

## **Appendix E**

# **Conceptual Framework for Multiparty Monitoring and Adaptive Implementation**

### **Purpose**

A multiparty monitoring and adaptive implementation process will be organized to conduct monitoring and ongoing adaptive management for the Forsythe II Project. The purpose of multiparty monitoring is to engage all interested and affected parties in a transparent, structured process to assess implementation compliance and ecological effects of management actions in accordance with the Forsythe II Environmental Assessment (EA) and Decision Notice (DN). The process will be open to any member of the public, and will also involve USFS personnel and researchers, the Colorado Forest Restoration Institute (CFRI) at Colorado State University, and researchers from other institutions with relevant subject matter expertise.

Developing a clear concise plan for how monitoring will be conducted and how monitoring results will be used towards adaptive implementation and future decision-making is an essential part of any monitoring program. The monitoring group will establish monitoring indicators, measures, and methods based on the EA stated goals, objectives, management direction, and expected outcomes. A monitoring and adaptive implementation plan will help ensure that the data that is gathered is credible, useful, and meaningful.

The primary goals of the multiparty monitoring and adaptive implementation plan are to:

- continue the public participation and collaborative learning that occurred during the planning phase, and encourage and support the continuation of collaborative efforts throughout implementation;
- help inform unit level treatment plans and implementation instructions to attain ecological and social objectives;
- conduct a transparent implementation process that keeps the public informed of and involved in treatment unit timing, design, and monitoring;
- ensure that implementation of treatments responds to dynamic, local on-the-ground conditions;
- demonstrate compliance with management direction specified in the EA/DN;
- ensure integrated engagement of interdisciplinary team members, field personnel, line officers and the public;
- assess the effects of treatments on ecological and social attributes; and
- conduct monitoring activities, interpret and share results, adapt implementation practices to improve results and better meet project objectives.

## **The Multiparty Monitoring Process**

The multiparty monitoring process is a five-step process, starting with engaging participants and understanding why and what they want to monitor and ending with collectively evaluating and using monitoring results. The steps are shown below:

- Step 1. Assemble multiparty monitoring group
- Step 2. Determine monitoring objectives, indicators, measures, and methods
- Step 3. Develop a monitoring and adaptive implementation plan defining roles, responsibilities, and timeframes for carrying out items identified in Step 2
- Step 4. Collect and analyze data
- Step 5. Interpret, share and use results within the confines of the DN

## **Monitoring Process Participation**

The Forsythe II multiparty monitoring process will be open to participation by individuals representing a range of perspectives, including a monitoring facilitator, individuals from the local community, stakeholders who have concerns about potential project results, USFS personnel, technical experts, project implementers, environmental/conservation groups, local governing bodies and other governmental agencies and land management decision makers. The composition, size, and structure of multiparty monitoring participation will be determined through a facilitated process convened by a third-party facilitator and informed by current multiparty monitoring models and best practices.

## **What to Monitor – Choosing Goals and Indicators**

The monitoring group will establish the goals and information that will be monitored during the implementation of the Forsythe II DN. Once the group has identified the goals that it wants to monitor, indicators will be selected to measure changes in that goal. An indicator is a unit of information measures over time that documents specific changes. A good indicator is reliably and repeatedly measurable, precise, consistent, and sensitive to changing conditions. The monitoring plan can be brief, but it should set forth some very basic elements of the monitoring program:

- What will be monitored?
- How will it be monitored?
- Who will do the monitoring?
- When does the monitoring need to be done?
- Where does the monitoring need to occur?
- Where will monitoring data be stored?
- How, when, and by whom will monitoring data be analyzed?
- How, when, and by whom will monitoring results be used?
- How much will monitoring cost, and how will it be paid for?

## **Implementation Framework**

The Forsythe II EA/DN specifies the implementation framework for defining treatment locations and design, determining monitoring questions, reviewing and evaluating the effects of treatments and the management towards desired conditions and away from undesirable conditions. The implementation steps will cover pre-implementation treatment planning, post-implementation review, annual monitoring, and evaluation. Prescribed broadcast burning, commercial, and non-commercial treatments that occur under the authority of the FEA/DN will take up to several years to pass through all the phases of

implementation. Therefore, at any given time there will be several projects occurring that have passed through different steps of implementation and monitoring.

