

Chapter 5

Adaptive Management, Monitoring, and Evaluation Plans

This chapter includes four main sections: Adaptive Management and Monitoring General, Adaptive Management Application, Monitoring Techniques/Activities, and Examples/Best Practices for Adaptive Management.

Adaptive Management and Monitoring General

Summary

Some respondents comment that the Task Force should establish agency guidance on how to incorporate adaptive management into NEPA analyses. Some hold that the use of adaptive management should be based on the precautionary principle. Others suggest that adaptive management should be founded on the Multiple-use and Sustained Yield Act. Further, several individuals assert that the Task Force should clarify the meaning and applicability of adaptive management to facilitate understanding of associated risks and public review of NEPA documents.

Opinions vary on whether and under what circumstances adaptive management is appropriate. Of those who support adaptive management, several groups, including state agencies and representatives from business, preservation/conservation organizations, and industries recommend that the Task Force encourage agencies to use adaptive management as it may benefit the agencies, the public, and resources. Some state that adaptive management should be used to address risks and project effects when it is not possible to predict absolute adverse environmental effects; to ameliorate risk and environmental damage; and to facilitate management when uncertainty exists. As an example, one federal agency states that “adaptive management is appropriate in situations where scientific information is incomplete, there is systemic variability, or political consensus does not exist.” Some hold that use of adaptive management is appropriate to manage economically justified projects in the public interest. Another perspective held by individuals is that use of adaptive management expands the knowledge base and predictive validity for future decisionmaking. Several respondents also support the use of adaptive management as a method to allow actions to proceed based upon best available information. As an example, one individual states that “decisions have to be made with information available at the time. Science is continually churning out new research findings and we can’t wait for ‘complete information’ because it is never truly completed. NEPA needs to be changed so that a decision can be made on current scientific information and then implemented, not postponed because someone ‘thinks’ new information may be forthcoming.” However, some preservation/conservation groups maintain that actions should not be authorized if they pose significant risk to the environment.

Numerous respondents—including federal agencies, American Indian tribes, and individuals—advise the Task Force not to permit the use of adaptive management. Some express reservations that the NEPA process may evolve into a continuous process, and say it is unnecessary and

inconsistent with NEPA. Tribal representatives express concern that “the adaptive management approach is inconsistent with federal agencies’ trust responsibility to protect tribal rights and resources.” In the same vein, some argue that adaptive management violates NEPA mandates to identify environmental effects and provide for public review. Further, some maintain that CEQ regulations provide methods to deal with uncertain outcomes while others argue that current CEQ regulations do not provide for adaptive management, and that existing regulations should be used or modified without creating additional regulations. One wood products industry representative comments, “In some ways, the concept of adaptive management overlaps with the concept of amending NEPA documents in response to significant new information. ‘Adaptive Management’ is not mentioned in the CEQ regulations. The current regulations addressing significant new information or significantly changed circumstances should be used or modified to address this issue rather than creating a whole new concept of ‘adaptive management’ responsibilities under a new section of ‘adaptive management’ in modified CEQ regulations.”

858. Public Concern: The CEQ Task Force should establish agency guidance regarding the use of adaptive management.

There has been much discussion and some applications of adaptive management approaches to NEPA; however, there is little in the way of CEQ guidance on this subject, especially in relation to how to adequately address cumulative effects, site-specific proposals, and alternatives. (United States Department of Agriculture, Washington, DC - #110.11.50110.XX)

NMFS [National Marine Fisheries Service] has had modest experience with the use of adaptive management measures and associated NEPA analyses in managing natural resource under its management authority. In particular, NMFS has worked with the U.S. Fish and Wildlife Service in recent years to incorporate adaptive management measures in habitat management plans for several timber reserves in northern California. NMFS’ involvement has centered on applications it has received for federal incidental take permits for several species it manages (e.g., coho salmon). Because of our limited experience in applying the adaptive management approach and in performing NEPA analyses for such cases, NMFS would welcome further information and guidance from CEQ on how to incorporate adaptive management (e.g., use of performance-based environmental parameters or outcomes and monitoring to ensure that they are achieved) into NEPA analyses. (National Oceanic and Atmospheric Administration, Washington, DC - #637.47.50700.XX)

THROUGH APPROPRIATE APPLICATION OF THE PRECAUTIONARY PRINCIPLE

Appropriate application (never an easy task but worth the effort) of the Precautionary Principle, in conjunction with the acquisition and interpretation of new relevant information on a continuing and dynamic basis, will support different adaptive management regimes.

Updated and continuous inflow of environmental and ecological information should constitute a basis for adaptive environmental governance. (Other, Lawrenceville, NJ - #410.2.50100.D4)

THROUGH THE MULTIPLE USE AND SUSTAINED YIELD ACT

The department suggests that the best foundation for Adaptive Management, Monitoring and Evaluation Plans is found in the Multiple-Use Sustained-Yield Act of 1960.

Paraphrasing the language of the Act;

Multiple-use means management of resources so that they are utilized in the combination that will best meet the needs of the American people. Making the most judicious use of the resources while providing sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. Harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources (including the establishment and maintenance of wilderness areas).

Sustained-yield means the achievement and maintenance in perpetuity of high level output of renewable resources without impairment of the productivity of the land.

The adaptive management concept needs to become an accepted policy in the NEPA process. (Utah Department of Natural Resources, Salt Lake City, UT - #565.11.50600.XX)

859. Public Concern: The CEQ Task Force should clarify the meaning and applicability of adaptive management.

Does the agency understand what adaptive management means? Are they willing to take the risks involved in adapting and modifying decisions as monitoring and new scientific information indicate adaptation is needed? Does the public understand adaptive management? How does adaptive management fit with the culture in the agency or profession? (Individual, Moscow, ID - #9.1.50000.D1)

TO FACILITATE PUBLIC REVIEW OF NEPA DOCUMENTS

Can you with certainty define to the general public the phrase “adaptive management?” If you cannot, how can reviewers of NEPA documents expect to understand the impact analyses with future adaptive management schemes and plots? (Individual, Liberty, MO - #2.1.50140.D2)

BECAUSE ADAPTIVE MANAGEMENT CAN MEAN MANY THINGS

It is unfortunate that you did not define adaptive management. It can mean many things to many people. To me, it means to adapt what you plan to do, based on past successes or failures for projects of the same type in areas with similar characteristics. (Government Employee/Union, Grangeville, ID - #44.16.50000.XX)

860. Public Concern: The CEQ Task Force should encourage agencies to use adaptive management as part of NEPA.

This is not a matter of consciously “considering factors.” Adaptive management should occur at all times. It’s almost automatic for humans to do this, without even knowing it. (Government Employee/Union, Grangeville, ID - #44.17.50100.D1)

The adaptive management provisions in the Northwest Forest Plan (e.g., implementation monitoring, effectiveness monitoring, etc.) establish a reasonable framework for implementing adaptive management in subsequent management decisions. Unfortunately, in our experience, the Forest Service and BLM have ignored this framework, and have not used adaptive management in altering the nature of land management decisions. (Preservation/Conservation Organization, Vancouver, WA - #103.12.50110.D2)

In some instances, the use of adaptive management would be very useful to the public and agencies alike, and would greatly benefit the natural resources involved. Whenever possible, it should be utilized, but the process must be kept open and the public notified of changes that take place. (Domestic Livestock Industry, Albuquerque, NM - #80.19.50100.XX)

Many may ask why the fuss about adaptive management and EMS [Environmental Management Systems] where an agency has a sound program for environmental management and follow-up monitoring and subsequent mitigation, if needed, in connection with its NEPA analyses. An agency without a sound program would benefit, as would its stakeholders and the public, from any program that called for monitoring and adaptation to changes from predicted effects. (Business, Fairfax, VA - #520.16.50400.D4)

TO LESSEN ANALYTICAL REQUIREMENTS

We support . . . incorporation of the concept of adaptive management into the NEPA documentation process. We see that concept as perhaps the most workable method to reduce NEPA’s “up-front” data and analytical requirements—requirements that breed the expectation in both agency officials and judges that the NEPA documents must be omniscient. That expectation transformed into a de facto administrative or judicial standard ensures that the NEPA document will arrive at the printer and the

court suffering from analytical bloat and creates the potential to ultimately render the document legally invalid. Adaptive management, properly applied, could reduce the likelihood of these undesirable consequences. (Timber or Wood Products Industry, Washington, DC - #507.31.50100.XX)

TO ADDRESS RISKS AND PROJECT EFFECTS

An adaptive management approach should be considered . . . when current tools or technology are capable of predicting only a range, and not absolute, adverse environmental impacts. However, such tools/technology would also need to predict a worst case (however improbable) scenario, be able to measure any actual adverse affects following the project or action, and demonstrate that unacceptable effects can be reversed through some subsequent action. Generally, the Port Authority supports the adaptive management approach to assessing environmental impacts. The level of public participation that would be included in implementing an adaptive management strategy would impact its development and outcome. (Port Authority of New York and New Jersey, New York, NY - #457.7.50100.D2)

TO AMELIORATE RISK AND ENVIRONMENTAL DAMAGE

In theory, PRC agrees that adaptive management is a valuable tool for adjusting agency action to management outcomes that were unforeseen or inaccurately predicted. In a 1997 report, "The National Environmental Policy Act: A study of Its Effectiveness After Twenty-Five Years," the CEQ summarizes the consensus on the appropriate trigger for adaptive management as follows: "where resources are not likely to be damaged permanently and there is an opportunity to repair past environmental damage, an adaptive environmental management approach may be the best means for an agency to meet its specific and NEPA missions" (Executive Summary, p. x.). In other words, adaptive management should not be an open-ended experiment of "wait and see" conducted across large areas, but rather a carefully designed experiment that ameliorates rather than invites risk. (Preservation/Conservation Organization, Eugene, OR - #97.1.50000.F1)

All uses of the land and surrounding watersheds fundamentally need interpretive data (of a system wide master schemata) that is designed to be used in making any . . . long term use plans while adhering to strict guidelines with basic and aggressive remedial controls to prevent/abate any degradation of system natural processes and activities. (Individual, Johnson City, TN - #631.15.50300.D3)

TO FACILITATE MANAGEMENT WHEN UNCERTAINTY EXISTS

Adaptive management is appropriate in situations where scientific information is incomplete, there is systemic variability, or political consensus does not exist. An example of this would be management of the flow regime of a river, which should be adaptively managed in order to avoid specifying a certain flow regime in the face of many unknowns. (United States Environmental Protection Agency, No Address - #299.34.50100.D1)

SEA suggests that adaptive management approaches be considered under the following circumstances:

- The range of activities and associated impacts that may occur under a proposed action are moderately to highly variable due to future technological or economic uncertainties;
 - The scope and magnitude of potential impacts are uncertain due to limits in the understanding of how an ecosystem may respond to certain aspects of the proposed action; and
 - Predictive modeling or other analytical tools are not available to accurately assess potential impacts.
- (Surface Transportation Board, No Address - #519.20.50100.D1)

AM [Adaptive Management] is most effectively applied to projects involving resource management issues, where considerable uncertainty surrounds the response of resources to management actions. A number of agencies recognize it as a component of natural resource management plans and programs undertaken to improve environmental conditions and as a component of regulatory compliance programs. With its current application to various environmental permitting and planning processes, AM already is a component of implementing the recommendations and requirements of the NEPA process. Explicit, formal incorporation of AM into NEPA processes is a logical next step. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.6.50000.XX)

OACES [Oregon Association of County Engineers and Surveyors] recognizes that adaptive management is potentially an innovative resource management approach. However, OACES believes that adaptive management should be focused on potential impacts where the uncertainty is large rather than on potential impacts that are clearly evident such as soil erosion on slopes cleared of vegetation. (Transportation Interest, Salem, OR - #436.3.50100.D1)

The degree of risk and uncertainty, and the ability to timely obtain sufficient knowledge through conventional approaches. We have been studying the spotted owl for over a decade and still cannot define its habitat or the effect of management activities. The impact of the uncertainties is detrimental to the owl, forest and communities. Resolution of the uncertainties surrounding the spotted owl would be of great benefit. Adaptive management studies could greatly decrease the resolution time. (Placed-Based Group, Sacramento, CA - #522.26.50100.D1)

TO MANAGE PROJECTS THAT ARE IN THE PUBLIC INTEREST AND THAT ARE ECONOMICALLY JUSTIFIED

An adaptive management approach should be considered whenever a project or action is in the public interest [and] is economically justified (Port Authority of New York and New Jersey, New York, NY - #457.7.50100.D2)

TO IMPROVE PREDICTIVE ABILITY OF RESOURCE RESPONSES ACROSS MANAGEMENT ACTIONS

AM [Adaptive Management] has value beyond that for decision makers on individual projects. The great benefit of a broad-scale AM program implemented systematically over multiple agencies is the accrual of a broad knowledge base that includes documented responses of resources to an array of management actions. This knowledge base thus improves predictive ability for all future related decision-making. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.8.50000.XX)

TO ALLOW ACTIONS TO PROCEED WHILE GATHERING NEW INFORMATION

We are not familiar with how this concept [adaptive management] has been used, but it sounds hopeful. Information unavailable to decision makers today can be collected as the action proceeds and should not delay the action. Allowing the action to proceed and gather new information makes more sense than requiring ponderous prediction. The more valuable information is obtained by making more and quicker decisions to act, and then keeping track of the results. If we want more conservation out of our efforts, we must put more action into our efforts. However, based on the most common legal complaints filed against agency decisions—failure to produce an EIS, and reliance on inadequate EIS—we do not know how an agency could proceed with action on the promise of information to be gathered later. (Idaho Office of Species Conservation, Boise, ID - #578.11.50000.XX)

Adaptive management is a good concept, but its track record is weak. Decisions are made with available information, as we cannot wait for complete information because it's never complete. Unfortunately, NEPA review presumes complete knowledge in a deterministic sense. (Timber or Wood Products Industry, Boise, ID - #581.3.50100.XX)

Unfortunately, the “adaptive management” concept has proven to be weak at best. Decisions have to be made with information available at the time. Science is continually churning out new research findings and we can't wait for “complete information” because it is never truly completed. NEPA needs to be changed so that a decision can be made on current scientific information and then implemented, not postponed because someone “thinks” new information may be forthcoming. (Individual, Joseph, OR - #424.6.50110.XX)

TO AUTHORIZE ACTIONS ONLY IF THEY ARE UNLIKELY TO THREATEN THE ENVIRONMENT

Adaptive management is only appropriate if the initial environmental analysis concludes that the proposed action is not likely to pose an unacceptable threat to the environment. Of course, the organization recognizes that changed circumstances and the discovery of new information are inevitable, and that prospect alone should not prevent an agency from proceeding with a proposed action.

Uncertainty of impact is not sufficient justification for an agency not to prepare a full environmental impact statement. Actions the impact of which is not known but which pose more than a de minimus threat to the environment should be avoided. (Preservation/Conservation Organization, Washington, DC - #539.13.50200.XX)

FOR HIGHWAY PROJECTS

AASHTO supports further research efforts to assess the potential to apply adaptive management techniques to highway projects.

At the same time, it is important not to underestimate the challenges of applying adaptive management techniques to highway projects. For highway projects, many of the potential impacts associated with the project result from the very existence of a new highway and/or additional lanes. For example, the direct impacts on the natural and human environment occur as a result of the initial construction of a highway. Once construction has occurred, there often is little that can be done to “un-do” the project’s physical impacts. Thus, it is important to be realistic about the extent to which adaptive management plans can be applied to highway projects. (American Association of State Highway and Transportation Officials, Washington, DC - #591.9.50100.XX)

861. Public Concern: The CEQ Task Force should not permit the use of adaptive management as part of NEPA.

BECAUSE THE NEPA PROCESS SHOULD NOT BE CONTINUOUS

The Navy believes NEPA should not evolve into an adaptive management process. NEPA documents do not lend themselves well to adaptive management. The National Environmental Policy Act requires a definite ending of either a Finding of No Significant Impact or Record of Decision in order to proceed with the proposed action. Other follow-on adaptive management systems can result from mitigation committed to in the NEPA process, but the NEPA process itself should not be continuous. (United States Navy, Washington, DC - #568.18-19.50200.D3)

BECAUSE ADAPTIVE MANAGEMENT IS UNNECESSARY AND IS IN CONFLICT WITH NEPA PRINCIPLES AND PROCEDURES

The FCPC believes that the NEPA Task Force should seriously reconsider the proposed adaptive environmental management approach. Such an approach is unnecessary, inconsistent with current NEPA implementation procedures and in direct conflict with the fundamental principles of NEPA. (Forest County Potawatomi Community, Milwaukee, WI - #479.23.50000.XX)

BECAUSE ADAPTIVE MANAGEMENT IS INCONSISTENT WITH FEDERAL TRUST RESPONSIBILITY TO PROTECT TRIBAL RIGHTS AND INTERESTS

The adaptive management approach is inconsistent with federal agencies’ trust responsibility to protect tribal rights and resources. The federal trust responsibility imposes fiduciary duties on federal agencies to protect the rights, resources and interests of Indian tribes. This duty requires that the United States protect the interests of tribes as a guardian would those of his or her ward, *Cherokee Nation v. Georgia*, 30 U.S. (5 Pet.) 1, 17 (1831), guaranteeing the protection of tribes’ federal rights. *Worcester v. Georgia*, 31 U.S. (6 Pet.) 515, 557-62 (1832). Under the trust responsibility, federal agencies have a “responsibility to protect” [tribal] rights and resources. *Klamath Water Users Protection Ass’n v. Patterson*, 204 F.3d. 1206, 1213 (9th Cir. 10999), and must satisfy “obligations of the highest responsibility and trust,” *Muckleshoot Indian Tribe v. Hall*, 698 F. Supp. 1504, 1510-11 (W.D. Wash. 1988, quoting *Seminole Nation v. United States*, 316 U.S. 286, 297, 1942).

The trust responsibility further protects tribes’ rights to natural resources needed for subsistence, traditional, ceremonial, religious and other purposes. These rights include on and off reservation harvesting rights, see *Menominee tribe v. United States* 391 U.S. 404, 405-06 (1968), rights to protect the reservation environment from off-reservation impacts, *Wisconsin v. EPA*, 266 F ed 741 (7th Cir. 2001), cert. Denied, 122 S. Ct. 2347 (June 3, 2002), and water rights, *Winters v. United States*, 207 U.S. 564 (1908), among others. The trust responsibility also protects tribal cultural resources, including for example, the National Historic Preservation Act, 16 U.S.C. 470-470x-6, which obligates federal agencies to assess the impact of federal undertakings on properties of traditional cultural and religious

importance to tribes, including properties located on private lands off-reservation, and to seek to avoid any adverse impacts on such resources.

The federal trust responsibility further imposes a duty to mitigate any impacts to tribal rights and resources. This duty arises from the standard of care applicable to federal agencies' conduct as trustees (discussed above), and the agencies' obligation to ensure that tribes' rights are protected to the fullest extent possible. *Northwest Sear Farms*, 931 F. Supp. at 1520; *Klamath Tribes v. United States*, 1996 WL 924509, at 8 (DD. Or. 1996); See also *Kittitas Reclamation District v. Sunnyside Valley Irrigation District*, 763 F.2d 1032, 1033 (9th Cir. 1985); *United States v. Washington*, 759 F.2d 1353, 1359-60 (9th Cir. 1985).

As the adaptive management approach would allow federal agencies to approve projects for which there were "uncertain outcomes," federal agencies applying this approach could not ensure that they were meeting their "responsibility to protect" [tribal] rights and resources, or satisfy their "obligations of the highest responsibility and trust." This is so because the process of approving a project with uncertain outcomes may not require that the agency determine what impacts will occur on tribal interests, how such impacts may be mitigated, or whether such impacts can be approved at all. Thus, the adaptive management approach is inconsistent with the federal trust responsibility owed to tribes and would allow federal agencies to avoid their duties to protect tribal rights and resources. (Forest County Potawatomi Community, Milwaukee, WI - #479.18-19.50000.XX)

BECAUSE ADAPTIVE MANAGEMENT VIOLATES NEPA MANDATES TO IDENTIFY ENVIRONMENTAL EFFECTS

The adaptive environmental management approach would violate NEPA's mandate to identify environmental impacts and effects. As the CEQ is well aware, NEPA requires, among other things, a detailed statement on "(i) the environmental impact of the proposed actions, [and] (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented." 42 U.S.C. 4332 (i) and (ii). Clearly, one of the fundamental purposes of NEPA is to provide the federal decision maker with sufficient information regarding the possible environmental consequences of an action so that the decision maker can make an informed and reasoned decision on the proposed action. The adaptive environmental management approach outlined in the Notice would allow federal agencies to ignore these strict NEPA requirements by simply stating that the environmental impacts and effects are "uncertain." Thus, the approach outlined in the Notice violates the fundamental purpose of NEPA and would allow an agency to avoid its duty to take a "hard look" at the environmental consequence of its action. See *Maryland-National Capital Park and Planning Commission v. U.S. Postal Service*, 487 F.2d 1029 (D.C. Cir. 1973) (finding that a reviewing court must consider whether the agency took "a 'hard look' at the problems as opposed to bald conclusions, unaided by preliminary investigation").

The adaptive environmental management approach is inconsistent with CEQ's implementing regulations. CEQ regulations implementing NEPA are very clear that federal agencies are required to "identify environmental effects and values in adequate detail." 40 C.F.R. 1501.2 (b). These regulations state that the purpose of an Environmental Impact Statement is to "provide full and fair discussion of significant environmental impacts." 40 C.F.R. 1502.1. Similarly, the regulations require federal agencies to "avoid or minimize any possible adverse effects of their actions upon the quality of the human environment." 40 C.F.R. 1500.2 (f). It is clear that an agency could not "avoid or minimize any possible adverse effects," if it did not first understand what those effects might be. Thus, it is clear that allowing federal agencies to simply state that a project would have uncertain outcomes and should be approved, albeit with certain monitoring and corrective action requirements, totally ignores the basic underpinning of NEPA—to understand the possible consequences of a project before federal action is taken. (Forest County Potawatomi Community, Milwaukee, WI - #479.8-9.50000.XX)

BECAUSE USE OF ADAPTIVE MANAGEMENT WILL OBIVIATE THE NEED FOR PUBLIC REVIEW UNDER NEPA

Why even have public reviews under NEPA and Administrative Procedures Act? Why have alternatives when you have adaptive management manipulative schemes? As one federal leader said "We use the phrase 'adaptive management' so there is opportunity to back off bad and poor decisions." CEQ needs to support KISS in lieu of adaptive management. (Individual, Liberty, MO - #1.2.50140.D1)

BECAUSE CEQ REGULATIONS ALREADY PROVIDE METHODS FOR DEALING WITH UNCERTAIN OUTCOMES

The adaptive environmental management approach is not necessary because the CEQ regulations already provide a method for evaluating uncertain outcomes. The CEQ regulations already provide a procedure whereby uncertain outcomes can be evaluated. See 40 C.F.R. 1502.22. These procedures provide that if the information necessary to evaluate the uncertain outcome is reasonably available, the agency must include the information in the EIS. See 40 C.F.R. 1502.22 (a). The procedures also provide that where such information cannot be readily obtained, the agency must evaluate possible outcomes based upon theoretical approaches or generally accepted scientific methods. See 40 C.F.R.1502.22 (b). Thus, the proposed adaptive environmental management approach would undermine the already existing procedures to address uncertain outcomes. (Forest County Potawatomi Community, Milwaukee, WI - #479.10.50000.XX)

BECAUSE ADAPTIVE MANAGEMENT IS NOT IN CEQ REGULATIONS

Adaptive management should not be applied to approved NEPA projects where the private sector is implementing the project such as a timber sale. In some ways, the concept of adaptive management overlaps with the concept of amending NEPA documents in response to significant new information. “Adaptive Management” is not mentioned in the CEQ regulations. The current regulations addressing significant new information or significantly changed circumstances should be used or modified to address this issue rather than creating a whole new concept of “adaptive management” responsibilities under a new section of “adaptive management” in modified CEQ regulations. (Timber or Wood Products Industry, Portland, OR - #454.26.50700.D2)

862. Public Concern: The CEQ Task Force should consider the book *Compass and Gyroscopes*.

Read Kai Lee’s book “Compass and Gyroscopes” to better understand what is really involved. There are very few examples of real adaptive management implemented—everyone wants a “final decision,” “then someone to blame if things don’t turn out right or conditions (like the climate) change. (Individual, Moscow, ID - #9.2.50150.D1)

Factors to Consider in Relation to Adaptive Management

Summary

This section includes suggested factors to consider in relation to adaptive management.

Factors to Consider –

Respondents suggest numerous factors to consider in relation to adaptive management. These factors fall into the categories that follow.

General Factors – Several respondents advocate that the Task Force should establish a formal process to evaluate the potential effectiveness of adaptive management. One state agency, for example, maintains that “before an adaptive management program can be subject to analysis through an EIS, a formal process must be established to evaluate the potential effectiveness of the program.” Similarly, some advocate that the Task Force should require a review of EIS impact analysis forecasts and actual post-project impacts to evaluate NEPA’s effectiveness in identifying and avoiding adverse environmental impacts. Additionally, representatives of the oil, natural gas, and coal industry maintain that adaptive management techniques must provide specific expectations at the time of permit issuance so that requirements for compliance and the associated costs are established.

Several respondents express concern about the effects of adaptive management on public involvement, NEPA, and resource protection. Some say that agencies should notify the public of processes and changes. As an example, one business representative offers that “exceeding established, agreed upon criteria or violations of law or regulation would likely require subsequent NEPA, as would large-scale change in the size or scope of the action. . . . Adaptive management cannot be used as a means to keep stakeholders and the public in the dark concerning agency actions.”

Likewise, several individuals and groups assert that agencies should not use adaptive management to sidestep NEPA analysis. They maintain that the agencies must complete the necessary scientific analysis, and that the public should have an opportunity to review and comment if data indicates that management direction should be altered. It is also suggested that post-decision monitoring will increase decision makers’ abilities to learn from and adjust decisions over time. Respondents also stress that agencies should not use adaptive management as a substitute for taking affirmative steps to protecting natural resources and species; and that they should not use it to defer decisions, as such inaction would adversely impact valid existing rights for oil and gas leases and associated activities.

Planning – Some argue that administrative and regulatory support must be considered prior to using adaptive management, and that guidelines are needed for decisionmaking. Similarly, some suggest that the success of adaptive management will be dependent upon definitions of management objectives and outcomes, and on the willingness to cooperate toward achieving common goals and objectives.

Time/Cost/Staffing Needs – Several respondents urge the Task Force to consider time, cost, and staffing needs for implementing adaptive management. One elected official, for example, suggests that cost-effectiveness is an important concern.

