**Forsythe II Multiparty Monitoring Group**

**Effectiveness/Validation Monitoring Options**

According to the Forsythe II Final Decision Notice (pages 12, 49-52), 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 Final Decision Notice highlights the following types of monitoring (page 51):

* **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?”

The MMG has communicated that their top or most immediate priority is to provide input to the USFS on the design and layout of treatment units, which the group is currently enacting. The group has also communicated a second priority, which is to perform implementation monitoring once treatments begin to ensure the compliance with the EA and Final Decision.

However, there is a critical need to determine if the MMG would like to participate in effectiveness or validation monitoring, and to determine the group’s capacity to perform this type of monitoring. If the MMG determines to prioritize effectiveness or validation monitoring, pre-treatment data will need to be collected during the summer or fall of 2018, before implementation of treatments begins starting early spring 2019. Thus, it is important to determine the MMG’s interest and capacity to participate in effectiveness or validation monitoring now before the summer begins.

The Forsythe II Decision created a multiparty monitoring group, and stated that CFRI would facilitate and coordinate development of a monitoring program for the group. The Arapaho-Roosevelt National Forest has provided some funding for CFRI to be involved with the MMG to provide capacity in ways that work toward productive outcomes of the group.

At this time, there are 4 general options for effectiveness or validation monitoring – these options are not limited and other options may be explored:

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| **Options** | **Details or requirements ( + estimated timeline)** |
| **Option 1:** MMG will not participate in effectiveness or validation monitoring | MMG will prioritize resources and capacity to:* Provide input on treatment design and layout during various phases 1-6 (ongoing throughout project)
* Perform implementation monitoring during treatment implementation (ongoing throughout project)
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| **Option 2:** MMG members, with the guidance of CFRI, will perform effectiveness monitoring and data collection before treatment implementation and after completion of units  | * MMG will need to discuss, define, and agree upon monitoring questions (minimum 3 - 4 meetings, and/or form a subgroup)
* MMG will need to determine study protocols (minimum 1 – 2 meetings)
* MMG members will need to coordinate schedules and efforts to devote mutual, coordinated time for data collection (weekends (?) throughout summer 2018 and future summers)
* MMG members will need to commit an amount of time (likely less for less rigorous data collection (such as photo points) and more time for more intense rigorous data collection (such as botany or wildlife surveys)) to perform monitoring during summer of 2018 and during future summers (time commitment is based on MMG effectiveness monitoring goals and level of rigor desired from data)
* CFRI will be available to guide monitoring efforts during 1- 3 Saturday sampling efforts each summer
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| **Option 3:**MMG can recruit volunteer groups to help collect pre- and post-treatment data with the guidance of CFRI | * MMG will need to discuss, define, and agree upon monitoring questions (minimum 3-4 meetings, and/or form a subgroup)
* MMG will need to determine study protocols (minimum 1 - 2 meetings)
* MMG members will need to recruit & organize volunteers and plan data collection days (weekends (?) throughout summer-fall 2018 and future summers)
* MMG members will need to coordinate schedules and efforts to devote mutual time for data collection (weekends (?) throughout summer 2018, and future summers – time commitment based on MMG questions)
* CFRI will be available to guide monitoring efforts during 1 - 3 Saturday sampling efforts each summer (TBD)
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| **Option 4:** MMG will rely on or leverage other existing effectiveness monitoring efforts  | * There are several efforts already underway that are scheduled to collect different types of effectiveness and validation data across the Forsythe II project area. CFRI will work to ensure that these efforts are leveraged by MMG efforts, that data collection and analysis is not duplicated, and to the best of our ability that the MMG is made aware of any efforts in a transparent fashion.
* **Front Range CFLR:** Common Stand Exam plots have been/will be collected throughout most or all of the Forsythe II project units. This data will be collected by USFS contractors and analyzed by the Front Range Roundtable Landscape Restoration team members. Additional analysis using remote sensing and modeling techniques will be conducted by the LRT group as part of the CFLR program. This monitoring is funded to continue through 2019, and is required to continue under the CFLR program through 2024, but is currently not funded.
* **Denver Water-USFS Forest to Faucets Effectiveness Assessment:** CFRI has a 6-year contract (2016-2021) to conduct 3rd party ecological effectiveness monitoring across USFS fuels reduction projects within the Denver Water zones of concern. As Forsythe II projects are implemented in the Boulder Zone of Concern, CFRI will be collecting field based ecological effectiveness data across a subset of treatment units as well as conducting remote sensing analysis. CFRI will share monitoring protocols with the MMG and will guide volunteer MMG members in data collection during 1 - 3 Saturday sampling efforts.
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