

ACCELERATING RESTORATION IMPLEMENTATION WORKSHOP

November 29-30, 2017

Phoenix, Arizona

Prepared by

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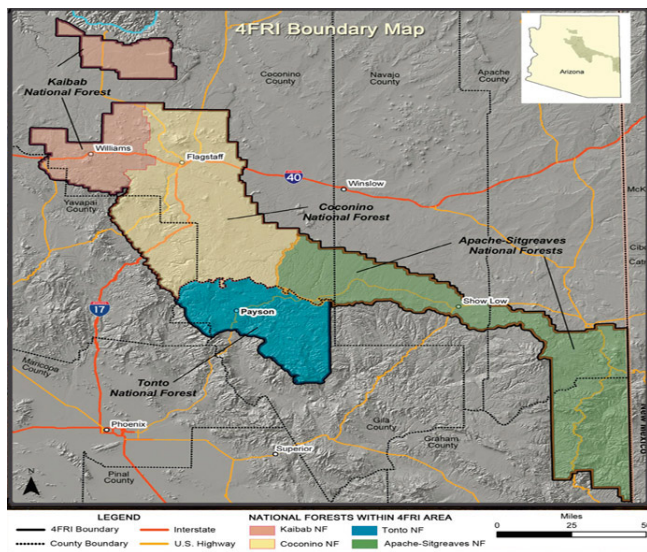
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Workshop Purpose and Need

The United States Forest Service (Forest Service) is under tremendous pressure to increase the pace and scale of forest restoration. Fiscal Year 2017 was the most expensive fire season on record, yet because the escalating cost of fire gobbles up more and more of the annual budget, the resources needed to manage lands and prevent catastrophic fire are in steady decline. In order to make the most with limited funding, Forest Service processes and operations must become more time and cost efficient or be revamped altogether to restore southwestern forests before they are lost to catastrophic fire. This was the message delivered by Forest Service Chief Tony Tooke in September 2017 to leaders from throughout the Forest Service at a recent national workshop focused on identifying actions that will improve efficiency in the environmental analysis and decision making arena.

Recent experiences in northern Arizona demonstrate that it is equally important to decrease the time and effort it takes to *implement treatments* from a signed record of decision (ROD) to the processing facility. This is not news to the Forest Service. Starting with a 2013 Sale Preparation Task Force that analyzed sale preparation and cruising costs, actions have been taken to improve implementation procedures. The Washington Office formed the cross-cutting Forest Products Modernization Team “to better align our culture, policies and procedures with current and future forest restoration needs, in order to increase the pace and scale of restoration.”

There are more than 500,000 acres approved through NEPA and ready for implementation by the Four Forest Restoration Initiative (4FRI). Unfortunately, many of these acres are characterized by large quantities of small diameter trees that do not provide a significant return on the investment needed to remove them from the forest. Cutting these trees and leaving them in place is not a feasible alternative either. Like many Collaborative Forest Landscape Restoration



The 4FRI boundary includes lands from four national forests: Apache-Sitgreaves, Coconino, Kaibab, and Tonto.

(CFLR) programs, 4FRI is struggling to attract private industry that will harvest and utilize low value wood. Industry today is reticent to make large upfront investments where most of the wood is sourced from public land due to concerns about the pace at which the Forest Service is able to prepare, offer, and then implement a reliable flow of contracts and agreements. With so many acres ready for treatment, the 4FRI provides a perfect opportunity to identify and test innovative approaches to implementation that will reduce the time it takes to get from ROD to the processing facility. Lessons from the 4FRI experience may prove to be useful to projects facing similar challenges across the intermountain West.

Workshop Description

In early 2016, the Ecological Restoration Institute (ERI) at Northern Arizona University proposed to the Forest Service 4FRI Innovations and Efficiencies Coordinator to organize a workshop for the Forest Service focused on improving implementation processes and procedures. It was apparent that changes were needed to achieve the 4FRI goal of treating 50,000 acres each year. The need for improving the efficiency of implementation had become acute as the Forest Service 4FRI team and national forest staff were stretched thin between planning for the second 4FRI Environmental Impact Statement (EIS) while implementing the first. For example, in 2017, local units were oversubscribed preparing nearly 35,000 acres of contract offerings. Concurrently, industry was urging the Forest Service to accelerate contract offerings on the east side of the 4FRI landscape while The Nature Conservancy (TNC) was developing a Stewardship Agreement to treat 20,000 acres on the west side. TNC's goal was to identify and test faster, more cost effective approaches for preparation and administration of harvest operations that can be adopted by the private sector, with the goal of improving profitability and attracting new investment to accelerate acres treated.

ERI included the coordination and facilitation of the workshop in its FY17 Work Plan (required under PL108-317). A workshop planning group was formed that included: Forest Service 4FRI staff, TNC, Campbell Global (a private timber management company working with TNC), and an Experience Matters Fellow (an Intel program for retirees) funded by TNC.