Data/Analysis – Numerous respondents comment that baseline data, modeling, research, and monitoring are needed to predict effects and measure performance parameters. Some individuals argue that agencies must apply rigorous science-based experimentation to study resource responses through monitoring to inform modifications in decisionmaking. Further, respondents suggest that agencies may use cumulative science with predictive validity to resolve conflict. According to one individual, “The appropriate use of an AM [Adaptive Management] program in a project and the likelihood of the success of the AM program depend on many factors, including the following: Is there uncertainty or disagreement about the response of a resource to a management action? Uncertainty associated with anticipated ecosystem response sometimes creates opposition to the use and management of natural resources. By providing empirically valid, cumulative predictive ability about the response, AM ultimately can be an effective means for resolving conflict regarding uncertainty and for facilitating project progress.”

Risk/Uncertainty – Some state that the level of risk is an important consideration for adaptive management. Respondents argue that actions should not be taken when the risk is high, or when threatened or vulnerable resources are at stake.

Effects – Several respondents stress agencies should understand the effects of projects and actions. As an example, one representative of the domestic livestock industry writes that “NEPA requires that impacts to affected publics, especially socioeconomic impacts, be considered. Before any changes to management plans take place, the potential impacts to businesses, economies and individuals need to be considered.” Likewise, some state that agencies should

consider the magnitude of actions and consequences, and should ensure that negative effects are corrected before time lags prevent their correction. Finally, some comment that the Task Force should focus on measurable benefits with sound performance-based parameters within project scope.

Resources – Some suggest that the Task Force and agencies need to consider the variability of affected resources and changes in resource conditions, and that they should document current conditions and then establish minimum and maximum thresholds for ecological health. Additionally, some assert that the Task Force and agencies should give greater consideration to resources that are of regional or national significance, or that are rare, highly valued, or controversial; and to sensitive species, habitat, and soils.

Monitoring/Mitigation – Several individuals advocate that the Task Force and agencies should ensure that monitoring can be meaningfully accomplished. According to one individual, “A competent monitoring program should be included as a primary project element. The personnel and funding necessary to implement the monitoring program should be secured and guaranteed.” Others suggest that the Task Force should consider the effectiveness of past monitoring strategies and mitigation methods.

Enforceability – Some assert that the Task Force should establish enforcement mechanisms to ensure that monitoring and mitigation actually occur so that such information will facilitate evaluation of decision actions and impacts.

Project Features – Several respondents maintain that the Task Force and agencies should consider project features. Such features include project duration; the type, frequency, and scale of disturbances; the level of human manipulation; and the reversibility of the action.

New Issues – Some individuals hold that the Task Force should consider whether any new issues, circumstances, and methodologies are being applied as part of an adaptive management approach.

Public Views/Involvement – Numerous respondents advance that the Task Force and agencies need to consider stakeholder views and knowledge when implementing an adaptive management approach. Some maintain that the Task Force and agencies should consider stakeholder views and opinions, the divergence of such opinions, and perceptions of public safety; and should seek communication with local communities and organizations to gain knowledge about known existing practices that work within the local area. In addition, some comment on the need for the Task Force and agencies to determine how to share information.

Other – A few suggest that the Task Force should consider augmentation of explored changes into the “certain” major federal action, and should consider flexibility.

Factors to Consider

General Factors

863. Public Concern: The CEQ Task Force should establish a formal process to evaluate the potential effectiveness of adaptive management programs.

BEFORE SUBJECTING A PROGRAM TO ANALYSIS THROUGH AN EIS

Before an adaptive management program can be subject to analysis through an EIS, a formal process must be established to evaluate the potential effectiveness of the program. Ideally this process should include guidelines for incorporating new information to refine regulations, and evaluation of the research and monitoring results to determine their relevance and significance to regulations. (Washington State Department of Natural Resources, Olympia, WA - #128.12.50100.D1)

BY COMPARING EIS EFFECTS ANALYSIS FORECASTS WITH ACTUAL POST-PROJECT EFFECTS

Environmental Impact Statements

Rather than promote a process allowing development agencies, developers and corporations to complain about NEPA delays in their environmental damaging projects, the NEPA Task Force should recommend that CEQ conduct a review of EIS impact analysis forecasts (as set out in FEISs) with the actual impacts after the projects were approved. How do actual project impacts compare with the impacts described in the FEIS? Without such data, it is impossible to analyze how effective NEPA has been in identifying and avoiding adverse environmental impacts.

While we do not agree with all the NEPA analysis provided by Bradley C. Karkkainen ("Toward a Smarter NEPA: Monitoring and Managing Governments' Environmental Performance", Columbia Law Review, May 2002), we find his arguments for postdecision monitoring of NEPA actions and for contingent FONSI based on periodic reviews compelling. (Preservation/Conservation Organization, Seattle, WA - #363.5.50600.XX)

864. Public Concern: The CEQ Task Force should ensure that adaptive management techniques are specific.

SO THAT PROJECT PROPONENTS FULLY UNDERSTAND THE EXPECTATIONS AT THE TIME A PERMIT IS ISSUED

Adaptive management techniques must be specific enough so that the project proponents fully understand the expectations at the time a permit is issued. We do not support performance based or adaptive management/monitoring that is unspecified and results in later to be determined mitigation and compliance requirements. This would cause project proponents serious problems in scheduling and meeting compliance, as well as having to deal with unanticipated costs that could affect the economics of a given project. (Oil, Natural Gas, or Coal Industry, Denver, CO - #598.12.50110.D1)

865. Public Concern: The CEQ Task Force should advise agencies to notify the public of processes and changes.

In some instances, the use of adaptive management can be very useful to the public, agencies, and the natural resource being researched and managed. Whenever possible, adaptive management should be utilized, but the process must be kept open and the public notified of changes that take place. (Agriculture Industry, Santa Fe, NM - #466.20.50100.XX)

Exceeding established, agreed upon criteria or violations of law or regulation would likely require subsequent NEPA, as would large-scale change in the size or scope of the action. Changes which do not exceed criteria or which can be adaptively managed by actions, the effects of which have already been studied in another NEPA analysis, probably would not. Lots of room for judgment calls (and abuse?) here! The public must be kept informed of the changes, the effects of which are to be "adaptively

managed” without formal NEPA analysis. Adaptive management cannot be used as a means to keep stakeholders and the public in the dark concerning agency actions. The public must “buy into” the use of adaptive management as a substitute for analyzing changes in agency programs/operations. (Business, Fairfax, VA - #520.15.50300.D3)

866. Public Concern: The CEQ Task Force and NEPA should advise agencies not to use adaptive management to sidestep NEPA analysis.

It is easy to imagine how this proposal could be abused by agency personnel who may be anxious to push a project through the NEPA process without completing the necessary analysis to ensure that environmental concerns are considered. The appropriate response to “limited knowledge” and “uncertainty” would be to complete the necessary—and in many cases required—scientific analysis of the cumulative impacts of various projects on the environment. Projects should not be exempt from scientific analysis when there is legitimate concern regarding probable environmental degradation. For example, here in the Colville National Forest, NEPA policy that included adaptive management strategies could be used to further justify changes in the way ORV use is managed, without doing the necessary scientific analysis of cumulative impacts such forest uses have on water quality, non-motorized recreation, roadless issues, wildlife habitat needs, and other environmental concerns. (Other, Republic, WA - #577.10.50100.XX)

Adaptive management cannot be used as an avenue to avoid conducting NEPA analyses and involving the public in agency decisionmaking. For instance, if new data, developed through monitoring, indicates that management direction should be altered in order to achieve a specific result, the public should have an opportunity to review that data and comment on the proposed action. Similarly, to the extent new data suggests a different approach to management, the agency should weigh various alternatives and consider those alternatives in a NEPA analysis. If there is no potential for significant impact, a Finding of No Significant Impact (FONSI) can be issued. (Placed-Based Group, Arcata, CA - #632.13.50300.D3)

Agencies have a tremendous opportunity to utilize the information processing capacity of modern data collection, mapping and information technologies to rigorously monitor the actual consequences of their decisions. An increased focus on post Record of Decision monitoring will increase the decision makers’ abilities to learn from and adjust to their decisions over time. The proper use of adaptive management would increase NEPA’s effectiveness by ensuring that the post-decision short-, mid-, and long-term repercussions are considered and addressed.

We are concerned, however, that adaptive management may be used by agencies merely as a means of sidestepping NEPA’s requirements.

Adaptive management techniques are often utilized in so-called mitigated Finding of No Significant Impacts (FONSIs). Again, if utilized properly there is a potential place for mitigated FONSIs in agency decisionmaking. However, in the absence of adequate follow-up monitoring, including the proper designation of personnel and financial resources to complete such monitoring and enforcement, there is no assurance that the mitigation measures upon which the mitigated FONSI is based will turn out as anticipated. (Preservation/Conservation Organization, No Address - #498.10-11.50110.XX)

867. Public Concern: The CEQ Task Force should advise agencies not to use adaptive management as a substitute for taking affirmative steps to protect natural resources and species.

Adaptive management should not be a substitute for an agency taking affirmative steps to protect natural resources and species with the best information available. (Placed-Based Group, Arcata, CA - #632.12.50000.XX)

868. Public Concern: The CEQ Task Force should advise agencies not to use adaptive management to defer decisions.

The term “adaptive environmental management” (AEM) as described in CEQ’s report “The National Environmental Policy Act: A Study of its Effectiveness After Twenty-Five Years,” is a process for environmental management that would “predict, mitigate, monitor and adapt.” Apparently, CEQ is contemplating extending NEPA analyses beyond a final decision, emphasizing implementation of mitigation plans rather than NEPA documents while allowing agencies to defer decisions regarding mitigation in the NEPA analysis or record of decision—even during project implementation. While we support the use of performance standards on activities, we are concerned that unspecified, later-to-be determined mitigation measures would have an adverse impact on valid existing rights of oil and gas lessees and associated activities that are constrained by lease terms, economic and seasonal opportunities. We strongly oppose any process that would allow federal agencies to find new ways of deferring appropriate management decisions. The public is already faced with agencies’ reticence to make decisions even within the current NEPA land management planning process. We cannot imagine how much further the federal land managers’ roles would be eroded if they were not required to make any decisions at all! (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.14.50420.XX)

It is crucial for mitigation measures to be clearly identified in all decision documents, even if they are performance based rather than prescriptive in nature. We object to the idea that an agency should have the ability to defer making such basic decisions until after rendering a final decision on a project. This does not mean that more comprehensive NEPA documents should be prepared, because federal agencies can prepare tiered supplemental NEPA documentation to address new conditions. Moreover, it is consistent with the Act itself and existing regulations, i.e., which require NEPA analyses to be conducted before significant changes can be made to any management program. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.17.50400.XX)

Please note that PLA is not opposed to planning updates based upon new information. Clearly when a new threatened or endangered species is located within a planning area, it is necessary for the agency to revise its land use plan accordingly. The same is true for other changed resource conditions. We also support updating plans as a dynamic process rather than from scratch every ten or fifteen years. If certain resource conditions have not changed and it is found that current management is still appropriate, there is no need to revisit those resources during a plan update. Our concern stems from the notion that certain land use decisions could be deferred indefinitely due to a perceived lack of information or reluctance on the part of a federal official to make a decision. NEPA requires that decisions be made utilizing the best available information. That is what needs to be done. Deference of decisions will clearly result in more needless bureaucracy and untenable delays until new information is collected. It is questionable that there would ever be an adequate basis upon which to make a decision. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.15.50420.XX)

Planning

869. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

ADMINISTRATIVE AND REGULATORY SUPPORT

Several factors can be considered when deciding to use an adaptive management approach: . . . administrative support . . . regulators’ support . . . (United States Department of Energy, Washington, DC - #536.22.50100.D1)

GUIDELINES FOR DECISIONMAKING

Several factors can be considered when deciding to use an adaptive management approach: . . . guidelines for decisionmaking . . . (United States Department of Energy, Washington, DC - #536.22.50100.D1)

DEFINITIONS OF MANAGEMENT OBJECTIVES AND OUTCOMES

The appropriate use of an AM [Adaptive Management] program in a project and the likelihood of the success of the AM program depend on many factors, including the following: Can the desired future condition be clearly defined? AM is a process for implementing actions, monitoring the results, and adjusting management actions to achieve a desired outcome. The success of an AM program depends on a clear definition of the objectives of a management program and identification of ways to measure achievement of the objectives. Where multiple stakeholders are involved, agreement on the objectives and measurement of performance to meet objectives is an essential first step. Lacking concurrence on these issues can result in failure of the AM program. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.9.50100.D1)

WILLINGNESS TO ACHIEVE GOALS

The willingness and availability of resources (human and other) to cooperate and successfully achieve common goals within the project as well as the prior successes as models to follow. (Individual, Johnson City, TN - #631.13.50100.D1)

Time/Cost/Staffing Needs

870. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

TIME, COST, AND STAFFING NEEDS

Several factors can be considered when deciding to use an adaptive management approach: time, cost, staffing needs . . . (United States Department of Energy, Washington, DC - #536.22.50100.D1)

COST EFFECTIVENESS

Several factors are considered, including . . . cost-effectiveness. (Bob Cope, Commissioner, Lemhi County Board of Commissioners, Salmon, ID - #70.18.50100.D1)

FUNDING

Factors to consider when deciding to use an adaptive management approach are duration of the project . . . funding. (NEPA Professional or Association - Private Sector, Tucson, AZ - #100.3.50100.A1)

Data/Analysis

871. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

BASELINE DATA

[Factors:] Establishment, or the ability to establish a good baseline from which predicted effects and performance parameters can be measured. (Business, Fairfax, VA - #520.13.50100.D1)

RESEARCH

Several factors can be considered when deciding to use an adaptive management approach: . . . modeling/monitoring/research . . . (United States Department of Energy, Washington, DC - #536.22.50100.D1)

APPLICATION OF SCIENCE-BASED EXPERIMENTATION

The AM [Adaptive Management] process acknowledges that projects and management actions will proceed in spite of uncertain outcomes. Often we cannot predict accurately the potential responses of resources to a proposed action. AM expresses management actions and policies in the form of testable hypotheses that predict the array of responses of resources to various changes in the environment (proposed projects or management actions). These hypotheses are tested through rigorous, focused monitoring programs that collect only data that are necessary and sufficient to test the hypotheses.

Results of this monitoring either reject or provide support for the hypotheses tested, thus enhancing predictive ability about the response of the resources to the action in question. This additional understanding allows the management regime or project implementation to be modified, if appropriate, to better achieve the desired outcome.

Scientific rigor in AM programs is key to the validity of the results. Hypotheses must be rigorously crafted to reflect potential responses of the resource being managed and monitoring programs must be tailored precisely to test hypotheses. Inadequate data collection (type, quality, or quantity) will invalidate conclusions and adversely affect subsequent decision-making.

Can management actions be structured and applied experimentally? This is critical to a valid AM program. As a science-based, hypothesis-driven process, AM demands that management actions be applied in a systematic manner consistent with hypothesis testing. Associated institutional structures must be sufficiently flexible to allow experimentation, and sufficiently strong that individuals cannot arbitrarily alter the design. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.7.11.50100.D1)

NUMBER OF TESTED HYPOTHESES

Factors to consider with application of adaptive management schemes . . . are . . . more tested hypotheses . . . (Individual, Liberty, MO - #1.1.50000.D1)

PREDICTIVE VALIDITY

The appropriate use of an AM [Adaptive Management] program in a project and the likelihood of the success of the AM program depend on many factors, including the following: Is there uncertainty or disagreement about the response of a resource to a management action? Uncertainty associated with anticipated ecosystem response sometimes creates opposition to the use and management of natural resources. By providing empirically valid, cumulative predictive ability about the response, AM ultimately can be an effective means for resolving conflict regarding uncertainty and for facilitating project progress. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.10.50100.D1)

Risk/Uncertainty

872. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

LEVEL OF RISK

What factors should be considered when deciding to use an adaptive management approach?

a. Consider the risk factor. No critically threatened or vulnerable resources should be at stake. If the risk is high, don't do it. Always question if the resource can withstand erroneous judgment. . . . (Individual, Rogue River, OR - #382.17.50100.D1)

ENVIRONMENTAL RISKS AND OBJECTIVES

Several factors can be considered when deciding to use an adaptive management approach: . . . environmental risks, objectives, uncertainties (United States Department of Energy, Washington, DC - #536.22.50100.D1)

DEGREE OF UNCERTAINTY

[Factors:] Degree of uncertainty involved (Individual, Katy, TX - #193.1.50100.D1)

Effects

873. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

UNDERSTANDING OF POTENTIAL PROJECT EFFECTS

Critical factors in deciding to use an adaptive management approach include, among others, how well known and understood the effects of the action already are (Individual, No Address - #562.3.50100.D1)

SOCIAL AND ECONOMIC EFFECTS

D. Adaptive Management/Monitoring and Evaluation Plans

NEPA requires that impacts to affected publics, especially socioeconomic impacts, be considered. Before any changes to management plans take place, the potential impacts to businesses, economies and individuals need to be considered. (Domestic Livestock Industry, Tucson, AZ - #361.14.50100.XX)

MAGNITUDE OF CONSEQUENCES

[Factors:] Magnitude of consequences of action. . . . (Individual, Katy, TX - #193.1.50100.D1)

TIME LAG BETWEEN CAUSE AND EFFECT

[Factors:] Time lag between cause and effect—by the time a negative impact shows up, it is too late to affect the course of events. (Individual, Katy, TX - #193.1.50100.D1)

MEASURABLE BENEFITS

In the context of hydropower, adaptive management must be viewed in the context of section 6 of the FPA [Federal Power Act] which basically requires notice and opportunity for hearing before changes to a license are made. Any CEQ policy or regulation regarding adaptive management would not affect the substantive provisions of the FPA, which require, inter alia, public notice and a hearing, license amendment procedures, and other requirements before specific actions which might otherwise be considered “adaptive management” can be taken. Thus, Adaptive Management/Monitoring and Evaluation Plans should focus on measurable benefits, such as those that might be considered with potential changes in hydro project discharge flows. Any change should support justified resource management goals and objectives after scientific evaluation of the potential change. In many cases, the “problem” initially focused upon is the dam when, in fact, other factors may be the root of the problem, such as fishing pressure, or non-point waste water discharge management and surrounding land use. These factors can be beyond the scope of the current action and the implementation of Adaptive Management/Monitoring and Evaluation Plans in the context of NEPA may be misdirected. (Utility Industry, Birmingham, AL - #584.11-12.50100.XX)

PERFORMANCE PARAMETERS

[Factors:] Sound performance-based parameters/outcomes and “exceedance” criteria. (Business, Fairfax, VA - #520.13.50100.D1)

Resources

874. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

VARIABILITY OF AFFECTED RESOURCES

Critical factors in deciding to use an adaptive management approach include, among others . . . the degree of variability of the affected resources (Individual, No Address - #562.3.50100.D1)

CURRENT AND DESIRED CONDITIONS FOR EACH MANAGED RESOURCE

Knowledge of the current and desired conditions for each natural resource to be managed—"Desired" conditions should reflect the minimum and maximum thresholds of ecological health the agency will accept (e.g., letting a non-native, invasive species cover between 0% and 20% of the land area). . . . (Recreational/Conservation Organization, Washington, DC - #89.22.50100.D1)

CHANGED RESOURCE CONDITIONS

[Factors:] Changed resource conditions . . . (Individual, McCall, ID - #38.1.50100.D1)

RESOURCES OF REGIONAL AND NATIONAL SIGNIFICANCE

SEA suggests that the following factors be considered in determining the appropriateness of adaptive management and monitoring levels and techniques to be used: . . .

- Nature and significance of potential impacts involving rare or highly valued or controversial resources or issues. For example, monitoring activities may be more extensive if potential impacts may occur to a resource of regional or national significance such as a federally-listed threatened or endangered species or habitat, or national or state park or wilderness. (Surface Transportation Board, No Address - #519.23.50400.D4)

SENSITIVE SPECIES AND HABITAT TYPES

What factors should be considered when deciding to use an adaptive management approach? . . . Consider sensitive species and unique habitat types, and sensitive soils when proposing an action. (Individual, Rogue River, OR - #382.17.50100.D1)

Monitoring/Mitigation

875. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

EFFECTIVENESS OF MONITORING

[Factors:] Whether monitoring can be meaningfully accomplished. . . . (Individual, Katy, TX - #193.1.50100.D1)

What factors should be considered when deciding to use an adaptive management approach? . . . A competent monitoring program should be included as a primary project element. The personnel and funding necessary to implement the monitoring program should be secured and guaranteed. This would include independent expert review. (Individual, Rogue River, OR - #382.17.50100.D1)

EFFECTIVENESS OF PAST MONITORING STRATEGIES AND ACTIONS

Critical factors in deciding to use an adaptive management approach include, among others . . . the effectiveness of past monitoring strategies on similar actions (Individual, No Address - #562.3.50100.D1)

MITIGATION METHODS

Factors to consider when deciding to use an adaptive management approach are duration of the project . . . mitigation methods (NEPA Professional or Association - Private Sector, Tucson, AZ - #100.3.50100.A1)

Enforceability

876. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

ENFORCEMENT MECHANISMS

If mitigation and monitoring are taken seriously rather than abused, adaptive management can work to enhance NEPA. Strengthened environmental management systems can help meet this need. In addition, enforceable mechanisms must be put in place to ensure that monitoring and mitigation actually occur. Such mechanisms will enable agencies to evaluate the actual impact of their decisions, increase knowledge about actual environmental conditions and help focus limited resources on the most serious environmental problems. This approach will provide agencies with flexibility to respond to changing circumstances and at the same time enhance the credibility of agency analysis and decisionmaking. (Preservation/Conservation Organization, Washington, DC - #471.30.50000.XX)

Project Features

877. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

PROJECT DURATION

Factors to consider when deciding to use an adaptive management approach are duration of the project . . . (NEPA Professional or Association - Private Sector, Tucson, AZ - #100.3.50100.A1)

TYPE, FREQUENCY, AND SCALE OF DISTURBANCE

Type, frequency and scale of disturbances (natural and human induced) that may occur within the land area . . . (Recreational/Conservation Organization, Washington, DC - #89.22.50100.D1)

LEVEL OF HUMAN MANIPULATION AND OPERATIONAL CHANGES

Factors to consider with application of adaptive management schemes . . . are . . . more human manipulation and operational changes . . . (Individual, Liberty, MO - #1.1.50000.D1)

REVERSIBILITY OF THE ACTION

What factors should be considered when deciding to use an adaptive management approach? . . . Consider the reversibility of the action. (Individual, Rogue River, OR - #382.17.50100.D1)

New Issues

878. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

NEW ISSUES

[Factors:] New issues. (Individual, McCall, ID - #38.1.50100.D1)

NEW CIRCUMSTANCES AND METHODS

Critical factors in deciding to use an adaptive management approach include, among others . . . whether any new circumstances are present or new methodologies are being applied. (Individual, No Address - #562.3.50100.D1)

Public Views/Involvement

879. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

STAKEHOLDER VIEWS

Several factors can be considered when deciding to use an adaptive management approach: . . . stakeholder opinions . . . (United States Department of Energy, Washington, DC - #536.22.50100.D1)

PUBLIC SAFETY AND PUBLIC PERCEPTION

Several factors are considered, including . . . public safety [and] public perception . . . (Bob Cope, Commissioner, Lemhi County Board of Commissioners, Salmon, ID - #70.18.50100.D1)

DIFFERENCES OF OPINION

[Factors:] The divergence of opinions on that issue. . . (Individual, Katy, TX - #193.1.50100.D1)

LOCAL KNOWLEDGE AND PRACTICES

Adaptive management strategies are readily available to protect and conserve the resources and have been designed from research results intending to protect the resource. During EIS scoping, employees should seek communication with local county commissions and citizens to gain knowledge about the practices known to be feasible and technically sound for the local area. State extension programs for agriculture, forestry, and mining activities have worked for decades to keep local areas informed about the newest research results. The agriculture organizations are an excellent resource to help find information about management strategies. The EIS merely needs to provide a section that examines the types of soils, geologic features, type of actions that are suitable for the site conditions, and examine the management practices available in the state for the activity. (Domestic Livestock Industry, La Grande, OR - #496.29.50100.D2)

INFORMATION DISTRIBUTION

Several factors can be considered when deciding to use an adaptive management approach: . . . determination of how to share information and what reports may need to be generated. (United States Department of Energy, Washington, DC - #536.22.50100.D1)

Other

880. Public Concern: The CEQ Task Force should consider factors in relation to the use of adaptive management.

AUGMENTATION OF EXPLORED CHANGES INTO THE "CERTAIN" MAJOR FEDERAL ACTION

Factors to consider with application of adaptive management schemes . . . are . . . augmentation of explored changes into the "certain" major Federal action. (Individual, Liberty, MO - #1.1.50000.D1)

FLEXIBILITY

Several factors can be considered when deciding to use an adaptive management approach: . . . flexibility . . . (United States Department of Energy, Washington, DC - #536.22.50100.D1)

Barriers to Integrating Adaptive Management

Summary

This section includes suggested barriers to implementing adaptive management.

Barriers to Implementation – Respondent identify numerous barriers to the effective use of adaptive management. These barriers fall into the categories that follow.

Planning/Regulatory – Some respondents observe that resource agencies are often limited by regulations which preclude adaptive management. Others suggest that NEPA’s status as a procedural statute is a barrier to adaptive management and that the Task Force should seek amendment by Congress if the intent is to employ NEPA as a substantive statute. Some also state that the lack of established standards and guidelines preclude the consistent application of adaptive management. Further, some say there is a lack of integration of adaptive management principles at the project planning level. According to one preservation/conservation organization, “Conservationists were forced to challenge multiple projects that the Forest Service planned to initiate without survey data, which lead to a legal settlement agreement. These legal challenges could have been avoided if the necessary funding and implementation provisions had been built into the Northwest Forest Plan, and if adaptive management principles truly were integrated at the project planning level. As it stands, the conservation community is still waiting to see a successful adaptive management plan in action.”

Funding – Some identify lack of adequate long-term funding as a barrier to adaptive management. A state agency notes that it is problematic when there is a “lack of adequate long-term funding to ensure the uninterrupted collection and analysis of information to support the process.”

Data/Analysis – A number of respondents point to lack of scientific data as a barrier to adaptive management. Some advocate that the Task Force should ensure that funding and implementation provisions are built into plans to provide for completing the needed data collection and analysis. In contrast, others advance that the Task Force should change NEPA thresholds for complete information—as information is never complete—in order to reduce litigation. As one wood products industry representative remarks, “This is a good concept but NEPA’s threshold of ‘complete information’ creates a problem because it’s never complete and thus a target for litigation! The concept of adaptive management as a tool to alter the trajectory of a project’s implementation—because of new management derived from the monitoring effort—is admirable, but requires that the project get underway in the first place. We suggest changing the threshold in NEPA for ‘complete information.’”

