Recommended Steps to Improve the Adaptive Management Program's Effectiveness and Efficiency

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What is Adaptive Management?

Adaptive management

- Iterative process of *robust decision making* in the face of uncertainty, with an aim to reduce uncertainty via monitoring (Holling 1978)

- 'Learning by doing' is a tenet of AM

- Is a *systematic approach* for improving resource management by learning from management outcomes

- Focuses on *learning and adapting*

Why have an AMP?

- **A real management choice is to be made (<u>Rules</u>)**
- **Clear and measurable management objectives [or strategies] can be identified (<u>priority questions</u>)**
- **The value of information for decision making is high (<u>public resources and economics</u>)**
- **Uncertainty can be expressed as a set of testable hypotheses (<u>science can inform</u>)**
- **A monitoring system can be established to reduce uncertainty (<u>science can inform</u>)**

R. Peters

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Responsibility of the AMP

WAC 222-12-045 states in part the adaptive management 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 the rules and guidance for aquatic resources to achieve resource goals and objectives. The board may also use the program to adjust other rules and guidance.

Goals of AMP

1. To provide compliance with the ESA for aquatic and riparian dependent species on non-federal forest lands;

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

3. To meet the requirements of the CWA for water quality on non-federal forest lands; and

4. To keep the timber industry viable in the State of Washingon.

Desired Outcomes of the AMP

➤ Certainty of change as needed to protect aquatic resources;

➤ **Predictability and stability** in the process of change so that forest landowners, regulators, and interested members of the public can anticipate and prepare for change; and

➤ Application of **quality controls** to scientific study design, project execution and interpretation of results.

Tools in Adaptive Management Program

- **Cooperative Monitoring Evaluation and Research Committee (CMER):** Prioritizes and conducts research studies to inform policy and FPB

- **TFW Policy Committee:** Advise CMER and recommendations to FPB (consensus)

- **Forest Practices Board (FPB):** Writes forest practice rules for Washington

Evaluation: How is it working?

Stillwater (2009)

1. Periodically review and update Critical Questions for the AMP.

2. Use outside science to better inform the AMP.

3. Consider influence of climate change in all studies.

4. Develop a Master Project Schedule.

5. Deemphasize further model development and seek to collect data directly to evaluate rule effectiveness.

6. Consider extensive and intensive monitoring and whether it should be emphasized in the AMP.

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Evaluation: How is it working?

Lean (2012): reducing redundancy

1. Set Policy direction and scope project with objectives. Priorities need to be clearly established.

2. Policy needs to interact with CMER more formally to ensure that study designs are compatible with the program priorities.

3. Multiple review steps in CMER are redundant.

4. Scoping occurs without a clear definition of study objectives.

5. Process time is inefficient and takes much longer than necessary.

6. Recommendation to phase out Scientific Advisory Groups (SAGs) and replace with Technical Writing and Implementation Groups (TWIGs).

7. *Consensus voting model contributes to long cycle times. The AMP should consider a super majority model instead.*

Evaluation 2017 Leadership

Leadership
1. Need of a commitment from Principals in each caucus to TFW and the ground rules.
2. Leadership from each caucus would be expected to set expectations for Policy and CMER representatives.

Evaluation 2017 Policy

Policy
1. Follow TFW Policy ground rules.
2. Set clear expectations for participants.
3. Stay away from making scientific decisions and adhere to the "firewall".
4. Prioritize areas for scientific study that improves the program, and ask CMER to develop the approach. Deemphasize model development and focus on effectiveness monitoring.
5. Provide explicit direction to CMER on objectives.
6. Policy (working with the Board) needs to evaluate and decide on priorities for the AMP and leave it up to CMER to develop studies to implement the priorities. The MPS (budget) should reflect these priorities.

Evaluation 2017 Policy cont'd

7. Policy decisions should address the implementation consequences of CMER products, not the technical merit or studies themselves. The firewall between Policy and CMER participants needs to be clear.
8. Policy needs to produce a "PSM" to document their processes and expectations of participants.
9. More deliberate use of dispute resolution for resolving disagreements.
10. Policy needs to discuss the necessity of integrating climate change perspective into recommendations to the Board on when and if it is necessary to modify rules.
11. Discuss extensive and intensive monitoring for the AMP.
12. Policy members need to focus on policy issues. Policy is not intended as a "go-back" when CMER members do not get their way in CMER.
13. Actively engage in "trust building". Policy needs to work with a trained facilitator immediately in an effort to build trust across caucuses and with individuals. This should begin immediately and be completed by November 2017 with a report from the AMPA to the Board at their November 2017 meeting. This will require an additional 2 meetings per month (approximately) and will require good-faith participation by all caucuses.