The monitoring for Forsythe II will inform certain elements of the project's implementation, but implementation must remain within the sideboards of the final decision. The monitoring activities completed by this group will complement the monitoring that the ARP completes in order to meet agency requirements. The information that is collected will evaluate the effectiveness of the treatments as it relates to the objectives outlined in the purpose and need for the project. The multiparty monitoring group will agree on the types of monitoring that would be conducted throughout the monitoring process. Suggested monitoring include implementation monitoring, effectiveness monitoring, and validation monitoring. It is anticipated that the monitoring would be collected in both qualitative and quantitative formats. These types of monitoring are described below:

- Implementation monitoring also known as compliance monitoring, records actions taken and outputs relative to targets. Implementation monitoring asks, "Did we do what we said we would do?"
- Effectiveness monitoring measures changes in specific conditions relative to desired outcomes. Effectiveness monitoring asks, "Did we achieve our desired results?"
- Validation monitoring tests underlying assumptions about how a system operates. Validation monitoring asks, "What caused the observed changes?"

### **Example Multiparty Monitoring Framework**

While the multiparty monitoring group will determine the exact framework to be used, the following steps may be used as a guide.

*Step 1) Develop a monitoring framework defining monitoring indicators, measures, and ranges or thresholds of desired effects for each goal stated in the EA.*

The multiparty monitoring group should identify which components of the DN and project are of most interest. Principles of implementation, effectiveness, and validation monitoring could guide development of the framework.

*Step 2) Ensure that delineated treatment units are consistent with treatment priorities, design features, and other parameters in the EA and DN.*

The direction in the EA/DN reflects comprehensive public participation and collaborative efforts conducted over a three-year planning period. Once the boundaries of the treatment units have been identified, USFS personnel and the monitoring group could review the lines to evaluate compliance with design criteria in the DN. Nearer-term treatment units will be delineated by the USFS with more detail, while out-year treatments may be shown with broader treatment area boundaries.

*Step 3) Conduct pre-treatment monitoring.*

The multiparty monitoring group could collect pre-treatment monitoring data to assess current conditions as a baseline against which to assess effects post-treatment. They might also delineate untreated areas of similar site conditions for long-term assessment of treatment effects over time.

*Step 4) Complete field surveys of treatment units.*

USFS personnel and the multiparty monitoring group might conduct initial field surveys of proposed treatment units to confirm that treatments can be designed and implemented in compliance with EA/DN parameters, and how to do so.

*Step 5) Provide input to assist USFS in refining treatment plans and implementation instructions.*

The monitoring group will provide input to assist the USFS in refining treatment plans and implementation instructions, including applicable design features, unit layout guidance, and road work.

*Step 6) Determine compliance and implementation monitoring plan and conduct monitoring.*

The multiparty monitoring group will conduct compliance and implementation monitoring of the treatment area.

*Step 7) Conduct public field trips of treatment areas.*

The public will be invited to interact regularly (e.g. every year) with USFS personnel and members of the monitoring group in an implementation field review. Field review may focus on pre-treatment areas; however, post-treatment and monitoring activities could likely be viewed on the same trip. There could be 1 or 2 field trips per field season, depending on public interest.

*Step 8) Conduct post-treatment effects monitoring as specified by the multiparty monitoring plan.*

USFS personnel and the monitoring group might conduct field surveys of treatment units following treatment to determine the effectiveness of the treatments as described in the EA and DN.

*Step 9) USFS provides summary information of the post-treatment review process to the multiparty monitoring group for individual member input on future project changes.*

Each year the forest will conduct one formal post-treatment to provide stakeholders the opportunity to interact directly with Forest Service implementation teams, line officers, and science members. Stakeholders, including the F2MG, will be invited to help inform mechanical treatments, manual treatments, or broadcast burning treatments subject to the review. This formal agency review will:

- Demonstrate treatments are implemented in accordance with the EA/DN and other requirements or identify corrective actions.
- Ensure ARP accountability to stakeholders and show that treatments are being implemented in accordance with best available scientific evidence through the iterative treatment design and monitoring cycle.
- Ensure ARP accountability to stakeholders that pre-treatment input was considered in treatment location, design, implementation, and follow-up.

*Step 10) Summarize and provide annual report of implementation activities, stakeholder participation, and management review findings.*

Following completion of the annual management review, the F2MG may develop a summary of the monitoring results and all the steps in the implementation and monitoring framework that occurred in the specific year. Goals may include ensuring compliance with FEA/DN, applicable laws/regulations; integration of best available science throughout the life of the DN; or to demonstrate public participation in this framework.