Additionally, some advocate that the Task Force should incorporate a process for the use of outside research.

Effects – Some respondents maintain that the Task Force should consider the practical difficulties in implementing adaptive management and predicting and controlling effects and outcomes. A tribal representative argues that the Task Force should not implement adaptive management as it shifts the burden of demonstrating environmental outcomes to the regulatory agency and away from the project sponsor. One tribal representative explains, “This approach shifts the burden of demonstrating the environmental outcomes of an action from the project sponsor to the regulatory agency. In the existing NEPA system, an applicant or project sponsor typically must demonstrate that the proposed project will not have significant adverse environmental consequences. However, under the proposed approach, the burden of demonstrating environmental impacts will shift to the regulatory agency.”

Respondents also assert that a practical difficulty exists in that monitoring will unlikely detect effects until they occur, which is too late to avoid the effect, and that corrective actions may be inadequate. As such, people advance that adaptive management threatens American Indians’ natural and cultural resources, and that degradation may be uncorrectable. Similarly, some

maintain that adaptive management actions may lead to other adjustments across spatial and temporal scales, and that such multi-dimensional changes prohibit adequate consideration of such effects within an environmental impact analysis.

Monitoring/Mitigation – Respondents identify problems associated with monitoring and mitigation as barriers to adaptive management. Some, including tribal representatives and representatives of industry, express concerns that adequate monitoring systems may not exist, that inappropriate methods of monitoring may be implemented, that staff may interpret data in inappropriate ways, and that these actions may lead to inappropriate decisions. Others insist that lack of on-site monitoring is a significant barrier to adaptive management. According to one domestic livestock industry representative, “If the report writing and form filing and interagency oversight was minimized, the cost, time, and staff needs would be freed up to conduct on-site monitoring that had some meaning before and after planned activities. At the present time, EIS documents are unreliable and unbelievable. The decisions are based on ‘good guesses’ and not fieldwork.” Additionally, some say that lack of monitoring and mitigation completion is an important barrier. These respondents advocate that monitoring and evaluation should not be conducted as a ‘one-time event,’ but that monitoring should continue beyond NEPA to ensure that predictions and mitigation measures are effective.

Enforceability – Tribal representatives and others point to barriers regarding the lack of enforceability by the public. Respondents express concern about the lack of protection against agency mischief, and how to enforce measures once a project is authorized. Concerns also exist as to how adverse impacts will be dealt with when projects shut down.

Public Views/Involvement – Some respondents state that lack of meaningful and convenient public involvement is a barrier to adaptive management. According to one preservation/conservation organization, “Agencies must be careful to give the public the same treatment and opportunities for input as government and industry interests.” Others claim that public concern over biased decisionmaking and inappropriate use of work groups are also barriers. One representative of the oil, natural gas, and coal industry explains: “The work group concept is of concern to us based upon our past experience. We have seen this process involve individuals with very little technical expertise making recommendations for monitoring. Project proponents, though, must accept these recommendations and absorb the costs to conduct the monitoring.”

Other – Some respondents state that barriers consist in variations from original NEPA actions, the time spent answering litigation, and the lack of dispute resolution processes. According to one wood products industry representative, “When adaptive management is determined necessary, it may be at a much larger scale than, and even at a different geographical location from, the project that was subject to the original NEPA document.” One elected official states, “The ‘frivolous’ lawsuits being filed do at least two things. They tie up the land managers time in answering them at the expense of getting the on-the-ground work done and they make the land managers so cautious and fearful of being sued that they are unwilling to try anything new.” Finally, a state agency laments the “lack of a dispute resolution process within TFW [Timber Fish and Wildlife Committee], to ensure a consistent and streamlined approach to decision-making within TFW that will not significantly delay the adaptive management process.”

Barriers to Implementation

Planning/Regulatory

881. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

REGULATORY LIMITATIONS

WisDOT [Wisconsin Department of Transportation] does not have a formal adaptive management approach. It has been our experience that resource agencies are too limited by regulations to allow for an adaptive approach for wetland mitigation. In many cases WisDOT has provided for long-term monitoring wetlands it has created. In the face of resource agencies' often persistent and rigid adherence to the regulatory approach, negotiations must focus on meeting the requirements in innovative ways and the possibility of corrective action. (Wisconsin Department of Transportation, Madison, WI - #214.17.50100.D1)

STATUS OF NEPA AS A PROCEDURAL STATUTE

According to CEQ, "By incorporating adaptive management into their NEPA analyses, agencies can move beyond simple compliance and better target environmental improvement." But the hard truth is that NEPA is a procedural statute, not a substantive statute. As Justice Stevens made painfully clear, to our regret, for a unanimous Court in the *Early Winters* case:

In this case, for example, it would not have violated NEPA if the Forest Service, after complying with the procedural prerequisites, had decided that the benefits to be derived from downhill skiing at Sandy Butte justified the issuance of a special use permit, notwithstanding the loss of 15 percent, 50 percent, or even 100 percent of the mule deer herd.

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351 (1989). If CEQ wishes to employ adaptive management to shade a procedural statute into a substantive statute, it would be well to seek amendment by Congress. (Other, Washington, DC - #506.21-22.50800.XX)

LACK OF CONSISTENT APPLICATION OF ADAPTIVE MANAGEMENT

Factors that should be considered when including an adaptive management component include the potential for the following: Lack of consistent application of adaptive management, including monitoring, due to lack of established policy . . . (Washington State Department of Natural Resources, Olympia, WA - #128.19.50400.D4)

LACK OF ESTABLISHED STANDARDS AND GUIDELINES FOR IMPLEMENTATION

Factors that should be considered when including an adaptive management component include the potential for the following: . . . Lack of established standards and guidelines for implementation rendering the process informal . . . (Washington State Department of Natural Resources, Olympia, WA - #128.19.50400.D4)

LACK OF INTEGRATION OF ADAPTIVE MANAGEMENT PRINCIPLES AT THE PROJECT PLANNING LEVEL

Conservationists were forced to challenge multiple projects that the Forest Service planned to initiate without survey data, which lead to a legal settlement agreement. These legal challenges could have been avoided if the necessary funding and implementation provisions had been built into the Northwest Forest Plan, and if adaptive management principles truly were integrated at the project planning level. As it stands, the conservation community is still waiting to see a successful adaptive management plan in action. (Preservation/Conservation Organization, Eugene, OR - #97.2.50110.F1)

Funding

882. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

LACK OF ADEQUATE LONG-TERM FUNDING

Factors that should be considered when including an adaptive management component include the potential for the following: . . . Lack of adequate long-term funding to ensure the uninterrupted collection and analysis of information to support the process. (Washington State Department of Natural Resources, Olympia, WA - #128.19.50400.D4)

Data/Analysis

883. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

LACK OF SCIENTIFIC DATA

In the case of the Washington Forest Practices Rules . . . the rules were revised because it was recognized that additional protection was needed to comply with the Clean Water Act (CWA) and the Endangered Species Act (ESA). However, at the time of the revisions, there were several areas where scientific data were lacking. In these cases, the rules were negotiated with the stakeholder group with the understanding that additional attention would be focused on the issue through the adaptive management program. (Washington State Department of Natural Resources, Olympia, WA - #128.12.50100.D1)

The ability to design appropriate adaptive management programs so far has been hampered by a lack of current, quality baseline environmental data. For example, the current Cherokee National Forest Plan has a management component that so far has failed to speed up the project planning process because of a lack of data. Specifically, the plan included guidelines for surveying for certain animal and plant species before designing projects that could impact the identified species, and yet the plan contained no real mechanism for completing the surveys in a timely, yet thorough, manner. Conservationists were forced to challenge multiple projects that the Forest Service planned to initiate without survey data, which lead to a legal settlement agreement. These legal challenges could have been avoided if the necessary funding and implementation provisions had been built into the Cherokee Forest Plan, and if adaptive management principles truly were integrated at the project planning level. As it stands, the conservation community is still waiting to see a successful adaptive management plan in action. (Preservation/Conservation Organization, Johnson City, TN - #421.10.50110.XX)

NEPA THRESHOLDS FOR COMPLETE INFORMATION

This is a good concept but NEPA's threshold of "complete information" creates a problem because it's never complete and thus a target for litigation! The concept of adaptive management as a tool to alter the trajectory of a project's implementation—because of new management derived from the monitoring effort—is admirable, but requires that the project get underway in the first place. We suggest changing the threshold in NEPA for "complete information." (Timber or Wood Products Industry, Kalispell, MT - #462.6.50100.D1)

We are unsure what the CEQ considers to be adaptive management, but food producers on federal lands have always had to adapt their management in order to accommodate changing economic and natural conditions. One of the frustrations with many of these producers has been the lengthy process that must occur before any (in many cases minor) change can be allowed. Many economically sound management decisions have been thwarted by federal employees either by seeking to have all the analysis done to the "nth" degree or with a personal agenda contrary to the producer. Both have significant impact on producers. (Agriculture Industry, Laramie, WY - #644.6.50120.XX)

LACK OF A PROCESS FOR INCORPORATING THE USE OF OUTSIDE RESEARCH

Factors that should be considered when including an adaptive management component include the potential for the following: . . . Lack of a process of incorporating the use of outside research . . . (Washington State Department of Natural Resources, Olympia, WA - #128.19.50400.D4)

Effects

884. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

IMPOSITION ON THE AGENCY TO DEMONSTRATE OUTCOMES

The significant practical difficulties in implementing the adaptive environmental management approach militates against its adoption.

This approach shifts the burden of demonstrating the environmental outcomes of an action from the project sponsor to the regulatory agency. In the existing NEPA system, an applicant or project sponsor typically must demonstrate that the proposed project will not have significant adverse environmental consequences. However, under the proposed approach, the burden of demonstrating environmental impacts will shift to the regulatory agency. (Forest County Potawatomi Community, Milwaukee, WI - #479.14.50110.XX)

PRACTICAL DIFFICULTY IN DETECTING AND CORRECTING EFFECTS

The significant practical difficulties in implementing the adaptive environmental management approach militates against its adoption.

Even if adequate monitoring systems are available, they likely would not detect an impact until and unless the impact had already occurred. In other words, if you are able to detect and monitor an impact, it will likely be too late to avoid the impact in the first place.

Corrective actions may be inadequate to restore the environment once the impact has been detected by monitoring. This difficulty is particularly troublesome where the resources that are impacted cannot be restored by conventional methods. (Forest County Potawatomi Community, Milwaukee, WI - #479.12-13.50130.XX)

INTERACTIVE EFFECTS ACROSS SPATIAL AND TEMPORAL SCALES

Adaptive management is a good concept but its track record is weak at best. We all know decisions are made with available information. We can't afford to wait for complete information because it's never complete. But, unfortunately, NEPA review presumes complete knowledge in a deterministic sense.

Every decision made has uncertainty and is based on limited knowledge. One problem with adaptive management is that an adjustment in one action may lead to adjustments made elsewhere. That is adaptive management occurs not in one area but across both spatial and temporal scales. It's difficult to conceptualize how one proposed action's environmental impact analysis can ever be structured to take this into account for these multi-dimensional changes. (Timber or Wood Products Industry, No Address - #422.7.50110.XX)

THREAT TO AMERICAN INDIANS' NATURAL AND CULTURAL RESOURCES

The adaptive management approach threatens Indian tribes' continued reliance on the natural environment for their cultural traditions, ceremonial life and religious practices. The adaptive management approach would allow federal agencies to approve projects for which the impacts are unknown. If adverse impacts were to occur, Indian tribes would face not only the loss of subsistence resources, but also the loss of resources and places essential to sustain cultural traditions, ceremonial life and religious practices. Often, these cultural and religious resources are unique in their geography, history, . . . cultural traditions, ceremonial life . . . religious practices . . . and cultural significance . . . These cultural resources are unique and irreplaceable. Thus, no "corrective changes" under the adaptive management approach are likely to remedy the degradation or loss of these cultural sites or resources once the impact has already occurred. (Forest County Potawatomi Community, Milwaukee, WI - #479.20.50000.XX)

Monitoring/Mitigation

885. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

LACK OF APPROPRIATE MONITORING SYSTEMS AND PROPER IMPLEMENTATION

The significant practical difficulties in implementing the adaptive environmental management approach militates against its adoption.

Adequate monitoring systems may not exist that are capable of detecting all environmental impacts. (Forest County Potawatomi Community, Milwaukee, WI - #479.11.50120.XX)

Another common complaint raised by producers, deals with inappropriate selections of monitoring techniques by the agencies. Inappropriate methods of monitoring will naturally lead to inappropriate decisions for management changes. For example, in range monitoring, federal agencies appear to seek a simple "one size fits all" method of monitoring which can be done in a limited amount of time. Many times the monitoring that is done for range conditions is not carried out in an appropriate way. Once this is done, the agency personnel then interpret the data from the monitoring in inappropriate ways. Also, at this time, it appears that personal agendas enter into the process as well.

Utilizing inappropriate monitoring techniques and then using wrong interpretation has led to serious problems between producers and agency personnel. Adaptive management like any type of management is only as good as the process and unfortunately the process appears to be seriously flawed, if not broken. (Agriculture Industry, Laramie, WY - #644.7.50120.XX)

LACK OF ON-SITE MONITORING

If the report writing and form filing and interagency oversight was minimized, the cost, time, and staff needs would be freed up to conduct on-site monitoring that had some meaning before and after planned activities. At the present time, EIS documents are unreliable and unbelievable. The decisions are based on "good guesses" and not fieldwork. The staff appear to be over burdened with meetings that end up being a lot of talk and very little action. Consultations with every level of an agency and other agencies has created a process where the local offices are not a part of the process but end up delivering the messages about a decision that is made at regional level or Washington DC level. We do not see good management decisions being made from the offices of public servants who don't work locally. (Domestic Livestock Industry, La Grande, OR - #496.31.50400.D4)

LACK OF MONITORING AND MITIGATION COMPLETION

Concerning the concept of adaptive management in NEPA compliance, the 1997 Effectiveness Study pointed out that a major difficulty with the traditional environmental impact analysis process is that it is a "one-time event." That is, "results from intensive research, modeling, and other computations or expert opinions are analyzed, the analysis of potential environmental impacts is prepared, mitigation measures are identified, and a document is released for public review." Unfortunately, CEQ lamented, "most often the process ends there," with adequacy of environmental protection depending solely on the accuracy of the predicted impacts and the expected mitigation results. Ibid. (Other, Washington, DC - #506.20.50110.XX)

The NEPA process should not end with the completion of an EA or an EIS. Agencies must commit to, and be given the resources to complete, monitoring to evaluate how decisions are implemented once they are made. As CEQ previously recognized, monitoring is needed "to confirm [agency] predictions of impact, to ensure that mitigation measures are effective, and to adapt projects to account for unintended consequences." CEQ Effectiveness Study, at 31. (Preservation/Conservation Organization, Washington, DC - #471.26.10200.XX)

Enforceability

886. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

LACK OF ENFORCEABILITY

A related problem with adaptive management measures is that they are essentially unenforceable by the public. NEPA, of course, is a procedural statute and does not require an agency to take any particular action once it has properly analyzed the impacts of a proposal. A cynical view of adaptive management would have agencies increasingly relying on adaptive management measures to support FONSI [Finding of No Significant Impacts] and assuage public concerns, proceeding with a proposed action, and later realizing that significant impacts have occurred but refusing to implement the proposed adaptive management measures. NEPA, unfortunately, does not provide any protection against this sort of agency mischief. (Other, Seattle, WA - #213.7.50110.D2)

The significant practical difficulties in implementing the adaptive environmental management approach militates against its adoption.

It is unclear how, or if, monitoring requirements and corrective change would be enforceable after a project is authorized.

There are likely numerous practical and economic difficulties that would be encountered if a fully implemented project were forced to shut down, dismantle or significantly alter the way it operates once uncertain environmental outcomes are later determined to have adverse impacts.

It is unlikely that monitoring requirements and/or corrective changes could be enforced and implemented after a project has completed its useful life. This is especially problematic where uncertain outcomes may not manifest themselves until many years after the project has shut down and the project sponsor is no longer a viable entity to implement such requirements. (Forest County Potawatomi Community, Milwaukee, WI - #479.15-17.50110.XX)

Public Views/Involvement

887. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

LACK OF MEANINGFUL AND CONVENIENT PUBLIC INVOLVEMENT

In establishing an adaptive management regime, agencies must be careful to give the public the same treatment and opportunities for input as government and industry interests. If task forces are established to participate in the monitoring process, the agency should ensure that all interests are fairly represented. Note that, unlike the government and industry interest, members of the public who participate in the NEPA process typically do so in a voluntary and uncompensated capacity. If adaptive management is to be effective, the agencies must make certain that the public can participate in the monitoring process in a meaningful way by ensuring that the process is not so time and labor-intensive as to be prohibitive.

An example of this problem is the adaptive environmental management planning process adopted by the BLM's [Bureau of Land Management] Pinedale Field Office. The plan was developed to mitigate the impacts of an industry and public representatives were established to draft monitoring plans, analyze the results of the monitoring and recommend changes to management practices. In theory, this plan is praiseworthy. In practice, however, some members of the task group found that the process was too time-intensive to enable non-agency and non-industry participation. (Preservation/Conservation Organization, No Address, - #498.12.50110.XX)

PUBLIC CONCERN OVER BIASED DECISIONMAKING

Factors that should be considered when including an adaptive management component include the potential for the following: . . . Public concern over biased decision-making, including resource

objective definition; research project selection, and interpretation of research and monitoring results (Washington State Department of Natural Resources, Olympia, WA - #128.19.50400.D4)

INAPPROPRIATE USE OF WORK GROUPS

We are aware of “work groups” that have been used in the past with adaptive management. However, the work group concept is of concern to us based upon our past experience. We have seen this process involve individuals with very little technical expertise making recommendations for monitoring. Project proponents, though, must accept these recommendations and absorb the costs to conduct the monitoring. Changes needed relative to the work group concept are:

- The individuals on a work group must have scientific and working knowledge of the issues being addressed as well as an understanding of the type of industry subject to the monitoring under consideration.
- Project proponents must be represented on a work group.
- Costs associated with any monitoring must be considered by the work group, along with the input of the project proponent, prior to implementing any recommendations.
- A balanced approach to managing all resources must be an integral part of the process.
- An open dialogue with public participation should be used. (Oil, Natural Gas, or Coal Industry, Denver, CO - #598.13.50120.D1)

Other

888. Public Concern: The CEQ Task Force should consider barriers to integrating adaptive management.

VARIANCE OF SCALE AND LOCATION BETWEEN ADAPTIVE MANAGEMENT AND ORIGINAL NEPA ACTION

We also are concerned that, when adaptive management is determined necessary, it may be at a much larger scale than, and even at a different geographical location from, the project that was subject to the original NEPA document. We have no easily suggested solution to this problem. But, again, we would look to assurances that any project involving a private party is not made to undergo ill-fitting adaptive management simply because it happens to be the only action which is subject to federal jurisdiction. (Timber or Wood Products Industry, Washington, DC - #507.34.50100.XX)

TIME SPENT ANSWERING LITIGATION

There are two big drawbacks to getting more examples (of adaptive management) up and running. One relates to the other and deals in part with the ease at which a suit can be filed. If there were a penalty for losing such a suit, the number would decrease. The “frivolous” lawsuits being filed do at least two things. They tie up the land managers time in answering them at the expense of getting the on-the-ground work done and they make the land managers so cautious and fearful of being sued that they are unwilling to try anything new. If a bond had to be posted equal to the amount of the cost of answering the suit and/or all the expenses of losing the suit (both parties’ costs) the number of such suits would be limited to only those that have real merit. (Lin Hintze, Chairperson, Custer County Board of Commissioners, Challis, ID - #104.9.50110.XX)

LACK OF A DISPUTE RESOLUTION PROCESS

Factors that should be considered when including an adaptive management component include the potential for the following: . . . Lack of a dispute resolution process within TFW [Timber Fish and Wildlife Committee], to ensure a consistent and streamlined approach to decision-making within TFW that will not significantly delay the adaptive management process (Washington State Department of Natural Resources, Olympia, WA - #128.19.50400.D4)

Methods to Structure NEPA Analysis to Consider Adaptive Management

Summary

This section includes the following topics: Methods to Structure NEPA Analysis, and Examples.

Methods to Structure NEPA Analysis – Respondents suggest a number of methods to structure NEPA analysis to consider adaptive management. These methods fall into the categories that follow.

Identify Goals/Desired Outcomes – According to some, “To be effective, environmental impact analyses must establish the goals and boundaries of the project.” Likewise, several respondents assert that EISs should specify projected outcomes. One elected official notes that “alternatives and guidelines to meet changing criteria can easily be described and outlined.”

Identify Responsibility – Several respondents advance that the Task Force should require agencies to identify parties responsible for funding monitoring and mitigation. According to a transportation representative, the Task Force should “address the issues of who will pay for monitoring and who will be responsible for future mitigation if such monitoring identifies delayed impacts. For county public works departments, implementing adaptive management may diminish the funding available for needed upgrades to public infrastructure. Lack of funding for public infrastructure translates into deferred maintenance and retrofits. Deferred maintenance and retrofits may, in turn, impact the environment in other locations.”

Identify Costs – Some posit that the Task Force should require agencies to examine monitoring costs as part of NEPA analyses. According to one recreational organization, for example, “Cost (or lack of funding) is the single most important factor in determining what monitoring techniques and levels of monitoring intensity are appropriate during the implementation process. Because cost is such an important factor it should be studied as part of the NEPA analyses. Monitoring techniques should be tailored to the budget constraints at the time of the NEPA analyses.” Further, some encourage the Task Force to require up-front funding, prior to project approval, to ensure support of post-project monitoring and mitigation. Finally, some argue that the Task Force should prevent agencies from imposing additional requirements and costs following decisions on the original NEPA document to avoid jeopardizing projects and economic activity.

Identify Implementation Measures – Many respondents advance that the Task Force should require agencies to identify implementation measures. Some people offer that the Task Force should require agencies to identify and include quantifiable management measures to determine if environmental degradation occurs. Similarly, some proffer that agencies should be required to identify performance based parameters to encourage innovation and new technological advancements to achieve more favorable and efficient environmental results. As an example, one individual recommends that the agency should “decide what the end result should be, work with the operator so he has a clear vision as to what that end result is, and allow the operator to design an operation that will bring about that end result.”

Other suggestions include requiring agencies to identify trigger events for management options within an EIS so that all parties know when and why the agency must modify management approaches; requiring agencies to allow a mix of project actions and contributions to achieve

project outcomes and community values; providing template models which agencies can tailor to specific sites; allowing agencies the flexibility to respond to changing conditions.

Identify Monitoring/Mitigation/etc. – Some maintain that the Task Force should require agencies to establish commitments for monitoring and mitigation. One federal agency writes, for example, that the EIS should “provide federal agency (and, as applicable, applicant) commitments relative to monitoring and mitigation. Measures different from those in the environmental document may be needed when mitigation plans are based on limited data or information and do not meet expected success levels.”

Identify Subsequent Review/Measures – Several respondents advocate that the Task Force should require agencies to define within the EIS how adaptive management will be implemented, assessed, and adapted throughout the future. Further, some individuals state that the Task Force should require agencies to implement procedures to establish a sunset clause if projects encounter unforeseen difficulties.

Address Environmental Concerns/Effects – Numerous respondents advance that the Task Force should require agencies to appropriately address environmental effects. Some individuals assert that the Task Force should require agencies to emphasize environmental protection; to predict environmental risks of future actions; and to evaluate a range of effects under each alternative. Likewise, several groups, including recreation organizations, place-based groups, and representatives of the domestic livestock industry, argue that the Task Force should require agencies to disclose effects for a range of adaptive management options to allow for natural variations that affect resource responses.

Further, Some stress that the Task Force should require agencies to evaluate the effects of monitoring and mitigation plans. One preservation/conservation organization states that “for NEPA to be at all meaningful, the lead agency must make a credible scientific determination of the expected effectiveness of proposed measures to limit significant environmental impacts prior to making a decision. The degree of impact will be determined by the degree of success of the mitigation. Without clear scientific evaluation, neither the agency nor the public can adequately assess the environmental impacts of the project, a basic requirement of NEPA” and that doing otherwise fails to “. . . meet the need under NEPA for effects of governmental decisions on the human environment to be recognized, evaluated, and either avoided, mitigated, or accepted as the price to be paid for the federal action, prior to the decision actually being made.” In addition, some assert that agencies should be required to establish environmental oversight and reporting procedures.

Other – Some advocate that the Task Force should provide information on successful projects so that agencies may develop mitigation plans based on analogous activities. Others request that the Task Force require agencies to provide finality of decisions so that developers have predictability and finality in the regulatory process, and that it require agencies to maintain valid existing rights.

Examples – Respondents advance several examples that the Task Force should adopt as the framework for NEPA analysis. Some people suggest that the Task Force should adopt the Environmental Protection Agency’s Ecological Risk Assessment Guidelines. Additionally, a state agency offers that the Task Force should adopt the EIS approach from the Washington State Forest Practices Rules.