Evaluation 2017 CMER

CMER
1. Commitment to follow ground rules.
2. Set clear expectations of members and participants.
3. Commitment of caucuses to provide scientists at CMER to help guide work in evaluating the effectiveness of Rules. Participation needs to focus on getting the right projects completed, support in scoping, and providing meaningful input into reviews.
4. Emphasis on CMER research placed on evaluating rules, CWA priorities, and directives by the Board and Policy (e.g., PI's "science track").
5. Tighten up the front end (using Lean principles to develop studies) and the back end (review of research) of projects following a restructuring at CMER (Figure 1). This diagram will emphasize that the "science" is focused by the SAG, conducted by the Project Team, and implemented by the Contractor.
6. Use contractors on Project Teams and for implementation to increase capacity of stakeholders in accomplishing the MPS, participating in guiding the research in response to Policy's priorities, and decrease conflict of interest within the AMP (Figure 1).

Recommended Restructure for CMER Process integrating Lean with

Evaluation 2017 CMER cont'd
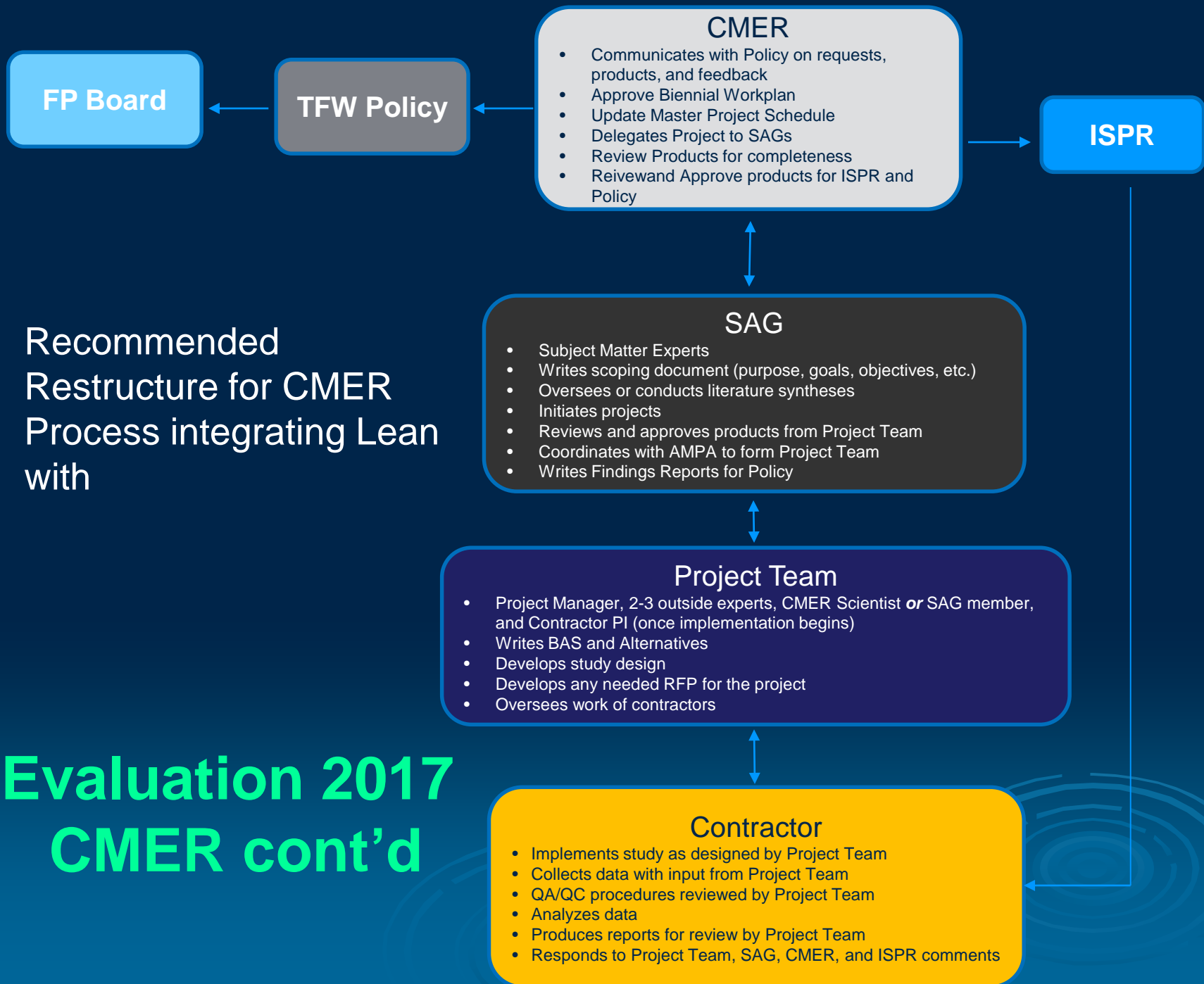
CMER
- Communicates with Policy on requests, products, and feedback
- Approve Biennial Workplan
- Update Master Project Schedule
- Delegates Project to SAGs
- Review Products for completeness
- Reivewand Approve products for ISPR and Policy

