if any, that are being cumulatively impacted;
2. determines the appropriate geographic (within natural ecological boundaries) area and time period over which the effects have occurred and will occur;
3. looks at all past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern;
4. describes a benchmark or baseline; and
5. includes scientifically defensible threshold levels.

In addition, because BLM lands are intertwined with a mix of other ownerships, the EIS should assess cumulative impacts across the landscape and identify what assumptions will be used with respect to adjacent non-BLM lands, as well as the mechanisms for cooperating with the Forest Service and other land owners on RMP development and implementation.

### **Adaptive Management**

Adaptive management is the process of continually adjusting management in response to new information, knowledge, or technologies. The adaptive management process recognizes that unknowns and uncertainties exist in the course of achieving resource management objectives as identified in land use plans. Adaptive management involves taking an experimental approach to a complex task, making assumptions clear, and periodically evaluating them in light of new information. Adaptive management works best when performance, data collection, and evaluation methods are designed to provide the information managers need to make sound decisions.

Plan revisions should reflect the following:

- The planning process should encourage active learning and adaptation as land management plans are implemented, including transfer of what is learned in a project to other projects in different locations and at different scales.
- To the degree practical, the plan should be designed to encourage the development and testing of new management approaches to integrate and achieve ecological objectives.
- The plan should be written to the extent practical to allow for the application of new information or technology including the results of new research and the findings from plan monitoring.

**Consultation with Native American Tribes**

Proposed projects under Land and Resource Management Plans may affect tribal natural and cultural resources, including historical or traditional cultural places of importance to the area's Native American communities. In identifying historic resources, and assuring that treaty rights, and privileges are addressed appropriately, the lead federal agency must conduct government to government consultation with affected tribes. Documentation of these consultations should be included in the EIS consistent with Executive Order (EO) 13175 (*Consultation and Coordination with Indian Tribal Governments*) to address issues concerning Indian tribal self-government, trust resources, and Indian tribal treaty and other rights. The EIS should document how tribal input was considered in the proposed action.