Methods to Structure NEPA Analysis

Identify Goals/Desired Outcomes

889. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

ESTABLISH GOALS AND BOUNDARIES

To be effective, environmental impact analyses must establish the goals and boundaries of the project. Uncertainties to be addressed through adaptive management must be bound with ample if-then statements and supported with assessment tools. Adaptive management should have credibility and precision in order to be accepted by the public as a condition that allows an “experiment” to proceed. (United States Environmental Protection Agency, No Address - #299.35.50200.D2)

SPECIFY PROJECT OUTCOMES

Projected outcomes can be specified within the EIS. Alternatives and guidelines to meet changing criteria can easily be described and outlined. (Bob Cope, Commissioner, Lemhi County Board of Commissioners, Salmon, ID - #70.19.50200.D2)

Resource agencies need to develop more regulatory flexibility in order to explore adaptive management more effectively. Development agencies must focus on the goal of the mitigation and seek to assure the resource agencies that unavoidable adverse effects will be mitigated. One way to move the NEPA process into planning would be to have performance measures and focus on outcomes. This would be a huge change for regulating agencies and DOTs [Departments of transportation]. (Wisconsin Department of Transportation, Madison, WI - #214.18.50200.D2)

Approach has to be within some established boundaries of a long-term plan. Can't keep changing just to change. Be fairly conservative in management, but not too, so that there is room for change. (Individual, McCall, ID - #38.2.50100.D1)

Identify Responsibility

890. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

IDENTIFY THE PARTIES RESPONSIBLE FOR FUNDING THE MONITORING AND FOR CARRYING OUT FUTURE MITIGATION

OACES strongly recommends that the NEPA Task Force address the issues of who will pay for monitoring and who will be responsible for future mitigation if such monitoring identifies delayed impacts. For county public works departments, implementing adaptive management may diminish the funding available for needed upgrades to public infrastructure. Lack of funding for public infrastructure translates into deferred maintenance and retrofits. Deferred maintenance and retrofits may, in turn, impact the environment in other locations. (Transportation Interest, Salem, OR - #436.6.50400.D1)

It is worth a quick review of example language in the ROD [Record of Decision] concerning these mitigation and monitoring requirements:

Mitigation Measure 4.4.3.3.1-4b: For the significant impacts to wells that are not predicted to occur until after the end of mining, the operational measure . . . may not be available. For the post-mining delayed impacts of drawdown, the ground water flow model will be updated during the final year of dewatering using actual field data . . . to reevaluate drawdown predictions that would occur after the end of mining. Significant effects on wells with active water rights will be mitigated by one or more of the following measures, . . . (ROD, pg. 7)

Pit Lake Water Quality

Pit lake water quality modeling conservatively predicts that two (2) analytes may exceed Nevada water quality standards under the Proposed Action after approximately 200 to 250 years of evapoconcentration Model simulations carried out beyond 250 years after the end of mining (greater than 800 years) indicate . . . approximately 36 acre-feet per year is calculated to flow from the pit lake into the adjacent ground water. . . . As a result of the inherent uncertainties in long-term model predictions, it is unknown whether seepage from the ultimate pit lake will occur. . . . Long-term monitoring will be required to determine whether the pit lake has the potential to discharge to ground water A long-term contingency fund has been established . . . to provide for long-term monitoring and a program of mitigative or corrective actions should long-term monitoring indicate the need For example, pit lake water could be pumped to maintain the lake stage at an elevation below which outflow . . . does not occur. (ROD, pgs. 7-8)

Mitigation Measure 4.4.3.3.1-9b: If ground water is degraded by infiltration through saline soils in the vadose zone, then mitigation measures will be undertaken. . . . Alternative infiltration sites may also be used.

A few things are clear from the mitigation measures above:

Since the impacts of a mine such as this are extremely long lasting, it is difficult to predict the success or failure of the currently discussed mitigation measures to actually prevent significant harm to the environment.

The modeling used to predict the long-term impacts is inexact, leading to large unknowns. (This issue is discussed further below, in the section dealing with scientific uncertainty.)

For actions which are predicted to have potentially significant impacts to water quality in the distant future, such as pit lake water quality in this case, the agency often relies on uncertain and vague mitigation measures. Not addressed, for example, are the uncertainties of consumptive water use patterns, pit lake use, or economic or legal structures able to carry out, much less enforce, mitigation measures 200, much less 800, years into the future.

Even in the case of more reasonable timeframes and less complex physical systems, it is common to base decisions upon uncertain mitigation measures, as shown in Mitigation Measure 4.4.3.3.1-9b.

e) In many instances, there is a form of tiered speculation in the EISs and accompanying RODs. This can be seen here where the BLM [Bureau of Land Management] relies upon a long-term (in the hundreds of years) monitoring plans, which are vague in nature at the time of the decision, to determine if and what equally vague mitigation measures will be used if, and when needed.

Clearly, the mitigation measures discussed above do not meet the NEPA requirement for full, scientific, appraisal. Some courts have reached similar conclusions:

The Forest Service's perfunctory description of mitigation measures is inconsistent with the "hard look" it is required to render under NEPA. "Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Carmel-By-The-Sea v. Dept. of Transportation*, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353, 1989).

"A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Northwest Indian Cemetery Protective Association v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev'd on other grounds*, 485 U.S. 439 (1988).

It is also not clear whether any mitigating measures would in fact be adopted. Nor has the Forest Service provided an estimate of how effective the mitigation measures would be if adopted, or given a reasoned explanation as to why such an estimate is not possible. . . .The Forest Service's broad generalizations and vague references to mitigation measures . . . do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the Forest Service is required to provide. *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380-81 (9th Cir. 1998) (Preservation/Conservation Organization, Durango, CO - #523.20-22.50400.XX)

Identify Costs

891. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

EXAMINE MONITORING COSTS

Cost (or lack of funding) is the single most important factor in determining what monitoring techniques and levels of monitoring intensity are appropriate during the implementation process. Because cost is such an important factor it should be studied as part of the NEPA analyses. Monitoring techniques should be tailored to the budget constraints at the time of the NEPA analyses. (Recreational Organization, Chesapeake, VA - #448.11.50410.XX)

Adaptive management has become a popular term in the natural resource management field. Simply put it means to monitor a project after it is “completed” and address any problems that arise. The key to implementing this process is ensuring there are adequate funds available. All too often budgets fail to plan for post-project monitoring and implementing needed changes in the event the project fails to meet expectations. The end result is the agency scrambles to find the funds to solve the problem or, worse, the situation is not addressed. Many of these problems can be ameliorated if post-project monitoring and contingency funding is required up front of the construction of the project. Funds need not be in cash, but some guarantee of ability to pay should be required. The Department requires this of private development as part of its process to ensure the public infrastructure meets engineering standards. (Contra Costa County Public Works Department, Martinez, CA - #540.3.50410.XX)

PREVENT SUBSEQUENT IMPOSITIONS AND COSTS

Our first caveat is that adaptive management should not result in a subsequent denial of rights or imposition of additional costs on a private sector party after the decision accompanying the original NEPA document is made. If adaptive management can be used as a means of halting or drastically altering any action by a private party permitted by, or implementing, a federal agency decision that has already undergone NEPA analysis, it will raise economic insecurity to such a level that it could dampen interest in any economic activity requiring federal agency authorization or sponsorship.

We suggest that any application of the adaptive management concept to NEPA should be done in a manner similar to the use of the concept in incidental take permitting under section 10(a)(1)(B) of the Endangered Species Act. There, the previous Administration adopted, and the Bush Administration is vigorously defending against judicial attack, the “No Surprises” policy that ensures a landowner receiving an incidental take permit will not be required to preserve any more land or expend any more funds to protect endangered or threatened species covered by the permit to meet unforeseen circumstances. Adaptive management is allowed, even encouraged, but only consistent with the No Surprises policy—that is the permit applicant must voluntarily agree to the adaptive management terms in documentation accompanying the permit (in the habitat conservation plan or the implementing agreement) (e.g., 50 C.F.R. 17.22(b)(5) and 17.32(b)(5)). We could accept, even welcome, adaptive management in the NEPA process only if it is so circumscribed under NEPA processes either for permits and other authorizations from federal agencies to private parties or for federal agency actions implemented by private parties. (Timber or Wood Products Industry, Washington, DC - #507.32-33.50100.XX)

Identify Implementation Measures

892. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

INCLUDE QUANTIFIABLE MANAGEMENT MEASURES

In our experience, environmental impact analyses that have considered adaptive management have not instituted quantifiable management measures. Instead, the adaptive management measures have included

indefinite objectives that have made it difficult to determine whether environmental degradation has occurred. (Other, Seattle, WA - #213.6.50200.D2)

IDENTIFY PERFORMANCE-BASED ENVIRONMENTAL PARAMETERS

This is exactly the approach the Forest Service needs to take with its analysis of locatable minerals plans of operation. Uncertainty and limited knowledge are problems, and Forest Service specialists are largely unable to write effects for locatable minerals projects. They don't have to know much to analyze the effects of timber entries with 300 foot stream buffers; thus, they do not have any idea on how to analyze the effects of mining operations in floodplains. Performance based environmental parameters are just what is needed. Decide what the end result should be, work with the operator so he has a clear vision as to what that end result is, and allow the operator to design an operation that will bring about that end result. Then monitor to ensure that the end result is achieved and is satisfactory. I like this approach. (Individual, Unity, OR - #216.4.50900.XX)

NOIA supports an approach which allows for approval of an action with uncertain outcomes by establishing performance-based environmental parameters or outcomes and monitoring to ensure they are achieved. Too often, restrictive stipulations are imposed which do not consider the rapidly changing technology which could be applied to achieve a more efficient and more favorable environmental result. We encourage the Task Force [CEQ Task Force] to ensure that agencies apply performance-based, rather than prescriptive stipulations. (Oil, Natural Gas, or Coal Industry, Washington, DC - #61.6.50600.XX)

We support performance-based parameters for incorporation into NEPA analysis. It is unclear whether performance based standards are synonymous with adaptive management as described in this Federal Register notice. Using performance-based parameters encourages innovation to deal with changing conditions and new technological advancements. Monitoring is critical to measuring the effectiveness of these parameters. (Oil, Natural Gas, or Coal Industry, Denver, CO - #598.11.50100.D1)

ASSOCIATE MANAGEMENT OPTIONS WITH TRIGGER EVENTS

To accommodate the implementation of ARM [adaptive resource management], the EIS/EA [Environmental Assessment] documents should describe clearly what the land management options are for the area in question. Each option should be paired with a trigger event(s) so that the agency's staff and the public know upfront when and why the agency must modify its land management approach. Examples of a trigger event are: 1) a wildfire burns more than the maximum threshold acreage; and 2) the percentage of grasses and forbs necessary for wildlife forage is below the minimum threshold. (Recreational/Conservation Organization, Washington, DC - #89.23.50200.D2)

ALLOW ACHIEVEMENT OF OUTCOMES THROUGH A MIX OF PROJECT ACTIONS AND PROGRAMMATIC CONTRIBUTIONS

We support the CEQ's efforts addressing adaptive management in NEPA documents. Natural resource agencies in the Pacific Northwest are making significant commitments related to adaptive management for forest and watershed management related to endangered species recovery. The interaction of that adaptive management in the context of major public works projects is a significant challenge.

WSDOT [Washington State Department of Transportation] shares AASHTO's caution about the application of adaptive management to highway projects. We encourage CEQ to consider that there is a threshold of practicality where changes in scientific information cannot be applied to a project, but they can be addressed through programs. We can offer some practical case studies where interdisciplinary teams are reaching agreements on best available information and seeking to balance issues like flood control, natural process of river channel movement, and bridge location (SR 24). When the specific project does not reach a threshold that significantly precludes achieving a community value (like salmon recovery), the NEPA action should continue. The community value can be further addressed through programmatic contributions. WSDOT has several programs that provide environmental benefits, such as the removal of barriers to fish passage, retrofit of storm water outfalls, and repair of chronic flood sites. These programs can be capitalized so that project decisions are not revisited but the environmental outcomes are achieved through a mix of project investments and program investments. This will balance

the burden of adaptive management so that it will not land on the back of a project. (Washington State Department of Transportation, Olympia, WA - #551.17.50100.XX)

PROVIDE TEMPLATE MODELS, BUT TAILOR PLAN TO SPECIFIC SITE

By using all the templative models and then adapting them to a given area for consideration of the sensitive and indigenous qualities to design a standard that will apply to the given area. Each system (area land) has to have a priority that is decided using the formula that will be uniquely interpretive, always considering the compromised effects of use, location and long-range planning as well as the natural and historical qualities of the said lands. (Individual, Johnson City, TN - #631.14.50200.D2)

ALLOW FLEXIBILITY

Environmental impact analyses can be structured to consider adaptive management by realizing that documents are not locked in stone. Monitoring may trigger revisions. It is similar to a person going to the doctor once a year—if something about their health changes, the person often needs to change their eating, exercise, medication, etc.,—they have to adapt their personal habitats to deal with the health changes. (NEPA Professional or Association - Private Sector, Tucson, AZ - #100.4.50200.A1)

Identify Monitoring/Mitigation/etc.

893. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

ESTABLISH COMMITMENTS RELATIVE TO MONITORING AND MITIGATION

We assume that an EIS analysis would discuss the uncertainty of either a projected impact or of the efficacy of a proposed mitigation measure. The EIS should assure that the analysis of the impact or the proposed mitigation is based on the best available information and interdisciplinary professional judgment. It should provide federal agency (and, as applicable, applicant) commitments relative to monitoring and mitigation. Measures different from those in the environmental document may be needed when mitigation plans are based on limited data or information and do not meet expected success levels. (Federal Aviation Administration, No Address - #534.17.50200.D2)

Monitoring is a component of adaptive management. This includes monitoring of our transportation decisions, mitigation measures, and effects on the environment. Commitment compliance is a particular area of NEPA that FHWA [Federal Highway Administration] takes very seriously. Requirements for monitoring transportation decisions and the implementation of commitments associated with our decisions is explicitly addressed in our NEPA regulation and is a responsibility of the Applicant and Administration offices involved in the approval of transportation projects. (Federal Highway Administration, Washington, DC - #658.21.50500.XX)

Identify Subsequent Review/Measures

894. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

DEFINE HOW ADAPTIVE MANAGEMENT WILL BE ASSESSED AND ADAPTED FOR ENSUING YEARS

Clear definitions of how adaptive management will be assessed and adapted for ensuing years should be included in environmental impact analyses. Adaptive management should acknowledge the existence of unknowns and clearly define the potential scope of the project. (United States Environmental Protection Agency, No Address - #299.35.50200.D2)

For those resources where adaptive management is properly used, include a discussion in the environmental consequences chapter describing the process and how adaptive management will be used. (Oil, Natural Gas, or Coal Industry, Denver, CO - #598.14.50200.D2)

ESTABLISH A SUNSET CLAUSE FOR UNFORESEEN OUTCOMES

How can environmental impact analysis be structured to consider adaptive management?

Reversibility

There should be a sunset clause on the proposed action in case the outcome meets with unforeseen difficulties. (Individual, Rogue River, OR - #382.18.50200.D2)

*Address Environmental Concerns/Effects***895. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.****EMPHASIZE ENVIRONMENTAL PROTECTION**

Environmental impact analyses should be constructed to give maximum benefit to the environment. (Individual, Reno, NV - #170.1.50200.D2)

Why not apply natural resource preservation certainty up front so continuous monitoring will not have to be funded or required. (Individual, Liberty, MO - #4.2.50600.D4)

PREDICT ENVIRONMENTAL RISKS OF FUTURE ACTIONS

NEPA analyses should be structured to consider adaptive management by identifying and attempting to predict the environmental risk of future actions, and scenario based plans. For example, contaminants should be characterized by their mobility and toxicity risk and the chance of exposure. NEPA analyses should also be across media. Instead of having to separately address laws such as the Clean Air Act, the Clean Water Act, RCRA [Resource Conservation and Recovery Act] etc., there should be more work on how the impacts of a project affect the ecosystem in a more holistic way. (Port Authority of New York and New Jersey, New York, NY - #457.8.50200.D2)

EVALUATE A RANGE OF EFFECTS UNDER EACH ALTERNATIVE

The environmental impact analysis process should evaluate a reasonable range of impacts that may occur under each of the alternatives considered. (Surface Transportation Board, No Address - #519.21.50200.D2)

DISCLOSE EFFECTS ASSOCIATED WITH A RANGE OF ADAPTIVE MANAGEMENT OPTIONS

“Adaptive Management” is a popular concept which we would like to support. There is great logic in the notion that NEPA analyses should not be locked in stone but should be allowed to “evolve” as changing conditions dictate. However, there is a fundamental tension between this concept and the basic requirement that a NEPA document disclose impacts associated with a proposal for federal action. Excessive flexibility might make the agency vulnerable to an argument that it has not met the disclosure function. One possible means of addressing this issue would be to disclose impacts associated with a “range” of adaptive management options. This would allow the agency, in its management function, to “adapt” within a range specifically identified in the NEPA document. Adaptive management could not be used to support an action beyond the endpoints discussed in prior NEPA analysis without supplementation. (Recreational Organization, Boise, ID - #90.13.50300.D3)

Environmental impact statements can address outcome based or adaptive management by addressing a range of outcomes or variations in outcomes as opposed to choosing single or specific outcomes or fixed levels of outcomes as they are addressed today by the federal agencies. Environmental assessments on natural resources must allow for natural variations in climate, rainfall, hot or cold weather, sunlight days, and a whole host of other factors that affect how natural resources respond to natural variation. (Domestic Livestock Industry, Washington, DC - #630.18.50200.D2)

The environmental impact analysis would discuss and evaluate the environmental effects of the range of likely consequences resulting from the proposed adaptive management project. Appropriate mitigation

would be identified for areas of potential significant impacts, and mitigation invoked if monitoring indicated a significant impact resulted. (Placed-Based Group, Sacramento, CA - #522.27.50200.D2)

EVALUATE THE EFFECTS OF MONITORING AND MITIGATION PLANS

The reliance in NEPA documents upon monitoring and mitigation plans which are not actual, detailed and thus capable of being evaluated by the decision maker(s), other agencies, or interested members of the public, consistently fail to meet the “hard look” requirement mandated by, and central to, NEPA. Instead, it is common for the following statement by the BLM [Bureau of Land Management] to better reflect NEPA practice: “Please note that the language used for all mitigation measures will not be final until the BLM issues the Record of Decision for the project.” (Phoenix Project FEIS, Appendix C, Response 13-43) In fact, some statements in EISs are self-contradictory on this issue: “The BLM disagrees that the EIS does not adequately discuss potential mitigation measures. Other appropriate mitigation measures identified during the NEPA process will be prescribed as a condition in a Record of Decision issued by the BLM.” (Phoenix Project FEIS, Appendix C, Response 13-50.)

Crown Jewel Mine:

The Crown Jewel Mine EIS evaluated a proposal by Battle Mountain Gold Company for an open pit cyanide heap leach gold mine in north-central Washington. (Battle Mountain Gold Company was subsequently bought by Newmont Mining Corporation, which in July 2001 abandoned the project. Crown Resources is currently evaluating an underground mine at the site.) The Forest Service issued an FEIS, and subsequently a ROD [Record of Decision] for the Crown Jewel Mine. The decision was challenged in Federal Court, and upheld in 1999. Below, we cite from the FEIS as well as briefs filed during the challenge to the Forest Service’s ROD.

For our discussion of mitigation and monitoring, two separate water quality impacts are of the most serious concern: (1) the creation of a predicted toxic pit lake; and (2) the discharges from the lake to local streams.

Water quality in the proposed pit lake was “predicted to exceed the Washington fresh water chronic criteria for cadmium, copper, lead, mercury, and selenium and the Washington fresh water acute criteria for silver and selenium.” (FEIS 4-72.) In addition, “if untreated, ‘water that fills and/or ultimately discharges from the open pit is expected to exceed Washington State’s primary or secondary ground water criteria’ for several heavy metals.” (FA Brief 31.)

The FEIS lacked any substantive discussion of mitigation to prevent the creation of the toxic lake. Further, the agency provided only a listing of measures for mitigating the discharge of contaminated water from that pit lake.

The only discussion of mitigation with regard to the creation of the toxic pit lake was a reference to a nine-step process which would lead the operator from review of environmental impacts, through to ‘clean closure’ of the mine. The discussion did not provide the public with any credible or substantive mitigation measures, but merely described a process that would presumably identify such measures in the future. (FEIS at 2-124, -125). Thus, this FEIS included only a statement of intent to react to significant impacts when they occur, rather than evaluating how to meet the purpose and need of the project while limiting clearly predicted and significant impacts. Such an interpretation of NEPA effectively nullifies the very reason for NEPA, that is to ensure that impacts, and measures to limit them, are discussed in a public manner before the agency approves a ROD and FEIS.

For NEPA to be at all meaningful, the lead agency must make a credible scientific determination of the expected effectiveness of proposed measures to limit significant environmental impacts prior to making a decision. The degree of impact will be determined by the degree of success of the mitigation.

Without clear scientific evaluation, neither the agency nor the public can adequately assess the environmental impacts of the project, a basic requirement of NEPA. “[O]mission of a reasonable complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA.” *Methow Valley*, 490 U.S. at 352.

The National Research Council, in discussing monitoring at mine sites came to the same conclusion: “Care should be taken to assure that monitoring requirements are adequately comprehensive and include the necessary quality control measures and documentation to be credible to the public.” (NRC, pg. 60.) While not written as an observation on NEPA, the same need holds true if the NEPA process is to be credible to the public.

In the Crown Jewel FEIS, ROD, and court case, the Forest Service's core argument was that mitigation based primarily on monitoring was adequate because "if the monitoring data indicate that the pit lake will violate water quality standards, the company will be required to adopt the necessary waste water treatment methods in order to avoid violating state and federal law." (FA Brief 25, n.6). By waiting until a violation predicted by their own study actually occurs, the USFS [United States Forest Service] would not be minimizing adverse impacts, but merely acting after the fact to hopefully repair the damage. By limiting the NEPA discussion of impacts to its decision to rely on unexamined and unevaluated solutions, the Forest Service clearly did not meet the need under NEPA for effects of governmental decisions on the human environment to be recognized, evaluated, and either avoided, mitigated, or accepted as the price to be paid for the federal action, prior to the decision actually being made.

Subsequent to the Forest Service's FEIS, ROD, and successful defense of the decision in both Federal Court and the 9th Circuit Court, the Washington State Pollution Control Hearings Board (PCHB) ruled against various water quality and quantity permits required by the proposed mine. Looking at largely the same issues with regard to mitigation of predicted or possible impacts, as had the Forest Service, the PCHB reached very different conclusions. It is instructive to look at some of the reasoning of the PCHB.

51. There is no dispute that the proposed mine will require significant mitigation of adverse impacts to water quality

58. The proposed mitigation, . . . is not legally sufficient The mitigation is therefore highly speculative and uncertain The same is true for the pit lake. The response to predicted pollution in the pit lake is to construct a water treatment plant on top of a mountain that will have to be powered and maintained forever. We are unable to say what will ultimately happen with the waste rock piles. We know that they will pollute the environment. How or in what manner the applicant and state will respond to this pollution is unknown.

59. The only real assurance we have is the proposed bonding that the state may rely on to enforce environment laws in the future. This approach is tantamount to entering a busy interstate highway on an exit ramp against the traffic. The availability of insurance in that circumstance is no more comforting than the proposed bonding here. The focus of our environmental laws must be on preventing pollution and habitat degradation. It is not legally sufficient to proceed with the proposed mine without much more specific knowledge of the potential impacts from the development and meaningful means of preventing and protecting against the adverse consequences of the development. The long-term engineered solutions proposed in this case are legally insufficient.

61. The inadequacy of the mitigation plan rests primarily on the lack of information supporting the scheme The speculative and perpetual nature of mitigation proposed here does not meet the requirements

63. A 401 Certification means that the state has reasonable assurance that there will be compliance with water quality laws

64. . . . The . . . model predicts that the pit-lake will violate water quality standards. The contingent response to this is to construct a high-altitude water treatment plant that must be powered and maintained in perpetuity. The long-term speculative success of a permanent water treatment facility should not replace the protections afforded by our water quality laws. Even more speculative is the projected pollution from the two waste rock facilities (PCHB 97-146 Final.) (Emphasis added throughout.)

The standards of assessing and handling adverse environmental impacts required by the PCHB in this decision were not extreme:

63. . . . Our water pollution laws do not mandate such stringent purity in waters of the state. . . . Water quality regulations recognize the impact of human activity and provide means to allow for reasonable compliance through measures such as mixing zones, . . . compliance schedules, . . . and, as in this case, alternate points of compliance, It would be seemingly impossible to undertake any type of mining or construction without causing some disturbance . . . that might lead to a violation of water quality standards. It is therefore reasonable to establish time periods and boundaries within which a mining activity must come into compliance with applicable standards. (PCHB 97-146 Final.)

These statements clearly demonstrate that the PCHB did not consider the Forest Service monitoring and mitigation plan to be adequate to comply with state legal requirements.

The Crown Jewel Mine FEIS illustrates yet another aspect of the need for adequate analysis of monitoring and mitigation aspects of a mine project, in order to meet the intent of NEPA. The USFS asserted in its court brief, "the FEIS contains a thorough and candid review of all of the potentially adverse effects of the Mine." (FA Brief 22, n.4.) However, the agency failed to recognize, let alone discuss, the additional environmental impacts which would be created by the very mitigation measures themselves. Any water treatment facilities needed would represent major mine components, with their own waste products and other adverse impacts.

The potential for large volumes of waste material to be generated by the water treatment facilities, potentially in-perpetuity, clearly could have significant environmental impacts through time. This particular failing is common to all mine projects that are predicted to require perpetual water treatment.

A rather spectacular example of this failure in NEPA analysis (for scale of the problem likely under the Proposed Action), is the proposed Phoenix Project in north central Nevada. (NV063-99-001P (NVN067930, 3809 NV063-EIS00-28 1790) Newmont Mining Corporation/Battle Mountain Gold proposes to take a site that is already producing a lot of acid mine drainage, and which will require perpetual water treatment, and mine nearly a billion tons of additional rock, the vast majority of which is extremely acid generating. The FEIS states that ground water contamination from the proposed action will likely continue for up to 20,000 years.

The proposed action relies on the mitigation measure of successfully collecting all polluted groundwater by pumping, followed by treatment with lime to neutralize the acidity. This would require continuous and involved management of the pumps and treatment plant for many thousands of years.

Despite the massive requirements for lime that such a plan would require, and the massive amount of metal-laden sludge that would be generated through the life of the proposed treatment action, the FEIS did not contain any calculations as to the scale of either of these clearly significant impacts to the environment. Nor were either the sources for the lime (and associated impacts), or the sludge disposal method, location, and possibilities for leaching of metals, given even the slightest mention.

Recommendations:

In order to meet the clear intent of NEPA to ensure that impacts of federal actions are evaluated, and considered prior to the decision being made, monitoring and mitigation components of mining operations must be fully discussed and evaluated in the NEPA analysis.

Since federal decisions about mining operations often rely upon uncertain predictive models, the monitoring of those predictions is a central component of those decisions, and, as such, are fundamental components of the federal action that must be fully analyzed in the NEPA review process.

Significant impacts from mining operations may occur long after the operations have ceased, and may last for hundreds and even thousands of years. Therefore, the monitoring of impacts, and the mitigation of harm, must also continue for long periods of time. This aspect of mining operations must be explicitly recognized, analyzed, and evaluated in any NEPA analyses of mining proposals.

As critical components of a mining operation, and often of a nature that may have unique impacts to the environment, the impacts of the mitigation and monitoring plans must themselves be evaluated in the NEPA analysis.