FP Board

TFW Policy

ISPR

SAG
- Subject Matter Experts
- Writes scoping document (purpose, goals, objectives, etc.)
- Oversees or conducts literature syntheses
- Initiates projects
- Reviews and approves products from Project Team
- Coordinates with AMPA to form Project Team
- Writes Findings Reports for Policy

Project Team
- Project Manager, 2-3 outside experts, CMER Scientist *or* SAG member, and Contractor PI (once implementation begins)
- Writes BAS and Alternatives
- Develops study design
- Develops any needed RFP for the project
- Oversees work of contractors

Contractor
- Implements study as designed by Project Team
- Collects data with input from Project Team
- QA/QC procedures reviewed by Project Team
- Analyzes data
- Produces reports for review by Project Team
- Responds to Project Team, SAG, CMER, and ISPR comments

Evaluation 2017 CMER

7. More deliberate use of Dispute Resolution when disagreements arise at CMER.
8. Need to set up a process to use outside experts (e.g., statisticians and subject matter experts) to help resolve technical disputes. Both within and outside of dispute resolution.
9. CMER membership should be limited to 1 voting member per caucus (9 potential members), and one alternate. For caucuses without CMER participation, an at-large member should be appointed in order to reach the 9 active voting members. CMER membership should follow the PSM. CMER members should have four-year terms and need to be evaluated for renewal by the Board in consultation with CMER co-chairs and the AMPA.
10. SAG members need to have subject matter expertise as demonstrated by education, publications, or as a practitioner working in that specific discipline. The term of a co-chair should be 2 years and should rotate across all SAG participating caucuses.
11. PSM needs to be reviewed for updates over a five year period in its entirety.
12. CMER needs to provide a prioritized budget to Policy during each fiscal year and needs to provide a balanced budget proposal during the biennial budget development process that reflects the Program priorities.
13. Caucuses need to work more collaboratively with project teams to find sites, find resources, and support the project managers.

Evaluation 2017 AMP

AMP overall

1. Expectations need to be clearly identified for each role in the program.
2. The prioritization and budget processes need to be clearly written for the Board, Policy, and CMER.
3. A commitment from the stakeholders to work better together at CMER and Policy.
4. Process related delays at CMER and Policy make budget preparation, planning and execution very difficult. A renewed commitment to the tenets of the TFW agreement by caucuses could alleviate some of this.
5. AMPA and PMs need to develop more explicit budgets on projects and establish clear roles for project team members (Figure 1).
6. Report on progress in AMP reform at each Board meeting

Summary

➤ TFW Agreement set up a stakeholder process that considers multiple objectives

➤ A robust AMP is essential to monitor whether or not objectives are being met, this also applies to the Program as a whole

➤ We have work to do to improve the AMP but it will take commitment from the top down

➤ The Board plays a crucial role in setting clear priorities for Policy and CMER