Agencies often rely upon the efficacy of proposed mitigation measures to meet legally mandated standards, as such, the likely efficacy must nearly be as closely and critically analyzed as the mining operations themselves. (Preservation/Conservation Organization, Durango, CO - #523.23-29.50100.XX)

ESTABLISH AN ENVIRONMENTAL OVERSIGHT AND REPORTING PERIOD

The Board frequently imposes conditions to mitigate adverse environmental impacts associated with rail line construction, merger, abandonment or other cases that require environmental review. In cases that warrant an adaptive management strategy, the Board has imposed conditions establishing an environmental oversight and reporting period. The Board will review the continued applicability of the mitigation after the FONSI [Finding of No Significant Impacts] or ROD [Record of Decision] has been issued and implementation of the proposed action has been initiated if there is a "material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change." As appropriate, the Board may then reassess the potential environmental impacts, and modify the required mitigation

condition during the environmental oversight period. This approach has worked well for a small agency such as the Board, which has limited compliance and enforcement staff. A similar approach may be appropriate for use in any guidance developed by CEQ on when to require subsequent NEPA analyses under an adaptive management strategy. (Surface Transportation Board, No Address - #519.22.50300.D3)

Other

896. Public Concern: The CEQ Task Force should consider methods for structuring NEPA analysis to consider adaptive management.

PROVIDE HISTORY OF LIKE PROJECTS ELSEWHERE, AND OF OTHER PROJECTS IN PROJECT LOCATION

I would like to see all EISs explain some history of 1) projects of the type and size (scope) implemented in the past, located wherever, and 2) the project history implemented in the project location at hand, for any type of project. (Government Employee/Union, Grangeville, ID - #44.18.50200.D2)

I am a strong advocate for adaptive management, and this concept needs to become accepted in the NEPA process as a matter of agency policy. The current [process] seems to assume there is no institutional knowledge regarding (for example) the drilling of a gas well, and the construction of the requisite infrastructure. I would like to see more attention in the NEPA process given to what is known about the consequences of a proposed activity, based on same or similar activity in comparable settings. Then, a mitigation plan based on successful analogous activity could be established, with flexible management alternatives that ensure environmental protection should the original preferred alternative need amending. In the adaptive management scenario, it will be important to differentiate between comments that are oriented toward land use and comments that are oriented towards land management. If an area currently is being managed for multiple use, especially where minerals or other resources have already been leased, and analogous activity in similar environments has produced results that are acceptable, and mitigable, opening the NEPA process to comments on land uses that preclude the activity implied in a lease is indeed a disingenuous action by the United States. (Utah Department of Natural Resource, Salt Lake City, UT - #526.2.50600.XX)

PROVIDE FINALITY OF DECISIONS

NAHB generally supports the concept of adaptive management because it offers the hope of flexibility and sound decisionmaking. However, like all flexible approaches, we are concerned that adaptive management can also be used to subject projects to open ended regulatory processes that never achieve finality. In order for real estate developers to invest in projects and risk capital, they must have certainty that at the end of the day there will be predictability and finality in the regulatory process. The NEPA Task Force must ensure that any flexible reforms have clear guidance, concise standards, and finality at the end of the day. (Business, Washington, DC - #517.16.50200.D2)

MAINTAIN VALID EXISTING RIGHTS

Several years ago, the Forest Service contemplated the use of what was termed a "contingent rights" stipulation. Under this concept, the agency would have the ability to determine after a lease was sold whether development would be acceptable and under what terms. Industry strongly opposed this proposal because it is necessary for a lessee to know specifically under what conditions it could develop its lease before it is acquired. The Mineral Leasing Act mandates that leases are contractual undertakings by the federal government and as such confer specific rights to lessees that cannot be altered once the lease is issued. Exception to these rights is limited to provisions of the Endangered Species Act. CEQ's interpretation of adaptive environmental management could be construed to have the same impact on valid existing lease rights as the once-proposed contingent rights stipulation. Clearly, abrogation or diminution of lease rights and the ability of federal agencies to make clear and timely decisions must be entirely avoided in any program proposed by CEQ. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.16.50420.XX)

Examples

897. Public Concern: CEQ should adopt the Environmental Protection Agency's technique for ecological risk assessment and decisionmaking as the standard framework for NEPA analysis.

Using the U.S. EPA Ecological Risk Assessment guidelines

Rather than consume additional time and resources in “reinventing” another process for an environmental assessment, the U.S. Environmental Protection Agency’s (EPA) technique for ecological risk assessment and decision-making should be the standard framework for conducting an EA [Environmental Assessment] under NEPA. According to EPA, ecological risk assessment is:

... a process for organizing and analyzing data, information, assumptions, and uncertainties to evaluate the likelihood that one or more stressors are causing or will cause adverse ecological effects. Ecological risk assessment provides risk managers with a tool for considering available scientific information when selecting a course of action.

This assessment technique has the following advantages and strengths:

- Was subjected to a public review via the Federal Register in 1996,
- Incorporates stakeholder involvement early in the process to identify statutory authorities and to select measurement and assessment endpoints,
- Utilizes science to align potential stressors (e.g., impacts) to potential biological impairment; and,
- Utilizes iterative monitoring/measurements to reduce the uncertainty of data supporting management decisions and to adjust management decisions.

EPA has invested a substantial amount of time and federal resources to refine, clarify, and provide guidance on the process of conducting an ecological risk assessment. Ecological risk assessment and decisionmaking is a well-structured and supported approach for determining if a federal (or federally funded) action would significantly affect the environment and, therefore, require an Environmental Impact Statement. This assessment approach also adheres to the adaptive management approach as described originally by Hollings (1978), and not as is frequently practiced with monitoring as a process independent of the management effort. In the latter approach, monitoring goals and objectives are formulated in consensus-building and policy-making realm of the management process. In this realm Ralph and Poole (2002) indicate that monitoring goals and objectives are “scientifically incomplete and ineffective” producing “short-lived” and/or under-funded monitoring programs. This distortion of adaptive management yields inadequate scientific support for management actions. Ralph and Poole (2002) also note that the “socio-political” approach to adaptive management produces best management practices based upon consensus (or political compromise) and/or impasses rather than science. (Individual, No Address - #512.2-3.50200.XX)

898. Public Concern: The CEQ Task Force should consider examples of effective structuring of NEPA analysis to consider adaptive management.

EIS FOR THE WASHINGTON STATE FOREST PRACTICES RULES

An EIS was completed under **SEPA** for the Washington State Forest Practices Rules in April 2001. Adaptive management was a major component of all three alternatives analyzed. Additionally, a joint EIS will be prepared under NEPA/SEPA within the next 3 years that also includes the same adaptive management program under its preferred alternative.

DNR’s Adaptive Management Program was designed in detail prior to inclusion in the EIS, and included process descriptions and formal structure. Additionally, specific areas of focus of future research were identified. Therefore, it provided a basis that could be then analyzed in the EIS by stating that further impacts, that were not evident at the time that the EIS was prepared, would be identified and addressed through the adaptive management program.

The SEPA EIS provided analysis of the adaptive management program in several areas:

First, adaptive management is defined in the glossary. Chapter 2 describes each of the proposed alternatives and the role that adaptive management will play under each of the environmental conditions analyzed. The preferred alternative included timelines and descriptions of processes in its description of the adaptive management. Areas that are not specifically addressed through the description of the preferred alternative could be included through the adaptive management process. Additionally, adaptive management is included as a separate component under the analysis, along with other landscape conditions and management actions.

Chapter 3.1 of the SEPA EIS states, “The scientists who conducted the analysis for this EIS developed risk statements based on best professional judgment after weighing all of the quantitative evaluation criteria that were developed, as well as their review of the scientific literature. They also considered the performance targets identified in Schedule L1 of the Forests and Fish Report and the likelihood that they would be achieved. Further, they considered the fact that each alternative incorporates a level of adaptive management, which allows for change in the rules over the long-term, based on feedback from research and monitoring activities. In giving consideration to adaptive management, the efficiency and time lag involved for each adaptive management program was also evaluated.”

Appendix I of the SEPA EIS provides a detailed discussion of the Adaptive Management Program. Page 1 of Appendix 1 states, “Adaptive management helps reduce the risk of decisionmaking, particularly in situations where resource managers are dealing with significant levels of uncertainty and considerable consequences (e.g., species extinction).” (Washington State Department of Natural Resources, Olympia, WA - #128.16-17.50200.D2)

Adaptive Management and Subsequent NEPA Analysis

Summary

This section includes comments regarding adaptive management and subsequent NEPA analysis.

Adaptive Management and Subsequent NEPA Analysis – Respondents offer a number of comments regarding adaptive management and subsequent NEPA analysis. These comments fall into the categories that follow.

Adaptive Management and Subsequent NEPA Analysis General – On a general level, several respondents assert that the Task Force should allow for adjustments in adaptive management without requiring additional NEPA review. According to one wood products industry representative, “To utilize adaptive management effectively NEPA would have to allow for the adjustments to be made without having to do a supplement document, increased analysis, or be subject to appeal and/or judicial review.” Similarly, some maintain that the Task Force should avoid any approaches that may reopen a completed NEPA process and decision.

Planning – Several respondents advance that the Task Force should require agencies to conduct subsequent NEPA analysis under certain conditions—e.g. when the rules change, when adaptive management is discontinued, or when adaptive management does not comply with the management plan.

On the other hand, some state that subsequent NEPA analysis is not needed when day-to-day decisions are consistent with programmataic analysis and when initial decisions are appropriate.

Analysis – Some hold that the Task Force should require agencies to conduct subsequent NEPA analysis whenever there is any reanalysis of the situation, or whenever errors are found in the effects analysis.

New Information – Several respondents assert that the Task Force should require agencies to conduct subsequent NEPA when significant new information emerges. One preservation/conservation organization writes, “We believe ‘significance’ must be the guide in determining when to do additional environmental review of a modified agency action. Adaptive management, at its heart, is about improving environmental management plans based on additional information and, thus, is useful for most federal environmental decisions.”

Indications for Change – Some people advocate that the Task Force should require subsequent NEPA when monitoring indicates that changes must be made to the decision. Some assert that additional analysis should only be required when environmental circumstances or management changes exceed thresholds. Others, however, maintain that additional analysis should be required whenever corrective measures are needed or when conditions emerge that triggered the original NEPA analysis. Similarly, some assert that the Task Force should require more NEPA analysis any time processes and conditions differ from that anticipated and predicted. One transportation representative writes, “Each time an adaptive management requirement is triggered, arguments could be made that the NEPA process should be re-opened. In fact, some suggestions have been in the academic literature that commitments to adaptive management should explicitly provide for re-opening the NEPA process if environmental impacts are greater or different than was anticipated.”

On the other hand, some hold that the Task Force should not require additional NEPA analysis when results are consistent with anticipated guidelines. Notes one elected official, “As long as monitoring shows results consistent and compatible with anticipated guidelines, further NEPA analysis should not be required. Breaching of these guidelines should result in the revision of the activity to meet the standards of the guidelines.”

Unforeseen Consequences/Disturbances – Several respondents advise that the Task Force should require subsequent NEPA analysis for unforeseen consequences and disturbances. According to one recreational conservation organization, “Subsequent NEPA analyses may be necessary when: A disturbance occurs for which the agency did not plan during the initial EIS/EA process, thereby changing the Record of Decision. But if the disturbance is less than that previously analyzed and would not affect the Decision that was made originally, it should be documented in a Supplementary Information Report and incorporated into the Administrative Record. The project should proceed without delay.”

New Actions – Numerous respondents maintain that the Task Force should require subsequent NEPA analysis when new management approaches are considered that were not addressed in the original analysis. One individual writes, “Over the course of the AM [Adaptive Management] program, new management techniques or approaches might become available. Implementation of management actions not identified and evaluated in the original NEPA review, either at the project level or programmatically, could require subsequent environmental review.”

Respondents also hold that the Task Force should require additional analysis whenever a new proposal constitutes a “major federal action significantly affecting the quality of the human environment.”

Adaptive Management and Subsequent NEPA Analysis

Adaptive Management and Subsequent NEPA Analysis General

899. Public Concern: The CEQ Task Force and NEPA should allow for adjustments in adaptive management without requiring additional NEPA review.

Adaptive management is a good concept but it needs to be used properly. Decisions should be made with the best available information and the project then implemented, monitored and adapted to meet the end product. Every decision made has uncertainty and is based on limited knowledge. The problem with adaptive management is that an adjustment in one action may lead to adjustments made elsewhere. To utilize adaptive management effectively NEPA would have to allow for the adjustments to be made without having to do a supplement document, increased analysis, or be subject to appeal and/or judicial review. (Timber or Wood Products Industry, Joseph, OR - #423.7.50100.XX)

Initial NEPA analysis must address a range of responses, as opposed to a specific level of resource protection or sustainability as we often see in today's application of NEPA at the federal level. The current system forces NEPA review at any proposed change to a management plan or resource conservation plan. (Domestic Livestock Industry, Washington, DC - #630.19.50300.D3)

CEQ should develop a standard definition for adaptive management that clearly allows for an uncertain outcome to be tested if the planned approach needs to be changed.

Adaptive management should be different than research. For example adaptive management in the Sierra Nevada Framework calls for a five-year research project before implementation. (Willy Hagge, Supervisor, Modoc County Board of Supervisors, No Address - #636.12.50400.XX)

900. Public Concern: The CEQ Task Force and NEPA should avoid any approaches that call for reopening a completed NEPA process.

While AASHTO recognizes the value associated with adaptive management techniques, AASHTO cautions that these techniques may not be widely applicable to highway projects. In addition, AASHTO has strong concerns about any adaptive-management approaches that call for the re-opening of a completed NEPA process. Re-opening a completed process has the potential to undermine the public's confidence in the effectiveness of the process, while also creating the potential for interminable delays. Thus, to the greatest extent possible, the CEQ NEPA Task Force should allow for adaptive management, but should avoid creating new procedures that could cause the NEPA process to be re-opened unnecessarily. (American Association of State Highway and Transportation Officials, Washington, DC - #591.11.50100.XX)

Planning

901. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is needed.

WHEN THE RULES CHANGE

Subsequent NEPA analysis of adaptive management would be required in the following circumstances: . . . If, through the adaptive management process, the rules change so significantly that there is a greater risk to the resources. (Washington State Department of Natural Resources, Olympia, WA - #128.18.50300.D3)

WHEN THE ADAPTIVE MANAGEMENT PROCESS IS DISCONTINUED

Subsequent NEPA analysis of adaptive management would be required in the following circumstances: . . . If the adaptive management process is discontinued for some reason, such as lack of funding. (Washington State Department of Natural Resources, Olympia, WA - #128.18.50300.D3)

WHEN ADAPTIVE MANAGEMENT OBJECTIVES DO NOT COMPLY WITH THE CURRENT PLAN

Subsequent NEPA analyses may be necessary when: . . . The ARM [adaptive resource management] objectives do not comply with the planning unit's current resource management plan. (Recreational/Conservation Organization, Washington, DC - #89.24.50300.D3)

902. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is not needed.**WHEN DECISIONMAKING IS CONSISTENT WITH PROGRAMMATIC ANALYSIS**

Day-to-day decisionmaking consistent with programmatic analysis should not require formal NEPA analysis. (United States Air Force, Washington, DC - #525.21.50300.D3)

WHEN INITIAL DECISIONS ARE APPROPRIATE

Why not make the correct decisions the first time? (Individual, Liberty, MO - #3.1.50300.D3)

*Analysis***903. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is needed.****WHEN THERE IS ANY REANALYSIS OF THE SITUATION**

Any reanalysis of the situation must be subject to NEPA. Over time there may be changes in the environmental setting, technology, economic conditions, and public views may change. If the project will change all these factors must be reconsidered. (Preservation/Conservation Organization, Eugene, OR - #106.16.50300.D3)

The way in which the Northwest Forest Plan anticipates adaptive management working is that after each project is implemented, the agency will review the project and its effects, and then alter (i.e., design) subsequent similar projects accordingly. NEPA is required for the subsequent projects. (Preservation/Conservation Organization, Vancouver, WA - #103.13.50300.D3)

WHEN THERE ARE ERRORS IN THE EFFECTS ANALYSIS

You should be asking what conditions or circumstances would trigger subsequent NEPA analysis, regardless of whether it was adaptive management or whatever kind of management. If you have reason to believe the following, then subsequent NEPA is a must:

-There must be errors in the effects of analysis. . . . (Government Employee/Union, Grangeville, ID - #44.19.50300.D3)

*New Information***904. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is needed.****WHEN THERE IS SIGNIFICANT NEW INFORMATION**

We believe "significance" must be the guide in determining when to do additional environmental review of a modified agency action. Adaptive management, at its heart, is about improving environmental management plans based on additional information and, thus, is useful for most federal environmental decisions. (D1-4). (Preservation/Conservation Organization, Washington, DC - #465.27.50100.XX)

Adaptive Management is a good idea within the context of NEPA as a program, but not within any single NEPA document or series of NEPA reviews. Moreover, there should be no implied substantive component of NEPA which arises under an effort to promote adaptive management. Clearly, no NEPA analysis will ever be conducted with perfect information. However, NEPA itself should not trigger an obligation to revisit decisions once they are made. This would improperly undermine the certainty necessary for modern business. Instead, the CEQ should only embrace adaptive management in the context of the overall NEPA process. For example, the requirements to consider cumulative impacts support the ideals of adaptive management. However, no single analysis should be reopened without the development of significant new information. (Utility Industry, Birmingham, AL - #584.11.50100.XX)

There should be criteria for determining what level of changes in conditions has occurred since the completion of the NEPA analyses that would trigger adjustment of management actions.

Look at things like whether the changes in conditions were studied in the NEPA analyses and the extent of the changes predicted. The more or significant the changes in conditions the more likely subsequent NEPA analyses or adjustment of management actions should be imposed. Monitoring of changes in conditions should be based upon peer reviewed scientific evidence. (Recreational Organization, Chesapeake, VA - #448.10.50300.XX)

Many aspects of adaptive management may change the project itself during implementation of the action to be taken. If there are substantial changes in the proposed action that are relevant to environmental concerns, or if significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts exists, subsequent NEPA analyses will be required. DOE [United States Department of Energy] addresses these issues in Supplement Analyses (SA), Supplements, and amended RODs [Records of Decisions].

The EIS on the Savannah River Site Salt Processing Alternatives involved a large-scale and expensive project with technological impacts of all of the reasonable alternatives were small and acceptable. In the EIS and resulting record of decision, DOE incorporated flexibility to allow the agency to modify its course of action during implementation without further NEPA analysis. This flexibility was possible because the EIS provided analysis of the impacts of a full range of reasonable alternatives. To illustrate this flexibility, an excerpt for the record of decision is provided:

Initial implementation . . . will consist of designing, constructing, and operating a facility . . . DOE will evaluate the processing capacity needed based on high-level waste system requirements, . . . projected throughput, and conceptual design data. Based on these evaluations, DOE may elect to build a facility or facilities to carry out the [selected alternative] that could accommodate pilot program and production objectives, but would not exceed the size or processing capacity evaluated in the . . . SEIS. In parallel, DOE will evaluate implementation of any of the other salt processing alternatives for specific waste portions for which processing could be accelerated or that could not be processed in the [selected alternative] facility. These evaluations and potential operations would be undertaken to maintain operational capacity and flexibility in the HLW [High Level Waste] system, and to meet commitments for closure of high-level waste tanks. Record of Decision: Savannah River Site Salt Processing Alternatives (66 FR 52752, 10/17/01). (United States Department of Energy, Washington, DC - #536.24-25.50300.D3)

Indications for Change

905. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is needed.

WHEN MONITORING INDICATES THAT CHANGES MUST BE MADE TO THE DECISION

Adaptive management is a useful scientific tool for evaluating the results of an action and making subsequent adjustments to improve the initial decision. Environmental analyses must be based on the best information available at the time, while allowing for adjustments as new data becomes available. To be effective, land managers must monitor implementation results, with the techniques and level of

intensity varying depending on the circumstance. If the monitoring results indicate that a significant change must be made to the decision, additional NEPA analysis should be required before altering the decision. (Other, Washington, DC - #587.18.50000.D1)

If adaptive management is used, it must be predicated upon monitoring because there is no need to change the decision or project unless monitoring reveals a significant change in circumstances. Therefore, the environmental impact analyses may include specific monitoring requirements and thresholds beyond which a reanalysis may be required.

Only management changes that would result in significantly different environmental consequences should require subsequent NEPA analysis. (Timber or Wood Products Industry, Portland, OR - #454.27-28200.D2)

WHENEVER CORRECTIVE MEASURES ARE NEEDED

Adaptive management would require subsequent NEPA analysis whenever corrective measures are needed to attain the projected environmental outcomes of parameters. The fact that the predicted environmental outcome was not achieved suggests the initial analysis was flawed or inadequate. (Other, Seattle, WA - #213.8.50300.D3)

WHEN THE SAME INDICATIONS ARE PRESENT THAT TRIGGERED THE NEPA ANALYSIS IN THE FIRST PLACE

Aspects of adaptive management that require subsequent NEPA analyses are the same as those that triggered the NEPA analysis in the first place. (NEPA Professional or Association - Private Sector, Tucson, AZ - #100.5.50300.A1)

WHEN ADAPTIVE MANAGEMENT IS TRIGGERED

If adaptive management techniques are used, the issue of whether to re-open the NEPA process will inevitably follow. As a general matter, it would be possible to implement adaptive management techniques without first re-opening the NEPA process. However, each time an adaptive management requirement is triggered, arguments could be made that the NEPA process should be re-opened. In fact, some suggestions have been in the academic literature that commitments to adaptive management should explicitly provide for re-opening the NEPA process if environmental impacts are greater or different than was anticipated. (American Association of State Highway and Transportation Officials, Washington, DC - #591.10.50300.XX)

WHEN THE PROCESS DOESN'T WORK AS PREDICTED

Subsequent NEPA analysis of adaptive management would be required in the following circumstances: If the adaptive management process doesn't do what it says it will do, leaving resources vulnerable. (Washington State Department of Natural Resources, Olympia, WA - #128.18.50300.D3)

906. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is not needed.

WHEN MONITORING RESULTS ARE CONSISTENT AND COMPATIBLE WITH ANTICIPATED GUIDELINES

As long as monitoring shows results consistent and compatible with anticipated guidelines, further NEPA analysis should not be required. Breaching of these guidelines should result in the revision of the activity to meet the standards of the guidelines. (Bob Cope, Commissioner, Lemhi County Board of Commissioners, Salmon, ID - #70.20.50300.D3)

Unforeseen Consequences/Disturbances

907. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is needed.

WHEN UNEXPECTED CONSEQUENCES OCCUR

. . . Subsequent NEPA documents may be appropriate if corrective action was desired due to an unexpected consequence. Corrective action could include abandonment of part or all of the original project and substitution of an alternative project. (Placed-Based Group, Sacramento, CA - #522.28.50300.D3)

WHEN AN UNPREDICTED DISTURBANCE OCCURS

Subsequent NEPA analyses may be necessary when: A disturbance occurs for which the agency did not plan during the initial EIS/EA process, thereby changing the Record of Decision. But if the disturbance is less than that previously analyzed and would not affect the Decision that was made originally, it should be documented in a Supplementary Information Report and incorporated into the Administrative Record. The project should proceed without delay. (Recreational/Conservation Organization, Washington, DC - #89.24.50300.D3)

WHEN THERE ARE NATURAL OCCURRENCES SUCH AS FIRE

You should be asking what conditions or circumstances would trigger subsequent NEPA analysis, regardless of whether it was adaptive management or whatever kind of management. If you have reason to believe the following, then subsequent NEPA is a must: . . . There have been natural occurrences in the area such as fire. (Government Employee/Union, Grangeville, ID - #44.19.50300.D3)

New Actions

908. Public Concern: The CEQ Task Force should consider when subsequent NEPA analysis is needed.

WHEN NEW MANAGEMENT ACTIONS ARE CONSIDERED WHICH WERE NOT IDENTIFIED IN THE ORIGINAL ANALYSIS

Over the course of the AM [Adaptive Management] program, new management techniques or approaches might become available. Implementation of management actions not identified and evaluated in the original NEPA review, either at the project level or programmatically, could require subsequent environmental review. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.15.50300.D3)

An EIS and Record of Decision should be able to cover a possible range of monitoring and mitigation outcomes so that they would not need to be revisited, should alternative methods be needed. If the best laid plans fail and unanticipated significant impacts result, subsequent NEPA analyses may be required if the federal agency has continuing NEPA responsibilities with respect to the project, or if another federal agency has permitting responsibility. (Federal Aviation Administration, - #534.18.50300.D3)

When design conditions vary outside of the range (and outside of the analysis performed) identified in the EIS, subsequent NEPA analysis would be required. If, after 5 years of experimentation the agency determines that an alternative estimation of project parameters is required, additional NEPA analysis should be conducted. (United States Environmental Protection Agency, No Address - #299.36.50300.D3)

WHEN A NEW PROPOSAL CONSTITUTES A "MAJOR FEDERAL ACTION SIGNIFICANTLY AFFECTING THE QUALITY OF THE HUMAN ENVIRONMENT"

The questions concerning adaptive management blur the distinction between the use of an environmental impact statement as a resource to assist decisionmaking and decisionmaking itself. The questions leave

the impression that CEQ is pushing the EIS process toward a decision document mode. Environmental analysis in an EIS is just that. NEPA is a decisionmaking tool, not a decisionmaking vehicle. Adaptive management can be put forward as a mechanism for inclusion in a management decision, but only the decision can establish parameters for consideration of other activities. The trigger for any further NEPA analysis is a new proposal that constitutes a “major federal action significantly affecting the quality of the human environment.” NEPA is not designed to periodically review the status quo. Changes in the quantity of knowledge about existing, ongoing activities cannot trigger additional NEPA review. If, based on additional information, a federal official proposes a new federal action or a significant change in an existing federal action, NEPA has a role to play. That should be enough. (Business, Phoenix, AZ - #547.2.50300.XX)

Any adaptive management measure that generates an effect upon the quality of the human environment requires NEPA analysis. (Wisconsin Department of Transportation, Madison, WI - #214.19.50300.D3)

On the ground study, economic analysis and impact and social economic indicators that can be seen in business closures, drop in taxes paid, loss of life, etc. (Individual, Pioche, NV - #338.1.50300.D3)

Monitoring Techniques/Activities

Summary

This section includes the following topics: Monitoring Techniques/Activities General, Factors Considered in Determining Monitoring Techniques, Examples of Effective Monitoring, Characteristics of Current Monitoring Activities, and Mitigation.

Monitoring Techniques/Activities General – Numerous respondents advocate that the Task Force should require agencies to establish effective monitoring and evaluation programs. Toward this end, some argue that the Task Force should require that funding and monitoring be embedded into the decision; should require more stringent monitoring for higher levels of risk to species; and should require agencies to provide mechanisms to ensure that mitigation actually occurs and works as intended.

Respondents assert, moreover, that the Task Force should establish an effective monitoring and evaluation program for adaptive management in order to serve a number of purposes—to collect data using standard scientific methods and statistical analysis; to collect quality baseline data; to collect and analyze trend data over time; to determine whether program objectives are being met; to allow feedback from prior actions to inform future decisions; and to establish a basis for appropriate mitigation. In regard to use of agency resources, some request that the Task Force emphasize recreation, net public benefits, and similar important activities when allocating resources for monitoring.

Some suggest that the Task Force should require that monitoring be the top funding priority for adaptive management. According to one individual, “Monitoring is one of the most important factors in resource management. Monitoring should be given top priority for funding and staffing needs. Funding should be provided to land owners, state and local governments for monitoring the resources. The current system of decisions being made on monitoring information that is 3-4 years old or older is extremely unsatisfactory.” Respondents also stress that agencies should engage in intergovernmental collaborative processes to coordinate mitigation measures and monitoring plans. One elected official, for example, states that “as experience has shown, it is better for all concerned to get support from our political representatives for mitigation, etc., rather than fight for such remedies after-the-fact and after the damage has occurred.”

Some also maintain that the Task Force should direct agencies to adopt existing state monitoring programs in order to eliminate redundancies, and that it should collect EIS monitoring data and complete a Global 2020 report to guide environmental policy.

A few respondents, however, caution that adaptive management will encourage excessive management. One individual explains, “Numerous monitoring types could be justified by almost anyone wanting federal research funding—trend, baseline, implementation, effectiveness, validation, and/or compliance. The application of one or more of these monitoring types would significantly and adversely impact federal fiscal and personnel resources. Every researcher in every field of study in the country will be expressing a need to monitor resources within each federal action area and under each ‘adaptive management scheme.’ Does monitoring this help preserve the natural resource base within the federal action area? No!!”

Factors Considered in Determining Monitoring Techniques – Respondents assert that the Task Force should consider numerous factors in determining monitoring techniques. These factors fall into the categories that follow

Laws/Regulations – Some suggest that the Task Force should consider legal and regulatory requirements in determining monitoring techniques. According to one preservation/conservation organization, “The monitoring and mitigation practices should be designed to ensure that: . . . Mitigation of impacts fully meets the requirements of all laws, regulations, and contracts.”

Planning – Several respondents advocate that the Task Force should consider agency commitment and the risk of controversial conditions in determining monitoring techniques. One place-based group comments, “One significant problem with adaptive management (and delaying active decisionmaking to protect a resource) is that it requires money, staff expertise and agency commitment to be effective. Too often, good intentions to use monitoring and adaptive management, result in agency inaction. Thus, funding, staff resources and the environmental risk of inaction need to be carefully considered in any plan for adaptive management.”

Other suggested factors to consider include the availability of assistance and planning flexibility for industry, and response time to act on monitoring results. Notes one individual: “There has to be a relatively rapid response to monitor/detect and feedback to the project management.”

Staff/Costs – Numerous respondents write that the Task Force should consider various factors related to staffing and financing in determining monitoring techniques. These factors include staff knowledge and skills, the number of individuals needed for each monitoring round, overall cost, and use of cost efficient and practical methods. One individual observes, “Essential elements of developing and implementing a monitoring program include identifying and defining the most cost-effective monitoring program to provide the information necessary to evaluate performance of the management action compared to expectations, within stated policy goals and objectives.”

Some, however, advise the Task Force not to consider cost a factor in determining monitoring techniques. One individual states, “Since cost is no factor in recovery of any questionable listed species, cost should not be a factor in monitoring for economic or true scientific impacts.”

Data/Analysis – Some respondents comment that the Task Force should consider such factors as the availability of adequate data, the use of sound scientific techniques, and the use of extensive broad-scale analysis in determining monitoring techniques. One preservation/conservation

organization states that “in order for adaptive management to work, large-scale analysis must be done as well as proper project analysis. This means that funding must be available for surveys and monitoring. In the past, adaptive management has been used without extensive surveys and monitoring, so it was ineffective and subject to appeal.”

Measurability – Some respondents assert that the Task Force should consider measurability in determining monitoring techniques. Specifically, some suggest that the measurability of management objectives and thresholds should be taken into account. One representative of the oil, natural gas, and coal industry proposes “that the agencies develop the capability for determining when land use activities are approaching management thresholds established in the plan or project EAs/EISs. As such, integrated monitoring must occur for all resource activities, including motorized and non-motorized recreation, grazing, mining, wildlife and wildlife habitat, vegetation management, air and water quality, in addition to oil and gas activities, to get a true picture of cumulative effects.” Similarly, some suggest that attention should be given to measurable target outcomes within project scope.

Resources – A number of respondents comment that the Task Force should consider various factors associated with the resources at issue in determining monitoring techniques—including terrain conditions for each monitoring period, the effects of adaptive management on both target and non-target resources, the location and condition of specific resources, and scale. According to one transportation representative, for example, “The proposed mitigation measures should be directly related and proportional to the project’s impact on the environment.”

Monitoring – Some respondents suggest that the Task Force consider various factors associated with monitoring itself in determining monitoring techniques. These factors include the observability of monitoring parameters, the equipment needed for monitoring, and the ability to balance conceptual modeling with field monitoring. Additionally, some advocate that the Task Force should focus on monitoring key relationships that have a large bearing on the decision. One individual explains, “An [adaptive management] monitoring program should focus on monitoring key relationships that have a large bearing on deciding the appropriate management action and collecting data necessary and sufficient to answer the specific questions relevant to making sound management decisions.”

Project Success – According to some, factors associated with project success should be considered—including the accuracy of projections; whether the monitoring activities in question have led to the achievement of desired future conditions; and how long such activities have been successfully implemented.

Risks and Uncertainty – A number of people urge the Task Force to consider risks and uncertainty in determining monitoring techniques. Such risks include the general unpredictability of outcomes, the risk of irreversible effects, and the environmental risk of infrequent monitoring. According to one preservation/conservation organization, “Monitoring and mitigation practices should be designed to ensure that . . . modifications to actions can be taken to prevent unforeseen impacts, or impacts of greater than predicted scale.”

Effects – Some assert that the Task Force should consider effects in determining monitoring techniques. Such factors include the full disclosure of effects, as well as the attention paid to the net effects of disturbance rather than arbitrary limits. For example, writes one representative of the oil, natural gas, and coal industry, “The key element which must be considered in determining what level of oil and gas activity will be allowed over the life of the plan is not the

number of wells which could be drilled, but rather the net effect of surface disturbance and reclamation activities.”

Public Involvement/Collaboration – Several respondents suggest that factors associated with public involvement and collaboration should be considered in determining monitoring techniques. Suggested factors include—whether work groups are balanced, representative, and used appropriately; whether there is adequate collaboration between scientists and interested parties in monitoring; and whether there is sufficient stakeholder involvement. Some also consider it important to consider whether there are contributions—of money and/or staff—from non-governmental organizations and businesses.

Examples of Effective Monitoring – Some offer examples of effective monitoring. One state agency, for example, suggests that the Task Force consider the Washington State Department of Natural Resources’ Adaptive Management Program.

Characteristics of Current Monitoring Activities – Several respondents report characteristics of current monitoring activities. These include inadequate funding and staffing, and failure to implement monitoring in time to acquire meaningful data.

Mitigation – Some individuals maintain that the Task Force should provide guidance on what constitutes adequate mitigation. More specifically, some advance that the Task Force should encourage appropriate mitigation through environmental assessments and mitigation and monitoring reporting plans. According to one county agency, “The MMRP [mitigation and monitoring reporting plan] discusses potential impacts, what best management practices (BMPS) or mitigation measures can reduce those impacts, and who is responsible for implementing them.” Some suggest that mitigation should be addressed in relation to the functional equivalency of environments. “Providing for environmental improvement by evaluating functional equivalency of an environment,” notes one state agency, “will move us away from piecemeal, incremental, non-contiguous mitigation efforts to identification, creation, and management of productive habitats.” Additionally, some ask the Task Force to require agencies to adequately address and discuss mitigation measures in order to avoid arbitrary and capricious decisionmaking.

Some respondents, however, advise the Task Force to avoid over reliance on mitigation. One preservation/conservation organization explains, “Effective monitoring and mitigation can provide agencies flexibility to respond to uncertain and changing conditions. Too often, however, agencies have relied on mitigation to conclude that an action will have only minimal, or no, detrimental effects on the environment without providing any mechanism to ensure that the mitigation actually occurs or works the way it was intended.” Further, some posit that the Task Force should caution agencies against relying on voluntary industry compliance with mitigation agreements.

Mitigation and Document Preparation – Some respondents express concern over the phenomenon of “creeping mitigation” as a strategy for avoiding preparation of an EIS. One respondent explains, “‘Creeping mitigation’ occurs because in the NEPA process agencies try to avoid the necessity of performing costly and time-consuming environmental impact statements (EIS). They can do this by mitigation of the project, so that only an environmental assessment (EA) will be required. If a project is on the borderline of needing an EIS, then it is a prime candidate for mitigation. ‘Creeping mitigation’ takes place when the mitigation done for this purpose is disproportionate.” A preservation/conservation organization adds, “An agency will

issue a FONSI on the basis that ‘mitigation’ will reduce the obvious adverse environmental impacts. However, there is no citizen suit provision allowing citizens to enforce ‘mitigation’ conditions. Therefore, much of the value of NEPA in reducing environmental impacts is lost because ‘mitigation’ conditions are never carried out. CEQ should strongly support either administrative or legislative changes that would make mitigation conditions subject to citizen suit enforcement.” Additionally, respondents ask the Task Force to require agencies to fully disclose to the public the pros and cons of mitigated FONSIs, and to ensure that the public has the opportunity to review and comment on mitigated FONSIs and EAs.

Others, however, defend the use of mitigation as a means to prepare documents requiring less analysis. “Through the implementation of appropriate mitigation,” explains one transportation representative, “SEA has been able to increase the frequency at which EAs/FONSIs [Environmental Findings/Findings of No Significant Impacts] are prepared for actions that would otherwise require an EIS. The preparation of EAs rather than EISs typically results in substantial savings in time and cost while ensuring that environmental impacts are appropriately considered and addressed, and still providing the public an opportunity to participate.” A federal agency adds, “Mitigated FONSIs should be accorded greater legitimacy as a valid element of the NEPA process.”

Monitoring Techniques/Activities General

909. Public Concern: The CEQ Task Force should establish an effective monitoring and evaluation program for adaptive management.

Embed monitoring requirements into the decision. Make project implementation contingent upon funding and completion of monitoring. (Preservation/Conservation Organization, Eugene, OR - #106.15.50200.D2)

Monitoring should be as state of the art as possible, subject to funding limitations. The higher the risk of jeopardizing the continued existence of a species, the more the importance of monitoring and adaptive management. (NEPA Professional or Association - Private Sector, Tucson, AZ - #100.6.50400.A1)

There should be more emphasis on identifying monitoring requirements for implementing the proposed action. Threshold values and specific parameters should be identified and included as a part of the decision. There should be an equal commitment to monitoring as there is to implementing the project. (Individual, Fort Collins, CO - #121.1.50200.D2)

The key to achieving sustainability is monitoring. Key indicators of environmental health and economic well-being need to be identified and monitoring systems developed to support trend analyses. The challenge again is resources. (United States Air Force, Washington, DC - #525.20.50100.D1)

Adaptive management is already being practiced—at least on paper—by many agencies pursuant to existing CEQ and other regulations. Unquestionably, agency resources should be spent on evaluating actual outcomes and adapting mitigation and proper implementation to actual impacts that occur, rather than simply documenting decisions. For the most part, however, agencies are not engaged in a meaningful effort to complete the monitoring that is an essential prerequisite to any adaptive approach.

Some agencies do not even provide for monitoring in their record of decisions. Those that do often do not have the resources to actually carry out the monitoring, let alone act on it. Too often agencies have relied on mitigation to conclude that an action will have only minimal, or no, detrimental effects on the

environment without providing any mechanism to ensure that the mitigation actually occurs or works the way it was intended. (Preservation/Conservation Organization, Washington, DC - #471.27.50120.XX)

TO COLLECT DATA USING STANDARD SCIENTIFIC METHODS AND STATISTICAL ANALYSIS

Adaptive Management systems are complementary to all natural resource actions. Monitoring data that is collected using the standard scientific methods coupled with statistical analysis must be a part of the process though. Data rich and design poor inventories must become a thing of the past. During the last 10 years we have had an over abundance of opinion and speculation inserted into the evaluation plans. There was a time when the employees were in fact trained in specific disciplines and were expected to perform scientific monitoring. We now have shoe boxes of data and a variety of people “interpreting” what the data means. It’s not good work at all.

The first step in determining the use of an adaptive management strategy must be that of examining the statistical results of the inventory. This provides an objective view of what the data means and disallows personal bias or agendas. It also rids us of interpretation from employees who are not qualified to decide if grazing is heavy or light or logging strategies are proper or improper. Scientific process is key to selection of the proper management strategy. Talking to experts who have experience in examining field test results is also a very good idea. (Domestic Livestock Industry, La Grande, OR - #496.26.50100.D1)

TO COLLECT QUALITY BASELINE DATA

If baseline monitoring is in place, a monitored adaptive change could be effective. A common problem is that there is NO baseline monitoring and the Forest Service proposes to continue or increase activities. For example, there are current concerns in my local area from residents, environmental groups and USFWS [U.S. Fish and Wildlife Service], about increasing and unmanaged snowmobiles and heli-skiing in the national forest backcountry, T and E issues [Threatened and Endangered Species], wetland issues, many more. The Forest Service does not have necessary monitoring information but proposes to simply continue use increases. An adaptive management proposal in this situation would be out of place. Baseline monitoring needs to be completed first, prior to any adaptive management increases. (Preservation/Conservation Organization, Twisp, WA - #208.2.50400.XX)

We would expect (or at least hope, given funding levels) that agencies currently managing a resource have some degree of baseline monitoring either ongoing or periodic. Of course this would have to be focused on the proposed project at the study stage, so an enhanced level of activity would be expected even for the traditional, non-adaptive, approach. (Individual, Katy, TX - #196.1.50400.D4)

The ability to design appropriate adaptive management programs so far has been hampered by a lack of current, quality baseline environmental data. For example, the Northwest Forest Plan has a prominent adaptive management component that so far has failed to speed up the project planning process because of a lack of data. Specifically, the plan included guidelines for surveying for certain animal and plant species before designing projects that could impact the identified species, and yet the plan contained no real mechanism for completing the surveys in a timely yet thorough manner. (Preservation/Conservation Organization, Eugene, OR - #97.2.50110.F1)

TO COLLECT AND ANALYZE TREND DATA OVER TIME

Programs involving the management of administration of natural resources are perfect for adaptive management approaches. Any environment where the elements of variation are subject to natural cycles and environmental factors controlled by Mother Nature are prime candidates for adaptive management systems. Monitoring data must be collected over longer time frames to ensure that the elements of natural variation in each growing season are documented. Adaptive management also follows situations where there are responsible parties that have a strong commitment to achieving results. Outcome based incentives must be realistic and must take into account the economic factors that are relevant to the use of specific resources. They must include elements of long-term trend, and the effects specific management prescriptions may have on these trends. Resource monitoring absent the management/trend information and data is simply inadequate, or the existing system of regulatory compliance monitoring is inadequate as well. This type of monitoring does not track resource response to different management plans. (Domestic Livestock Industry, Washington, DC - #630.17.50100.D1)

Current monitoring techniques do little to track resource responses to different levels of management inputs. Most federal monitoring systems use a futuristic approach, or some desired future condition, and then arbitrary reductions in existing land uses are implemented that may or may not achieve the desired results. Either way, resource conditions as a response to the specified management plan are not being adequately monitored. Thus there is no practical way to record how the resource responds over time to the prescribed management plan. All resource monitoring must address the level of management inputs, allow for shifts in resource conditions over time, and subsequent management adjustment. (Domestic Livestock Industry, Washington, DC - #630.20.50400.D4)

Considering Temporal Scale in Undisturbed Ecosystems

Under an adaptive management approach, the temporal scale of a potential impact should be considered particularly for undisturbed ecosystems and for K-selected species. Since the temporal scale of an impact is potentially large (i.e., impact detected after considerable time has lapsed), long-term monitoring is critical to detect changes in biological structure (e.g., species diversity) and function (e.g., community replacement processes for a riparian forest stand) in undisturbed ecosystems. As described by Beeby (1993), ecosystems are complex systems composed of ecological components (e.g., individual predators, small mammal populations, plant community, invertebrate community) “nested into a hierarchy” with each level in the hierarchy comprised of increasing complexity in terms of component interactions and processes. This complexity at higher levels of undisturbed ecosystems helps to regulate disturbances at lower levels of organization (i.e., individual, population, community). As described by Beeby, this characteristic of undisturbed ecosystems conveys an “appearance of constancy” where changes at higher levels of ecological organization (e.g., community level) may occur at a slower rate. To capture these slower changes at higher levels of organization, key indicators of structural and functional integrity at these higher levels need to be monitored over time. After considering the trend in these key indicators adjustments in management actions may be necessary to mitigate ecological stressors (i.e., impacts). (Individual, No Address - #512.1.50200.XX)

TO DETERMINE WHETHER PROGRAM OBJECTIVES ARE BEING MET

There is no “one size fits all” strategy. And when one strategy is implemented, monitoring should be used to determine if the strategy achieves the objectives. Adaptive management allows adjusting practices over time to compensate for droughts, fires, floods, soils, geology, and geographic location.

Above all, the tried and true practices used in local areas should be examined because they represent activities that work for the climate and economy. Doing good because it looks good and sounds good has been the norm for the last 10 years and from the looks of our forests and range it is becoming clear that the actions were unsound. It is more important to be scientifically accurate than it is to be politically correct. (Domestic Livestock Industry, La Grande, OR - #496.27.50100.D1)

Monitoring for AM [Adaptive Management] programs has two primary purposes:

- Track progress toward the desired condition
- Improve understanding of the system to serve as a foundation for management adjustments

Monitoring for an AM program, thus, goes beyond compliance and effectiveness monitoring and seeks to determine not only if an action was effective, but to understand why an action was or was not effective. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.18.50400.D4)

TO ALLOW FEEDBACK FROM PRIOR ACTIONS TO INFORM FUTURE DECISIONS

There should be a systems approach toward monitoring that would integrate the use of past monitoring data and information into future decisions that are similar in nature. (Individual, Fort Collins, CO - #122.1.50400.D4)

The effectiveness of monitoring that occurs on the Forest or Ranger District is the key factor. Without an extensive and effective monitoring program, there is insufficient feedback from prior management activities to even use an adaptive management approach. The decision to use an adaptive approach

implies a commitment to a strong monitoring and evaluation program. (Individual, Fort Collins, CO - #120.1.50130.D1)

TO ESTABLISH A BASIS FOR APPROPRIATE MITIGATION

Adaptive Management/Monitoring and Evaluation Plans: Petroleum Association of Wyoming opposed to the intent of Adaptive Management. The Record of Decision for the Pinedale Anticline Oil and Gas Exploration and Development Project was effective in July 2000 and attempted to address this issue as part of the decision document. The document outlined the planning process for Adaptive Environmental Management and described the basic components of the process and steps involved in its implementation. It also included a way for interested citizens to be involved in the process and participate in developing technical monitoring plans for implementation by the agencies. Should this form of local and stakeholder participation be the standard in the future, parameters may be developed to establish a more balanced and productive process.

PAW has always supported continued monitoring of stipulations and mitigation measures. Agencies often implement an oil and gas restrictive stipulation when it is perceived that a threat to a resource value exists even though the agency lacks the science or data to support the restriction. In the absence of good data, neither the agency nor the operator really knows if the protection measure is accurate. The actual result is the "best guess" mitigation measure and becomes the threshold that the agencies rarely reduce but often increase. Agencies should be required to monitor its mitigation measures in the field and quantify its effectiveness. Monitoring should then become the basis for adjustments to the mitigation measures. This will often times require additional budget appropriations for manpower to avoid unfairly placing the burden on industry. (Oil, Natural Gas, or Coal Industry, Casper, WY - #643.2.50200.XX)

TO EMPHASIZE RECREATION AND NET PUBLIC BENEFITS

We believe it is also important for the agency to consider the net public benefits associated with the monitoring choices under consideration. Agency resources are finite, and failure to monitor might eliminate certain human activities, or at least make such activities susceptible to legal challenge. If recreation serves a large public population and provides meaningful socioeconomic benefit to the locale, these factors should be considered by the agency in allocating staff and other resources for monitoring. For many years, recreation has been an increasingly dominant but chronically underfunded resource on our public lands. Agencies should consider the relative importance of the activities dependent upon monitoring when they prioritize monitoring activities. (Recreational Organization, Boise, ID - #90.14.50400.D4)

910. Public Concern: The CEQ Task Force should consider monitoring to be the top priority for funding and staffing.

Monitoring is one of the most important factors in resource management. Monitoring should be given top priority for funding and staffing needs. Funding should be provided to land owners, state and local governments for monitoring the resources. The current system of decisions being made on monitoring information that is 3-4 years old or older is extremely unsatisfactory. (Individual, Huachuca City, AZ - #372.29.50450.D4)

911. Public Concern: The CEQ Task Force should provide guidance on coordinating the development of monitoring and mitigation processes.

THROUGH INTERGOVERNMENTAL COLLABORATIVE PROCESSES

The federal agencies should utilize the collaborative intergovernmental process to coordinate the development of mitigation measures and monitoring plans. As federal agencies remind local communities, the federal agency is not required to mitigate the effects, just develop a plan for mitigation. States and especially local governments are usually left with the uncertainties of mitigation when it comes to potential negative impacts on humans and settlements. Intergovernmental collaboration is the most effective way to significantly reduce or eliminate the significant effects on the human environment. The Council on Environmental Quality could significantly improve the mitigation and monitoring processes by explicitly providing guidance on this subject matter. In conclusion, one of the strongest reasons for state and county involvement in mitigation and NEPA itself is because local governments

and state governments can and will fully use their United States congressional delegation. As experience has shown, it is better for all concerned to get support from our political representatives for mitigation, etc., rather than fight for such remedies after-the-fact and after the damage has occurred. (Carl Livingston, Chairperson, Catron County Board of Commissioners, Reserve, NM - #564.9.30500.)

912. Public Concern: The CEQ Task Force should consider that monitoring and mitigation measures are central to most records of decisions.

Monitoring and mitigation measures are central to most RODs [Records of Decisions]. As stated in the ROD for the South Pipeline Project:

“The decision . . . is to select the Proposed Action Alternative . . . analyzed in the . . . (FEIS) and as modified with mitigation and monitoring requirements.” “Monitoring procedures have been established to enhance baseline information and to refine mitigation measures.” (ROD, pg. 2) (Preservation/Conservation Organization, Durango, CO - #523.19.50600.XX)

913. Public Concern: The CEQ Task Force should direct federal agencies to adopt existing state monitoring programs.

The State of California through CEQ has its own Mitigation Monitoring and Reporting Program requirements. Accordingly, for those states that already have a program in place, additional mitigation monitoring would be redundant. We recommend that federal agencies be directed to adopt those portions of state-mandated mitigation monitoring programs that pertain to their jurisdiction rather than requiring separate, redundant federal programs. (Port of Los Angeles, San Pedro, CA - #69.4.50450.XX)

914. Public Concern: The CEQ Task Force should link monitoring to a Global 2020 report.

GLOBAL 2000 Report

Regarding data needs, CEQ is to be commended for issuing the Global 2000 Report to the President, a report requested by President Carter in 1977. However, CEQ has done nothing to update this report, examine its assumptions and conclusions or to prepare a Global 2020 report. Linking EIS monitoring to a Global 2020 report would provide a needed critical bridge between impact assessment and overall environmental policy. (Preservation/Conservation Organization, Seattle, WA - #363.7.50600.XX)

915. Public Concern: The CEQ Task Force should consider that adaptive management will encourage excessive monitoring.

Numerous monitoring types could be justified by almost anyone wanting federal research funding—trend, baseline, implementation, effectiveness, validation, and/or compliance. The application of one or more of these monitoring types would significantly and adversely impact federal fiscal and personnel resources. Every researcher in every field of study in the country will be expressing a need to monitor resources within each federal action area and under each “adaptive management scheme.” Does monitoring this help preserve the natural resource base within the federal action area? No!! (Individual, Liberty, MO - #4.1.50400.D4)

Factors Considered in Determining Monitoring Techniques

Laws/Regulations

916. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

LEGAL AND REGULATORY REQUIREMENTS

Monitoring and Mitigation: By their very nature, mining operations have huge and often very long lasting impacts to the environment. It is practically universal for mining project NEPA analyses, and the

Record of Decision (ROD) that follows, to include various monitoring and mitigation measures. The monitoring and mitigation practices should be designed to ensure that: . . . Mitigation of impacts fully meets the requirements of all laws, regulations, and contracts. The action will meet all legal requirements of FLPMA [Federal Land Planning and Management Act] which mandates that the BLM [Bureau of Land Management] “prevent unnecessary or undue degradation of the public lands,” or the Organic Act and accompanying regulations, which mandate that the Forest Service “minimize” adverse impacts to national forest resources. Requirements of the Operator by the Federal Agency (or other agencies) are properly carried out. (Preservation/Conservation Organization, Durango, CO - #523.18.50400.XX)

Planning

917. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

AGENCY COMMITMENT AND RISK OF CONTROVERSIAL CONDITIONS

Factors to be considered in designing monitoring techniques and intensity include all those listed in the question: cost, timing, staffing needs, and environmental risks. Other factors include risk of discovering potentially controversial conditions and the ability to determine contributing factors/sources. Also whether or not the agency is willing to make the resource commitment to analyze the data and properly monitoring trends across key indicators, as well as take action to change operations in accordance with adaptive management philosophy. (United States Air Force, Washington, DC - #525.22.50400.D4)

One significant problem with adaptive management (and delaying active decisionmaking to protect a resource) is that it requires money, staff expertise and agency commitment to be effective. Too often, good intentions to use monitoring and adaptive management, result in agency inaction. Thus, funding, staff resources and the environmental risk of inaction need to be carefully considered in any plan for adaptive management. (Placed-Based Group, Arcata, CA - #632.14.50400.D4)

Essential elements of developing and implementing a monitoring program include:

Commitment of decision makers and stakeholders to reviewing and understanding monitoring results and making adjustments if and when necessary. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.25.50400.D4)

If a decision is made to monitor, a commitment must be made to analyze the data in a manner that allows for subsequent use in decisionmaking and determining whether future monitoring is useful. In some cases, monitoring is performed, but the data is not adequately used. (Oil, Natural Gas, or Coal Industry, Denver, CO - #598.18-19.50400.D4)

AVAILABILITY OF ASSISTANCE AND PLANNING FLEXIBILITY FOR INDUSTRY

Provide an element of flexibility in planning for the oil and gas program on federal lands.

Eliminate repetitive NEPA documentation for exploration and development activities.

Provide incentives for mitigation and swift reclamation of dry holes, temporary access roads and well pads.

Create a tool kit for dynamic resource management planning to assist industry, organizations and government agencies in the pursuit of their interests and missions.

Increase agencies' efficiency and data exchange with other surface management agencies. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.22.50400.XX)

RESPONSE TIME TO ACT ON MONITORING RESULTS

First we have to assume that an adaptive management plan will be objectively adhered to. Very, very difficult in an inherently political process. Were that to actually take place, however, there has to be a

relatively rapid response to monitor/detect and feedback to the project management. An example might be foreign grass/weed control. Perhaps a seed mixture seems appropriate to use (or allow to develop) for burned area rehabilitation, but monitoring the following season or two might detect a takeover of native beneficial species. (Individual, Katy, TX - #195.1.50300.D3)

Staff/Costs

918. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

STAFF KNOWLEDGE AND SKILLS

When designing a monitoring project, the land manager must answer the following questions: . . . What are the knowledge and skill qualifications for each staff member? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

Essential elements of developing and implementing a monitoring program include:

Availability of sufficient staff with appropriate technical skills to design a scientifically valid AM [Adaptive Management] program and conduct monitoring. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.24.50530.D4)

NUMBER OF INDIVIDUALS NEEDED FOR EACH MONITORING ROUND

When designing a monitoring project, the land manager must answer the following questions: . . . How many individuals are needed to complete each monitoring round? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

COST

While environmental risks are the top priority, timing is frequently crucial. Cost/benefit ratios must be considered strongly. Available research should be implemented whenever possible in making the determination of monitoring standards. (Bob Cope, Commissioner, Lemhi County Board of Commissioners, Salmon, ID - #70.21.50400.D4)

There has to be locked-in, non-revocable funding for staff and program work for the adaptive management to be an acceptable alternative. Costs will have to be determined by the agency responsible for that aspect of the evaluation. (Individual, Katy, TX - #196.1.50400.D4)

Presently, monitoring activities are sometimes so extensive that budgetary constraints result in activities that are less than described in the EIS, making them vulnerable to litigation. Practicality should be reflected in the Cost/benefit ratio, and monitoring activities should be accomplished within the scope of the expected budget. (Bob Cope, Commissioner, Lemhi County Board of Commissioners, Salmon, ID - #70.22.50500.D4)

USE OF COST EFFICIENT AND PRACTICAL METHODS

Any timeline of resource interpretation should fundamentally have a goal that is achievable but not without primary and complete preservation and responsible propriety as the underlying purpose of any plan. Volunteer and current data are the best cost efficient methods by which any goals and data collection can be met. (Individual, Johnson City, TN - #631.16.50400.D4)

Essential elements of developing and implementing a monitoring program include:

Identifying and defining the most cost-effective monitoring program to provide the information necessary to evaluate performance of the management action compared to expectations, within stated policy goals and objectives. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.22.50510.D4)

The previous administration's proposed new planning regulations for the Forest Service called for full funding of monitoring before a project could be implemented. This provided an additional tool for project opponents to kill a project by overloading the monitoring component. Important projects should move forward and a practical means of conducting the minimum amount of necessary monitoring be developed.

Monitoring or rather "over monitoring" is a way for "ologists" to conduct research that could not otherwise get funded, often at the expense of the project. (Willy Hagge, Supervisor, Modoc County Board of Supervisors, No Address - #636.13.60100.XX)

Monitoring should be practical and implementable over time. The failure of the agencies to meet their planned monitoring requirements has left projects exposed to unnecessary litigation. The landscape is littered with monitoring points abandoned because the monitoring plan was too ambitious for the available staff and funding. (Willy Hagge, Supervisor, Modoc County Board of Supervisors, No Address - #636.12.50400.XX)

919. Public Concern: The CEQ Task Force should not consider cost a factor in determining monitoring techniques.

Since cost is no factor in recovery of any questionable listed species, cost should not be a factor in monitoring for economic or true scientific impacts. (Individual, Pioche, NV - #339.1.50410.D4)

Data/Analysis

920. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

ADEQUATE DATA

Essential elements of developing and implementing a monitoring program include:

Identifying the dataset necessary and sufficient to guide decisionmaking with a reasonable expectation that the resource will move toward the desired condition. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.21.50400.D4)

An extremely important element of the monitoring effort is an inventory of resource data. Components of this database, many of which must be reflected on maps, would include:

Identification of the area of concern and applicable land management plans and policies.

An inventory of all resource activities, including oil and gas wells, fields, roads, pipelines.

Recreation and grazing use, wildlife habitat manipulation, etc., on state and federal lands.

A yearly survey of companies regarding their future activity plans (agencies must devise a method for protecting proprietary data) so that timely resource allocation and budgeting can occur.

A record of current surface disturbance and post-activity reclamation for all resource uses. (This complements the net effects concept.)

A record of known new activities that may occur over the long term to help in determining net effects of activities.

Archeology and T&E [Threatened and Endangered] species surveys.

Review mitigation measures to determine their effectiveness.

Review the effectiveness of plan decisions and the accuracy of the NEPA impact analysis.

We recommend the agencies enter into a memorandum of understanding with other federal and state agencies with administrative or management responsibilities in the areas of concern to facilitate collection of needed resource data. Industry may be able to provide some of the data discussed above. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.20-22.50400.XX)

Monitoring data that exists, such as NOS' [National Ocean Service] National Mussel Watch program (which identifies pollutants that are local, regional, and national problems) is often underutilized. Programs like National Mussel Watch are valuable informational resources, yet often other agencies and the public are unaware of these information sources or misuse them, such as using only a few years of an extensive time series of data. (National Oceanic and Atmospheric Administration, Washington, DC - #637.60.50400.XX)

SOUND SCIENTIFIC TECHNIQUES

The level of monitoring should be based upon sound scientific techniques combined with a thorough understanding of the value that will be derived from collecting the data. (Oil, Natural Gas, or Coal Industry, Denver, CO - #598.16.50400.D4)

USE OF EXTENSIVE BROAD-SCALE ANALYSIS

Adaptive management is a concept that most environmentalists could agree with. Unfortunately, in order for adaptive management to work, large-scale analysis must be done as well as proper project analysis. This means that funding must be available for surveys and monitoring. In the past, adaptive management has been used without extensive surveys and monitoring, so it was ineffective and subject to appeal. Specifically, surveying of specific species or suites of species must be done on a broad scale before implementing projects that would propose to improve or affect their habitat. This type of survey can be costly and time consuming to do. There must be a dedicated well-funded program with trained personnel in place. There are questions of exactly how monitoring will be done, which kind of monitoring is effective, and how that might change as science progresses. These questions can be answered differently for different species and different ecoregions. However, it is important that the latest science be used, which goes back to question A. Implementation of such a program is problematic. We encourage the Forest Service to move in a direction that will implement this type of program. The problem as we see it rests primarily with the lack of funding and support for adequately implementing this type of program. (Preservation/Conservation Organization, Ellijay, GA - #518.4.50400.XX)

Measurability

921. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

MEASURABILITY OF MANAGEMENT OBJECTIVES AND THRESHOLDS

Our proposal addresses the necessity of effective post-plan and project monitoring. We recognize that agencies are already required to conduct certain monitoring activities. However, it does not appear that such monitoring efforts are a priority if they are done at all. Therefore, in addition to proposing a method for basing land use decision on net effects and acceptable levels of change, we also propose that the agencies develop the capability for determining when land use activities are approaching management thresholds established in the plan or project EAs/EISs [Environmental Assessments]. As such, integrated monitoring must occur for all resource activities, including motorized and non-motorized recreation, grazing, mining, wildlife and wildlife habitat, vegetation management, air and water quality, in addition to oil and gas activities, to get a true picture of cumulative effects. Active monitoring will help agencies to avoid responding to new development proposals with knee-jerk reactions that halt all activity pending completion of a new environmental impact statement. With improved monitoring activities, agencies will improve their resource databases, including data sharing with other agencies and reporting to the public.

In order for this concept to work, agencies must develop a system for tracking monitoring efforts and results. In addition, a quality control process needs to be put in place to ensure that resource management objectives are clearly stated and measurable. Measurable management thresholds, which when reached require a review of existing management practices, must also be identified. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.20.50400.XX)

FOCUS ON MEASURABLE TARGET OUTCOMES WITHIN PROJECT SCOPE

The NEPA Task Force should consider the Integrated Coastal Management (ICM) process described in the 1993 National Research Council (NRC) book, *Wastewater Management for Coastal Urban Areas*. The ICM process as outlined by the NRC (1993) includes factors, such as geographic scale, to be considered under a NEPA Adaptive Management approach.

The NEPA and ICM processes call for targeted monitoring as an integral part of an adaptive management process. Marine resource monitoring should not merely be an “add on” if resources limit, but a critical link back to determining if projects and programs are solving problems. (National Oceanic and Atmospheric Administration, Washington, DC - #637.59.50100.XX)

A remaining challenge to integrate AM [Adaptive Management] into NEPA processes is managing the required monitoring and data analysis. Monitoring associated with NEPA processes typically is focused on compliance and addresses whether actions are implemented correctly and specific values or standards are achieved. Occasionally, data to evaluate the effectiveness of an action in producing a desired effect are collected. These types of monitoring programs typically lack the larger conceptual framework within which to interpret monitoring data for management purposes and have limited value for making management decisions. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.17.50120.D4)

Resources

922. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

CHARACTERISTICS OF THE RESOURCE TO BE MONITORED

When designing a monitoring project, the land manager must answer the following questions: What characteristics of the resource must be monitored?—For example, height of the plant and reproductive rate of the animal population. The answer to the question will determine when the monitoring activities must occur (i.e., time of day and time of year). (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

TERRAIN CONDITIONS FOR EACH MONITORING PERIOD

When designing a monitoring project, the land manager must answer the following questions: . . . What are the terrain conditions for each monitoring period? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

EVALUATION OF TARGET AND NON-TARGET RESOURCES

An impact analysis under NEPA that includes AM [Adaptive Management] must consider the effects of the AM program on both target and non-target resources that may be affected by the project or management actions. To evaluate the effect of the AM program on the target source, the desired future conditions should be defined as quantitatively possible. An impact/benefit evaluation can assess the effect of moving toward this desired future condition. The environmental document, thus, would be able to identify and disclose the direction and greatest magnitude potentially resulting under the AM program for the target resource.

To assess the effects on non-target resources, potential actions could be evaluated on the basis of how well they are defined. Well-defined actions could be evaluated at a project level in the NEPA document and would not require subsequent review under NEPA. Less well-defined actions could be evaluated programmatically in the NEPA document. While subsequent environmental review to evaluate the impact of less well-defined actions would be necessary to implement them, the subsequent NEPA review process would be streamlined due to the ability to tier from the programmatic evaluation. This approach would allow coverage of a wide range of possible actions. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.14.50200.D3)

LOCATION AND CONDITION OF SPECIFIC RESOURCES

In order to determine the most effective monitoring techniques and intensity, the specific resource must be known, its location, and its condition at the last monitoring. (Government Employee/Union, Grangeville, ID - #44.20.50440.D4)

SCALE

WisDOT can conceive the consideration of a variety of items such as cost, timing, staffing needs, and environmental risks when developing techniques and levels for monitoring. WisDOT would be looking at health of ecosystems, not measuring diversity in a one square meter plot. (Wisconsin Department of Transportation, Madison, WI - #214.20.50400.D4)

Under an adaptive management approach, OACES believes that monitoring should be limited to the potential interactions between the NEPA project site and the environment. Additionally, the proposed mitigation measures should be directly related and proportional to the project's impact on the environment. (Transportation Interest, Salem, OR - #436.4.50540.D1)

Monitoring

923. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

OBSERVABILITY OF MONITORING PARAMETERS

When designing a monitoring project, the land manager must answer the following questions: . . . Is the parameter to be monitored sufficiently observable to make its use practical and meaningful? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

EQUIPMENT NEEDED FOR MONITORING

When designing a monitoring project, the land manager must answer the following questions: . . . What type of equipment must the monitoring staff use? How many items of each instrument must the staff have on hand? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

ABILITY TO BALANCE CONCEPTUAL MODELING WITH FIELD MONITORING

Challenges such as institutional resistance to this approach, cost and ecological risks of large-scale landscape experiments, generalizing based upon small-scale field experiments, and reliance on detailed yet narrowly focused models unsupported by field data Given this, we recognize the need for balancing the use of conceptual modeling of ecosystem structure and function with the need for field measurements to verify conceptual models. We also recognize that the results of field monitoring and modeling may indicate the need for adjustments in management actions and, perhaps, future mitigation. (Transportation Interest, Salem, OR - #436.5.50500.D1)

FOCUS ON MONITORING KEY RELATIONSHIPS THAT HAVE A LARGE BEARING ON THE DECISION

A successful AM [Adaptive Management] monitoring program clearly defines the goals and objectives, identifies the response variables to be measured, and establishes success criteria. An AM monitoring program should focus on monitoring key relationships that have a large bearing on deciding the appropriate management action and collecting data necessary and sufficient to answer the specific questions relevant to making sound management decisions. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.19.50400.D4)

Project Success

924. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

ACCURACY OF PROJECTIONS

Monitoring and Mitigation: By their very nature, mining operations have huge and often very long lasting impacts to the environment. It is practically universal for mining project NEPA analyses, and the Record of Decision (ROD) that follows, to include various monitoring and mitigation measures. The monitoring and mitigation practices should be designed to ensure that: Predictions of impacts are accurate. (Preservation/Conservation Organization, Durango, CO - #523.18.50400.XX)

ACHIEVEMENT OF DESIRED FUTURE CONDITIONS

When designing a monitoring project, the land manager must answer the following questions: . . . Is the desired future condition(s) being met? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

LENGTH OF SUCCESSFUL IMPLEMENTATION

When designing a monitoring project, the land manager must answer the following questions: Has the practice been employed for a sufficient time (at least ten years) without negative environmental consequences? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

Risks and Uncertainty

925. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

UNPREDICTABILITY OF OUTCOMES

What factors should be considered when determining what monitoring techniques and levels of monitoring intensity are appropriate during the implementation of an adaptive management regime?

a. Unpredictable Outcomes.

Current monitoring activities are inadequate and mostly nonexistent. Theoretically agencies are not implementing actions with uncertain outcomes. Ample evidence exists to suggest that even when implementing “known actions”, the outcomes are often surprising. By definition, an adaptive management regime is operating in an area of uncertainty. Therefore, monitoring techniques and intensity must be adequate for development of scientifically credible understanding of the uncertainties assumed.

b. Monitoring related to uncertainty

Where uncertainty or risk is high, monitoring must also be high. The action should be implemented in small incremental steps over a period that allows for discovery of ecological consequences prior to any decision to increase or intensify the action. (Individual, Rogue River, OR - #382.20.50400.D4)

IDENTIFICATION OF KEY RISKS AND UNCERTAINTIES

Essential elements of developing and implementing a monitoring program include:

- Identifying key risks (resource responses that can be quantified) and uncertainties (resources responses that cannot be quantified). (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.20.50440.D4)

THE RISK OF IRREVERSIBLE EFFECTS

When irreversible effects are possible, such as when threatened and endangered species are involved, the monitoring effort must be absolutely rigorous. (Preservation/Conservation Organization, Eugene, OR - #106.17.50440.D4)

THE ENVIRONMENTAL RISK OF INFREQUENT MONITORING

[It is important] to assess the environmental risk of infrequent monitoring. (Government Employee/Union, Grangeville, ID - #44.20.50440.D4)

PREVENTION OF UNFORESEEN CONSEQUENCES

Monitoring and Mitigation: By their very nature, mining operations have huge and often very long lasting impacts to the environment. It is practically universal for mining project NEPA analyses, and the Record of Decision (ROD) that follows, to include various monitoring and mitigation measures. The monitoring and mitigation practices should be designed to ensure that: . . . Modifications to actions can be taken to prevent unforeseen impacts, or impacts of greater than predicted scale. (Preservation/Conservation Organization, Durango, CO - #523.18.50400.XX)

Effects

926. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

DISCLOSURE OF EFFECTS

Monitoring and Mitigation: By their very nature, mining operations have huge and often very long lasting impacts to the environment. It is practically universal for mining project NEPA analyses, and the Record of Decision (ROD) that follows, to include various monitoring and mitigation measures. The monitoring and mitigation practices should be designed to ensure that: . . . Disclose the extent of possible environmental impact from the proposal, and allow public discourse, and agency deliberation, about those impacts. (Preservation/Conservation Organization, Durango, CO - #523.18.50400.XX)

FOCUS ON THE NET EFFECTS OF DISTURBANCE RATHER THAN ARBITRARY LIMITS

During the land use planning process, agencies are required to predict post-lease activities that could occur from oil and gas development by preparing a reasonably foreseeable development (RFD) scenario. Forecasting RFDs is a difficult exercise because it requires knowledge of the geology and O&G [oil and gas] potential of each planning area, which may be unknown in certain instances because some of these areas have not been explored, especially in deeper horizons. PLA has urged agencies to estimate RFD forecasts utilizing local geologic trends and historical activity within the resource area, and to vary the RFD figures by alternative, but this suggestion has met with limited success because some offices develop one RFD scenario and use it for all alternatives. As part of the RFD scenario, agencies quantify the number of wells it anticipates will be drilled in the planning area over the life of the plan and verifies this figure with industry. Agencies also estimate the average surface disturbance associated with wells in the area. This can be accomplished by calculating average disturbance acreage for well pads, access roads, pipelines and facilities.

The RFD and acreage disturbance information is then used as the basis for determining environmental consequences of oil and gas exploration and development activities in accordance with each management alternative analyzed. It should be noted that while the number of wells drilled can vary by management alternative, the projected level of disturbance associated with the average well remains the same under this approach.

Currently, agencies use the number of exploration and development wells that could be drilled, rather than net acreage disturbed by oil and gas operations as their baseline for determining environmental consequences of each alternative. As such, they typically fail to consider that once a well is plugged, reclaimed and abandoned, it has no adverse effect on the environment.

For example, if BLM [Bureau of Land Management] predicts 10 wells will be drilled with 5 acres disturbance each, up to 50 acres could be disturbed. We propose, however, if 5 of the 10 wells are dry and subsequently reclaimed, they should not be counted as part of the acceptable level of long-term impacts established in the analysis because they were short-term disturbances. Hence, industry should be given the opportunity to drill additional wells, provided they would not result in more than 25 acres of additional surface disturbance or would not exceed an acceptable level of surface impact as determined in the land management plan or through post-plan monitoring. Moreover, if 10 additional wells could be

drilled without exceeding the established threshold of disturbance, they should be allowed since they would fall within the acceptable range established during planning. The key element which must be considered in determining what level of oil and gas activity will be allowed over the life of the plan is not the number of wells which could be drilled, but rather the net effect of surface disturbance and reclamation activities.

This “net effect” approach is consistent with the newly adopted ecosystem management strategy because it relies on scientific data to establish suitable levels and patterns of use planning and encouraging multiple-use activities, including oil and gas leasing, exploration and development, on federal lands. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.18-19.50500.XX)

Public Involvement/Collaboration

927. Public Concern: The CEQ Task Force should consider various factors in determining monitoring techniques.

USE OF WORK GROUPS

We support the institution of project specific work groups with the following parameters. Work groups must be:

Comprised of experts who have scientific, working knowledge of the issues and the activities being addressed.

Given the opportunity to offer recommendations with all final decisions resting with the managing agency.

Balanced with all resource disciplines represented.

Open to public participation and provisions must be made for public comment at each meeting. (Oil, Natural Gas, or Coal Industry, Denver, CO - #545.17.50400.XX)

COLLABORATION BETWEEN SCIENTISTS AND INTERESTED PARTIES IN MONITORING

Adaptive management is a research experiment. Monitoring should involve scientists and a collaborative group of interested agencies and parties. A collaborative monitoring group will enable more quickly invocation of appropriate mitigation measures or corrective actions. Environmental risks, urgency for solutions, community involvement and cost should be considered when developing a monitoring plan. (Placed-Based Group, Sacramento, CA - #522.29.50400.D4)

STAKEHOLDER INVOLVEMENT

Many factors may be considered depending on the action(s) to be taken, project objectives, current best available technological information, stakeholder opinion, regulatory requirements, etc. It is important to involve affected parties in the decisionmaking process and promote the development of shared understandings among diverse stakeholders. (United States Department of Energy, Washington, DC - #536.26.50400.D4)

Essential elements of developing and implementing a monitoring program include:

Long-term maintenance of stakeholder involvement and information dissemination and education processes. (NEPA Professional or Association - Private Sector, Sacramento, CA - #533.26.50400.D4)

CONTRIBUTIONS FROM NON-GOVERNMENTAL ORGANIZATIONS/BUSINESSES

When designing a monitoring project, the land manager must answer the following questions: . . . Will non-governmental organizations and/or businesses contribute money and/or staff to the project? (Recreational/Conservation Organization, Washington, DC - #89.25.50400.D4)

Examples of Effective Monitoring

928. Public Concern: The CEQ Task Force should consider examples of effective monitoring in adaptive management plans.

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES' ADAPTIVE MANAGEMENT PROGRAM

A Key element of an effective adaptive management program is monitoring. Three types of monitoring are covered in DNR's Adaptive Management Program: 1/ Compliance monitoring—designed to determine if landowners are following the Forest Practices Rules, 2/ Effectiveness monitoring—designed to determine how well the management approaches are meeting resource objectives; and 3/ Validation monitoring—designed to determine if the assumptions (or resource objectives) upon which the regulations were based are correct.

DNR's Adaptive Management Program is a formal process that is consistently applied across the state. The adaptive management process has been established by the Forest Practices Board by rules. A committee has been appointed, titled Cooperative Monitoring Evaluation and Research (CMER), to impose accountability and formality in the process. CMER is led by a full time adaptive management program manager appointed by the board. This coordinator has credentials as a scientist and researcher.

For the DNR Forest Practices Rules, the Adaptive Management process necessarily includes evaluation of the research and monitoring results to determine their relevance and significance to regulations. Additionally, a set of protocols and standards have also been developed to define and guide the execution of the process. An independent scientific review committee has been established to oversee the management process. These protocols and standards govern, but are not limited to, the following:

- Content and presentation of hypotheses and/or data used to support request for rule change or new rule development or initiation of research or monitoring projects,
- Requests for initiation of monitoring programs as appropriate or research projects and the review and decision-making process to be applied to such requests;
- Format and processes for reporting results of the program to the Forest Practices Board;
- Monitoring programs as appropriate;
- Analysis and evaluation of resources and operational impacts;
- Peer review processes and review of study designs;
- The process of reporting results and initiating requests for changes in statute or regulation; and
- Coordination with other statewide efforts on salmon, steelhead, bulltrout, and clean water.

Additionally, a formal dispute resolution process is in place, such that if consensus is not reached among TFW participants on interpretation of research results, recommended direction or other controversies, the Forest Practices Board will make the final determination subject to rights of appeal.

Accountability is established by tying the process directly into the Forest Practices Board and opening the process to public review and outside scientific review by the Scientific Review Committee (SRC). The Forest Practices Board, CMER, SRC, TFW Policy Committee, and the CMER administrator are empowered to conduct the required activities of the adaptive management process.

Overall performance goals have been established that restrict forest practices either singly or cumulatively, from impairing the capacity of aquatic habitat from: a) supporting harvestable levels of salmonids, b) supporting the long-term viability of other covered species, or c) meeting or exceeding water quality standards.

Funding is always an issue for governmental programs, however, for the DNR's Forest Practices Rules, funding has been secured for the immediate time being. New sources of funding are being explored. (Washington State Department of Natural Resources, Olympia, WA - #128.14-15.50600.D1)

Characteristics of Current Monitoring Activities

929. Public Concern: The CEQ Task Force should consider characteristics of current monitoring activities.

INADEQUATE FUNDING

Current monitoring levels are orders of magnitude below what might be considered minimal. Congress simply does not fund this item very well. (Government Employee/Union, Grangeville, ID - #44.21.50510.D4)

INADEQUATE TIMING

The timing is important but agencies have rotten timing normally failing to show up until it is too late to get good data (Individual, Pioche, NV - #339.2.50420.D4)

INADEQUATE STAFFING

There is plenty of staff to do draconian takings, but not enough to do honest, true scientific and economic study, it is a failure of philosophy in the federal agencies in general. (Individual, Pioche, NV - #339.3.50430.D4)

Mitigation

Mitigation General

930. Public Concern: The CEQ Task Force should provide guidance on what constitutes adequate and inadequate mitigation.

Although there are many examples of successful EAs/FONSIs [Environmental Assessments/Findings of No Significant Impacts], we have identified 12 common problems with EA/FONSI practices and offer recommendations to improve each. While not all projects experience all of these problems, they are all too common throughout the federal government.

Inadequate mitigation measures to support Findings of No Significant Impact:

Summary of problem—One of the most widespread and pervasive problems with environmental assessments is the failure of agencies to prepare adequate mitigation measures. Many mitigation measures do not fit into the categories defined in section 1508.20 of the CEQ NEPA regulations (i.e., “avoid,” “minimize,” “rectify,” “reduce over time,” or “compensate”). Rather, too many agencies rely on ambiguous concepts (e.g., “encourage”) or deferred mitigation (e.g., “study further”) that do not assure that environmental problems are solved. This is especially problematic in the case of a FONSI, where the agency must demonstrate that it has, indeed, mitigated away any potentially significant effects.

Recommended solution—Provide further guidance and examples of what constitutes adequate and inadequate mitigation. A good starting place would be the numerous court decisions, dealing with EAs/FONSIs, where the courts have enumerated what is, and what is not, adequate. CEQ should publish a mitigation guidance document that spells out such examples. (NEPA Professional or Association - Private Sector, No Address - #530.14.10200.XX)

931. Public Concern: The CEQ Task Force should encourage appropriate mitigation.

Through the implementation of appropriate mitigation, SEA has been able to increase the frequency at which EA/FONSIs are prepared for actions that would otherwise require an EIS. The preparation of EAs rather than EISs typically results in substantial savings in time and cost while ensuring that environmental impacts are appropriately considered and addressed, and still providing the public an opportunity to participate. (Surface Transportation Board, No Address - #519.29.10200.XX)

THROUGH USE OF A MITIGATION AND MONITORING REPORTING PLAN

Integrating the concepts of adaptive management into NEPA can be accomplished through a mitigation and monitoring reporting plan (MMRP). The MMRP discusses potential impacts, what best management practices (BMPS) or mitigation measures can reduce those impacts, and who is responsible for implementing them. The MMRP is a fundamental tool in the California Environmental Quality Act (CEQA), California's equivalent to NEPA. Although not all potential problems and their possible solutions can be discussed, many of the more predictable issues can be addressed. By discussing potential post-project problems and their solutions within the NEPA document for the overall project, the timeframe for addressing these problems can be considerably reduced. The Council on Environmental Quality (Council) should consider employing a similar device. (Contra Costa County Public Works Department, Martinez, CA - #540.4.50600.XX)

932. Public Concern: The CEQ Task Force should address mitigation in relation to the functional equivalency of environments.

Providing for environmental improvement by evaluating functional equivalency of an environment will move us away from piecemeal, incremental, non-contiguous mitigation efforts to identification, creation, and management of productive habitats. Federal agencies should be tasked with creation of various habitats and managing and monitoring these to the benefit of the resource and the public. Agencies that require mitigation of a resource from applications without direct guidance of how to mitigate, when to mitigate, and where to mitigate and without overall plans on how to create contiguous tracks of habitat leads to postage stamp sized mitigation sites that can be considered barely effective and frequently fail in offsetting the impacts. Federal employees with the knowledge and expertise in the affected resource should be involved in creating mitigation sites that development interests can participate in by contributing money or purchasing additional contiguous areas to the improved sites. An environmental impact analysis could be developed to identify the affected resource and in most cases offset the impact by the requirement of an in-lieu fee to be used to manage and improve federally developed sites. (California Department of Transportation, No Address - #661.2.50100.D1)

933. Public Concern: The CEQ Task Force should require agencies to adequately discuss mitigation measures.

What happens if the fail-safe fails? See also *Sierra Club v. Marsh*, 816 F.2d at 1385 (“The reliance on the proposed actions of others does not satisfy the Corps’ burden on insuring that its actions will not jeopardize the continued existence of the endangered species”); *Northwest Indian Cemetery Protective Association v. Peterson*, 764 F.2d 581,588 (9th Cir. 1985), reviewed on other grounds 485 U.S. 439 (1988) (where the court determined that NEPA requires agencies to “analyze the mitigation measures in detail [and] explain how effective the measure would be . . . A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.”). Bureau of Land Management, by failing to disclose and assess these factors in most of its NEPA documents is well into familiar territory for the agency: arbitrary and capricious decisionmaking. (Preservation/Conservation Organization, Washington, DC - #475.19.10310.XX)

934. Public Concern: The CEQ Task Force should avoid overreliance on mitigation.

TO ENSURE THAT ENVIRONMENTAL EFFECTS ARE PREVENTED

Effective monitoring and mitigation can provide agencies flexibility to respond to uncertain and changing conditions. Too often, however, agencies have relied on mitigation to conclude that an action will have only minimal, or no, detrimental effects on the environment without providing any mechanism to ensure that the mitigation actually occurs or works the way it was intended. For example, the draft PEIS issued by the U.S. Army Corps of Engineers for its nationwide wetlands permit program assumes that mitigation will prevent more than minimal environmental effects from occurring. The Corps reaches this conclusion despite widespread evidence to the contrary, including research by the National Academy of Sciences. (Preservation/Conservation Organization, Washington, DC - #502.12.50900.XX)

935. Public Concern: The CEQ Task Force should advise agencies not to rely on voluntary industry compliance with mitigation agreements.*Voluntary Mitigation Measures*

A closely related problem to assuming state agencies will study and mitigate impacts (whether that is true is something independent of, and not a legal substitute for, Bureau of Land Management's NEPA responsibilities) concerns mitigation measures and mitigated Findings of No Significant Impacts. Once again using the CBM (Coal Bed Methane) context, Bureau of Land Management has all too often reached a Finding of No Significant Impact with respect to the dewatering impacts by assuming industry will sign (and then honor) third-party water-well mitigation agreements with landowners. As a further example, many mitigation measures in the Wyoming Powder River Basin CBM Draft EIS are purely voluntary. In particular, Bureau of Land Management is assuming that on the private and state CBM play in the Basin (or 1/2 the entire eight million acre project area), industry will voluntarily inject 5% to 10% of the produced water, and depending on the alternative and sub-watershed, dispose of up to 10% to 15% of water through land application devices, with up to 40% passive and 25% active treatment of the water. However, and not discussed or disclosed by Bureau of Land Management to the public, is that these figures assume VOLUNTARY compliance by industry.

That point cannot be overstated—industry, barely regulated by the state agencies, and particularly in a time when gas prices are much lower than the 2000 peak of \$9.00 per million cubic feet, will most often choose the most cost-effective disposal method. Translation: dumping ALL of the water it possibly can onto the ground or into unlined waste pits untreated. Moreover, Wyoming Oil and Gas Conservation Commission Chairman Don Likwartz stated publicly on April 5, 2002, that only one in 18 injection wells have worked in the PRB. Accordingly, not only is assuming 10% injection silly when considering no agency is requiring this of industry, due to early attempts, industry will most definitely not try more injection wells if purely voluntary. Accordingly, in this example—the largest natural gas field ever studied by Bureau of Land Management—every single surface water impact in every alternative in the DEIS is simply a guess. Bureau of Land Management should have considered the present reality that no federal or state agency right now is requiring anything other than direct surface or indirect surface (via unlined wastewater reservoirs) discharge. That reality throws off every analysis of every impact related to surface water in the entire DEIS. Is it that hard of a stretch for anyone that the oil and gas industry, when considering cutting into its profits to try and offer some bare level of protection to other resources, may in fact, ignore a voluntary mitigation measure? For that matter, industry often ignores the few mandatory provisions out there. The significance is that when these voluntary water handling assumptions are ignored by industry, much more water than Bureau of Land Management actually analyzed will be discharged onto the surface and will reach mainstems and create other unstudied impacts. (Preservation/Conservation Organization, Washington, DC - #475.17-18.10310.XX)

*Mitigation and Document Preparation***936. Public Concern: The CEQ Task Force should address the use of 'creeping' mitigation to avoid preparing an EIS.**

"Creeping mitigation" is the phenomenon in which the NEPA process drives agencies to include extensive mitigation measures when they design projects, without regard to how much of this mitigation is necessary and how much might be unnecessary and excessive. This is an unintended consequence of the NEPA process. It leads to overly cautious design of Federally sponsored projects, thus compromising their economic efficiency.

"Creeping mitigation" Occurs when An Agency Adopts Substantial Mitigation Measures in a Project as a Means of Avoiding Having to Do an Environmental Impact Statement (EIS).

"Creeping mitigation" occurs because in the NEPA process agencies try to avoid the necessity of performing costly and time-consuming environmental impact statements (EIS). They can do this by mitigation of the project, so that only an environmental assessment (EA) will be required. If a project is on the borderline of needing an EIS, then it is a prime candidate for mitigation. "Creeping mitigation" takes place when the mitigation done for this purpose is disproportionate. (Individual, Washington, DC - #77.1.50900.F1)

CEQ should undertake a review of the misuse of “mitigation” as a way of weaseling out of EISs. An agency will issue a FONSI on the basis that “mitigation” will reduce the obvious adverse environmental impacts. However, there is no citizen suit provision allowing citizens to enforce “mitigation” conditions. Therefore, much of the value of NEPA in reducing environmental impacts is lost because “mitigation” conditions are never carried out. CEQ should strongly support either administrative or legislative changes that would make mitigation conditions subject to citizen suit enforcement. (Preservation/Conservation Organization, Seattle, WA - #363.4.50900.XX)

FEAR OF ‘SIGNIFICANT IMPACTS’ LEADS TO EXCESSIVE MITIGATION

At a seminar on NEPA in 1996 sponsored by the Environmental Law Institute (ELI), speakers from the Justice Department and the Council on Environmental Quality (CEQ) explained that in the vast majority of cases, agencies sponsoring development projects satisfy their NEPA responsibilities with relatively short EAs instead of full-scale EISs. The figures cited at that time were that while there were about 500 EISs filed each year throughout the Government, these EAs numbered about 50,000 each year.

An EIS is required whenever the project will have “a significant impact on the human environment,” but because EISs are so onerous to prepare, agencies much prefer to do EAs instead. NEPA allows EAs instead of EISs as long as the project will not have a “significant impact.”

The problem is that many projects will indeed have a “significant impact” and thus require EISs. To avoid the EIS in these cases, the agency must be willing to mitigate the environmental effects so that the “significant impact” will be eliminated. So in a vast number of cases the agencies include this mitigation as an integral part of the project. This allows the agencies to do an EA, along with a “finding of no significant impact” (FONSI), instead of an EIS. This is called a “mitigated FONSI,” since the project has been mitigated for the express purpose of qualifying for a FONSI.

By 1996, mitigated FONSI had become a widespread means for agencies to circumvent doing an EIS.

As Solicitor of the Interior Department, John Leshy, observed in 1995, agencies “frequently use EAs to flesh out measures to mitigate the environmental effects of a proposal to a level where an EIS is not required.

Moreover, policymakers in the Clinton Administration gave mitigated FONSI their wholehearted approval, stating two reasons for this support. First, as Kathleen McGinty, Chair of the CEQ, pointed out, they lead to more mitigation, which she called “one of the primary goals of the NEPA environmental impact assessment process.” Second, as William M. Cohen, the Justice Department’s head NEPA attorney at the time, remarked at the ELI seminar in 1996, mitigated FONSI enable agencies to work out their NEPA responsibilities without resorting to lengthy EISs. Mitigated FONSI, he said with enthusiasm, are “NEPA in action” and having so many of them “is what NEPA is about.”

One can conclude, therefore, that mitigated FONSI have been changing the face of a vast number of projects by imposing extensive mitigation of environmental impacts. This mitigation occurs sporadically from project to project. It proceeds without any overall guidelines or oversight. As a result, while agencies are seeing to it that their projects receive enough mitigation to qualify for a FONSI, there are no guidelines to control how far agencies go in their prospective mitigation. If an agency imposes mitigation that is excessive for the situation, there is no check on the agency’s discretion. This is “creeping mitigation.”

“Creeping mitigation” thus can have an insidious role in making development projects on Federal lands smaller in scope and less productive. While agencies may consider this a reasonable trade-off in order to avoid a full-scale EIS, the result is the projects are scaled back to the detriment of economic benefit.

There is a danger that the mitigation called for under mitigated FONSI may be excessive and not genuinely needed in order to protect the environment in the case of the specific project. (Individual, Washington, DC - #77.2-4.50900.F1)

FEAR OF LITIGATION LEADS TO EXCESSIVE MITIGATION

Agencies’ Aversion to Litigation under NEPA Contributes to “Creeping Mitigation”

When agencies pursue mitigation to take advantage of the “no significant impact” loophole to avoid doing EISs, the level of mitigation to qualify for a mitigated FONSI must meet a high standard of legal defensibility. If there is a possibility that the proposed mitigation will not completely eliminate the threat

of a “significant impact,” then critics of the project will be able to sue and claim that an EIS should be written instead of an EA. This is a common type of lawsuit brought under NEPA.

This means the agency necessarily puts aside its objectivity about how much mitigation is actually required to cover the environmental risks of the specific project. As the agency strives, in Solicitor Leshy’s words, to “mitigate to a level where an EIS is not required,” the agency will have an inherent bias in favor of providing more, rather than less, mitigation in order to provide a margin of safety. This can easily lead to mitigation that is disproportionate to the actual conditions of the project in question. (Individual, Washington, DC - #77.5.50900.F1)

‘CREEPING MITIGATION’ IS AN ABERRATION UNDER NEPA

“Creeping Mitigation” Is an Aberration under NEPA

It would be fairer, and much more in the spirit of NEPA itself, if the level of mitigation applied to the project was just the amount that the agency concluded was necessary based on an objective analysis of the project itself. Some career NEPA professionals in the Government have already expressed this view. In 1992, CEQ made a survey of how agencies were using EAs and one federal agency submitted pointed comment on mitigated FONSI. Agencies, the commenter said, needed to “clearly focus on the proposed action and its environmental effects” instead of using the mitigated FONSI merely as an attempt to avoid doing an EIS.

Moreover, as far as NEPA’s basic function is concerned, “creeping mitigation” is an aberration. The courts have made it clear that the intent of NEPA is not to coerce agencies to adopt mitigation measures. The Supreme Court ruled, in its 1989 Methow Valley decision, that NEPA is a procedural statute that does not govern how the agency decides to carry out a project. In particular, NEPA does not mandate that a project have mitigation. It requires only that mitigation be discussed in the NEPA document. (Individual, Washington, DC - #77.6.50900.F1)

PROJECT APPLICANTS AND THE PUBLIC SHOULD SCRUTINIZE ‘CREEPING MITIGATION’

Project Applicants and the Public Need to Be able to Scrutinize “Creeping Mitigation”

When an agency works out a mitigated FONSI in a disputed project, it is striking a deal similar to a plea bargain by a defendant in a criminal case. The agency makes a preemptive compromise to make its project less environmentally objectionable in return for having a lighter NEPA compliance burden. To be realistic, as long as EISs will be more burdensome to prepare and more time-consuming than EAs, a mitigated FONSI may frankly be the better choice not only for the agency but also for the private project application.

However, because of the impact that mitigated FONSI can have on the planning of projects, private project applicants and the public at large have a stake in the agency’s decision to mitigate in order to have a FONSI. This part of the agency’s planning process should be disclosed to the public so that the public can at least be aware of and scrutinize the tradeoff being made. (Individual, Washington, DC - #77.7.50900.F1)

AGENCIES SHOULD DISCLOSE TO THE PUBLIC THE PROS AND CONS OF MITIGATED FONSI’S

Mitigated FONSI have helped simplify the NEPA process by permitting wider use of EAs instead of EISs. However, with the practice of mitigated FONSI has come “creeping mitigations” that risks placing unnecessary restrictions on worthwhile resource development projects. Mitigation measures ordered by agencies should be tailored to what is absolutely required, not pumped up to meet an artificially high standard just to avoid an EIS and to build a defensible position for not having an EIS in case there is litigation. As projects are proposed and run through the NEPA process, agencies need to make clear to the public the pros and cons of mitigated FONSI. While mitigation of projects is a legitimate, inevitable by-product of EAs and mitigated FONSI, there is a need to understand and monitor “creeping mitigation” so that it does not distort the NEPA process. (Individual, Washington, DC - #77.8.50900.F1)

937. Public Concern: The CEQ Task Force should ensure that the public has the opportunity to review and comment on mitigated FONSI and EAs

Use of Environment Assessments: As CEQ has pointed out many times, there are more than 50,000 Environmental Assessments prepared each year and only about 500 draft, final, and supplemental Environment Impact Statements. Many of these environmental assessments incorporate mitigation to assure that the effects are not significant. We find no fault with “mitigated Findings of No significant Impact” provided the public gets an opportunity to review and comment on the Environmental Assessments and the findings and that the cumulative effects are taken into account.

Currently, there are agencies that do not make their EAs [Environmental Assessments] and findings public. This is a major shortcoming in implementing the law. If CEQ believes that the current regulations do not require public review and comments on EAs, then we strongly recommend modification of the CEQ regulations. In light of this continued trend toward preparation of EAs, greater public scrutiny is warranted. Certainly, the question of the efficacy of mitigation and the agency commitment to mitigation should be subject to public review. (NEPA Professional or Association - Private Sector, Washington, DC - #450.4.50900.XX)

938. Public Concern: The CEQ Task Force should encourage agencies to implement mitigation as a means to prepare documents requiring less analysis.

Through the implementation of appropriate mitigation, SEA has been able to increase the frequency at which EAs/FONSI [Environmental Findings/Findings of No Significant Impacts] are prepared for actions that would otherwise require an EIS. The preparation of EAs rather than EISs typically results in substantial savings in time and cost while ensuring that environmental impacts are appropriately considered and addressed, and still providing the public an opportunity to participate. (Surface Transportation Board, No Address - #519.29.10200.XX)

939. Public Concern: The CEQ Task Force should allow use of mitigated FONSI.

Mitigated FONSI should be accorded greater legitimacy as a valid element of the NEPA process. (Federal Highway Administration, Washington, DC - #658.28.10230.XX)

Examples/Best Practices for Adaptive Management

Summary

This section includes suggested examples of effective adaptive management programs. Additionally, some request that the Task Force provide agencies with models of successfully completed adaptive management projects in order to increase positive environmental results. Toward that end, a federal agency offers that it is currently conducting a ‘domestic scan’ to highlight and share best practices.

940. Public Concern: The CEQ Task Force should consider examples of effective adaptive management programs.

NORTHWEST FOREST PLAN

The Northwest Forest Plan clearly establishes the types of adaptive management monitoring that should occur as agency understanding of project effects changes over time. We point CEQ to the Plan’s Record of Decision and Standards and Guidelines for a complete discussion on adaptive management monitoring. (Preservation/Conservation Organization, Vancouver, WA - #103.14.50600.D4)

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Washington State DNR offers a summary of the Adaptive Management Program to serve as a best examples case study. Washington’s Adaptive Management Program is a scientifically based

management approach that includes research, monitoring, stakeholder participation, dispute resolution, and rule development.

Case Study: Washington State Adaptive Management Program. The Washington State Department of Natural Resources (DNR) is embarking on a landmark adaptive management program that is a component of Washington State's Forest Practices Rules. These rules, also known as the Forests and Fish Rules, were developed consistent with the Forests and Fish Report to further the salmon recovery efforts and clean water act requirements in the state.

The Forests and Fish Report (FFR) was written in April of 1999 by representatives from the very interest groups that it sought to regulate. The authors' purpose was to work together to develop biologically sound and economically practical solutions that would improve and protect riparian habitat on non-federal forestlands in the State of Washington while meeting four goals:

1/ to provide compliance with the Endangered Species Act for aquatic and riparian dependent species on non-federal forestlands;

2/ to restore and maintain riparian habitat on non-federal forest lands to support a harvestable supply of fish;

3/ to meet the requirements of the Clean Water Act for water quality on non-federal forestlands; and

4/ to keep the timber industry economically viable in the State of Washington.

Since its development, the FFR has become an integral part of Washington's statewide strategy to address ESA requirements and recover salmon. In June of 1999, the Washington State Legislature passed the Salmon Recovery Act.

This legislation strongly encouraged the Forest Practices Board to adopt new Forest Practices Rules consistent with the recommendations of the Forests and Fish Report. The legislature found that implementing the Forests and Fish Report would lead to, among other things, the implementation of a scientifically based adaptive management and monitoring process.

The new Forest Practices Rules consistent with the FFR became effective July 1, 2001. The Adaptive Management Program, a key feature of the Forests and Fish Rules, is a science-based process for amending Forest Practices Rules to incorporate new information as it becomes available. The Rules require that only science-based changes be made to the Forests and Fish Rules, and that there be a peer-reviewed process of issue identification and scientific enquiry before any rule change can be proposed.

To assist with the goals of the Adaptive Management Program, the Forest Practices Board appoints members to a committee (known as CMER—Cooperative Monitoring Evaluation and Research Committee) to oversee the process. CMER is accountable for conducting research and validation and effectiveness monitoring, and is to facilitate research objectives. Members of CMER are required to have scientific expertise and must represent one of the major stakeholder groups, including timber landowners, environmental interests, state agencies, county governments, federal agencies or tribal governments.

The adaptive management process participants include the Timber Fish and Wildlife Committee (TFW), an adaptive management program administrator, and a Cooperative Monitoring Evaluation and Research (CMER) committee along with the Forest Practices Board (Board). Additionally, independent scientific peer review and dispute resolution mechanisms are used.

In general, the CMER committee focuses on research and monitoring and serves to advance the science needed to support adaptive management.

Specifically, it imposes accountability and formality of process while ensuring that the science will address the Forest Practices Rules, not just basic scientific research. Their focus is on science while avoiding policy recommendations. Voting members of CMER are approved by the Board, and are representatives of each of the major stakeholder groups. There are currently seven Scientific Advisory Groups (SAG groups) serving CMER. These include advisory groups on bull trout, in-stream, landscape and wildlife, riparian, eastside issues, upslope issues, and wetlands. Issues pertaining to water quality that are currently being worked on by the adaptive management team include: riparian ecology and management, roads and mass wasting, fish passage, stream typing, and wetlands.

The Forest Practices Rules consistent with the FFR include provisions for an on-going adaptive management program. WAC *222-08-035 (page 8-2) state, "The [adaptive management] program

provides assurance that rules and guidance not meeting aquatic resource objectives will be modified in a streamlined and timely manner.” Additionally WAC *222-12-045 (starting on page 12-8) provides detailed rules by which the adaptive management program will be managed. “The purpose of the program is to provide science-based recommendations and technical information to assist the board in determining if and when it is necessary or advisable to adjust rules and guidance for aquatic resources to achieve resource goals and objectives.”

The FFR recognizes, “the Report’s monitoring and adaptive management plan offers a significant improvement over the current program. This plan promises to provide both effectiveness and trend monitoring, and informal rigorous and reliable adaptive management process.” “. . . We acknowledge uncertainty exists as to when water quality standards will be met.

This is understandable given the scale of the Report (state and private forest lands in the State of Washington) and the long time frame necessary for natural processes and other practices to recover. We rely on monitoring and adaptive management to inform us whether the buffers and other practices are adequate and will be fully protective of functions and water quality standards. EPA and Ecology will evaluate the effectiveness of baseline rules and adaptive management for the life of the assurances.” “. . . The Report assures implementation and as such it offers early water quality protection that precedes any TMDL or potential TMDL alternative that would be produced at a later date, should that become necessary.” (Washington State Department of Natural Resources, Olympia, WA - #128.8-11.50600.XX)

CUSTER COUNTY AND THE CENTER FOR HOLISTIC MANAGEMENT

Programs include the Morgan Creek and Copper Basin Allotments in Custer County and the Center for Holistic Management. All these are examples of adaptive management. It works! What we need are more opportunities to put them in place. (Lin Hintze, Chairperson, Custer County Board of Commissioners, Challis, ID - #104.8.50000.XX)

PACIFIC LUMBER COMPANY HABITAT CONSERVATION PLAN

Best Practice Case: Pacific Lumber Company Habitat Conservation Plan Application of Adaptive Management

Project: EIS for the Pacific Lumber Company Habitat Conservation Plan

Category: D—Adaptive Management/Monitoring and Evaluation Plans

Agency: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Practice: Adaptive environmental management involving monitoring and evaluation plans.

Agency Contact: Joe Blum, Southwest Region, NMFS. Telephone: 916-930-3621. E-mail: Joe.Blum@noaa.gov.

Project Description: On March 1, 1999, Pacific Lumber Company (PALCO) received Incidental Take Permits from the U.S. Fish and Wildlife Service (FWS) and NMFS [National Marine Fisheries Service] under section 10 of the Endangered Species Act of 1973 and from the California Department of Fish and Game, under the California Endangered Species Act. These permits were preceded by the agencies accepting PALCO’s Habitat Conservation Plan (HCP). In order for the agencies to grant the permits, over two years of intense technical discussions and permit negotiations took place.

The PALCO HCP relies very heavily on watershed analysis, monitoring and adaptive management. The PALCO HCP was developed in a relatively short period of time (about two years) and with a minimum of hard data with which to work. The company and the agencies were concerned that the lack of hard data would be problematic. The company’s concern was that it would be under very restrictive conservation measures for 50 years. The agencies were concerned that they would be putting the listed species and their habitat at risk if a one-time analysis approach was chosen. The parties involved decided that the best approach was to adopt conservative interim rules for timber operations, require application of watershed analysis and monitoring, and then to employ adaptive management.

In addition to adaptive management as a “product” of watershed analysis, the HCP permits adaptive management as a “product” of monitoring and/or implementation experience. To date, the latter monitoring/implementation process has been used approximately six times and the watershed analysis

approach once. The HCP directs the company to complete watershed analysis on all 16 watersheds within the first five years and to review them in the ensuing five years.

The adaptive management approach for the HCP, relying on the experiences of the FWS and NMFS through implementing the HCP's provisions, has resulted in changes ranging in length from a single season (e.g., winter operations) to "permanent changes" in definitions, prescriptions and methodologies for calculating cumulative impacts.

The adaptive management process has been initiated by the company in all instances. The HCP outlines the process to be followed with the final action being acceptance by all three agencies before the change becomes "law." To date the process has been very interactive with technical teams appointed to work through the company's proposals and to make recommendations to the respective policy leads on HCP implementation.

The FWS and NMFS jointly prepared a DEIS and FEIS for this action (over 18,000 public comments were received during the public comment period). The agencies published a Federal Register notice of the availability of the FEIS on January 22, 1999 (64 FR 3483). The FEIS assessed the environmental impacts of the HCP, including the selected final adaptive management measures. Detailed resource monitoring plans were developed and included in the final HCP to assist NMFS, FWS, and California Department of Fish and Game in evaluating the effectiveness of the HCP's conservation and management measures and PALCO's compliance with the terms and conditions of the HCP. (National Oceanic and Atmospheric Administration, Washington, DC - #637.48-49.50600.XX)

941. Public Concern: The CEQ Task Force should provide agencies with models of completed projects which effectively employed adaptive management.

EPA [Environmental Protection Agency] feels that there should be a new focus on improving the effectiveness of NEPA efforts by focusing on environmental results and other successes associated with reaching NEPA goals. CEQ, other agencies, NGOs [non-governmental organizations], and the public should be aware of NEPA's positive impact on human health and the environment.

It would be useful to conduct follow-up on completed projects that underwent NEPA analysis to see what actually happened after project buildout. Questions regarding mitigation measures, their effectiveness, and adaptive management strategies could be answered by surveying the action agencies, or by post-project visits to selected sites with effectiveness reports by the responsible agency. NEPA follow-up would provide all agencies models to follow to increase positive environmental results. (United States Environmental Protection Agency, No Address - #299.33.50400.XX)

THROUGH A 'DOMESTIC SCAN'

Environmental commitment compliance is one of the programmatic responsibilities we are currently focusing on at a national level via a "domestic scan" which is intended to obtain, highlight, and share with others the existing best practices and success stories related to environmental commitment compliance during NEPA and post-NEPA phases of project development. The scan is focused on obtaining the successful processes, methodologies, and lessons learned concerning the implementation of environmental commitments and mitigation measures agreed upon or stipulated by other federal or state agencies during the NEPA process and implemented during design and construction. The best practices observed from the scan will be presented in a report for wide distribution. (Federal Highway Administration, Washington, DC - #658.22.50900.XX)