Support for the "Accelerating Restoration Implementation Workshop" was widespread. On November 29 and 30, 2017, USFS staff representing the 4FRI team, the 4FRI national forests, Region 3, and the Washington Office assembled in Phoenix, Arizona to consider opportunities for innovation to be tested during 4FRI implementation. Specific Forest Service staff were invited to participate in order to ensure diverse representation from different levels and disciplines of the agency and encourage the development of creative, comprehensive, and accomplishable actions (see Appendix A for the participant list). The workshop participants included line officers such as forest supervisors, staff from contracting, grants, and agreements, and other disciplines associated with implementation from the 4FRI team, 4FRI national forests, Region 3, and the Washington Office. In addition, staff from TNC, Campbell Global, and NewLife Forest Products were present to provide industry perspectives on implementation issues and potential solutions. The meeting was coordinated and facilitated by ERI.

Workshop Goals

The **goals** for the workshop were to:

1. Understand current efforts to improve efficiency for projects designed to remove low value wood and biomass (Modernization Team, the 2013 and 2015 Task Force Reports, and TNC lessons learned);
2. Identify specific business and implementation practices that should be changed to accelerate implementation;
3. Identify solutions that are implementable and testable as a part of the 4FRI project; and
4. Identify Forest Service staff who will move identified solutions forward.

The workshop was designed to first provide participants with a common understanding of the issues and efforts before discussing topics in greater depth and working to identify solutions. A plenary format was used throughout the two days in order to facilitate listening and discussion across functional areas and institutional hierarchy represented by the workshop participants.

Workshop Discussion

This section follows the order of the workshop agenda. See Appendix B for the agenda.

Current Efforts to Increase Efficiency

The workshop began with presentations that provided an overview of past and current efforts to modernize Forest Service implementation processes and procedures. Each presenter was asked to identify three to four areas where the greatest improvements could be implemented to enhance efficiency based on their experience. Key points of the presentations are summarized below.

David Cawrse, Center Manager, Forest Management Service Center, Washington Office

Mr. Cawrse provided a succinct overview of the 2013/2015 Task Force Report: Issues and concerns on costs of sale preparation and cruising in the Forest Service. The two top recommendations from that effort have been implemented: 1) basic training for line officers of the sales preparation process, and 2) new authority (through the 2014 Farm Bill) to use more Designation by Prescription (DxP). One participant mentioned that the Forest Service Handbook has not been updated to reflect the new authorities so there are inconsistencies in the policy and implementation.

Mr. Cawrse then described the work of the Modernization Team, which is an effort to align traditional volume-focused timber culture, policies, and procedures with current and future forest restoration needs. In particular, he noted that successful restoration cannot be exclusively timber-based; however, many of the timber sale policies, procedures and practices are based on treating timber as a commodity. The Modernization Team plans to identify short and mid-term actions to be taken in the next 120 days.

Mr. Cawrse's suggestions for greatest improvements in efficiency:

1. Use DxP at a larger scale.
2. Use more and modern technology.
3. Increase use of Unmanned Aircraft Systems (UAS).
4. Revisit certification and training requirements.

Rob Marshall, Director, Forest and Climate Change Program, The Nature Conservancy (TNC)

Mr. Marshall discussed TNC's experience developing a Master Stewardship Agreement to implement a 20,000-acre project on the west side of the 4FRI landscape. The key point he made was that the Stewardship Agreement took much longer than expected to finalize for a number of reasons. He also provided the rationale for TNC's hiring their Experience Matters Fellow, Mike Kirby, to provide an independent time and efficiency analysis of the implementation process.

Mr. Marshall's suggestions for the greatest improvements in efficiency:

1. The overwhelming need today is to remove low-value, small-diameter wood across millions of acres to reduce the risk to forests and communities from catastrophic fire and a changing climate. Practices that focus on maximizing value from individual logs demand considerable overhead in personnel, time, and infrastructure and result in a misalignment of process with risk. Practices should instead focus on maximizing acres treated and ensuring restoration goals are accomplished.
2. At the local level, there should be a team comprised of timber contracts, acquisition contracts and acquisition grants personnel, line officers, resource specialists, and operations personnel to discuss pathways to innovation. These conversations should include personnel who can discuss decisions that have financial and operational implications. The agency's incident command structure provides a model for how to focus resources on challenges with great urgency.
3. To empower that group, there should be a stronger statement of leadership intent in writing and in person that is continually reinforced.

Mike Kirby, Experience Matters Fellow with TNC and former Intel employee

Mr. Kirby used his experience as a strategic planner, capacity manager and project manager at Intel to analyze the implementation process. The philosophy he brought from Intel is that change is necessary for success. Intel uses informed risk taking and a focus on efficiency to accomplish rapid change. Mr. Kirby collected detailed data from Forest Service staff throughout Region 3 to understand where the most time is spent in the implementation process. He found that task order preparation, which includes prescription development, timber layout, mark and cruise, and sale preparation takes the most time. The second most time-consuming category was resource surveys. The third was pre-task order land and engineering, including landline surveys, rights of ways and engineering (Figure 1). He observed that agency structure and culture does not enable agile planning, communication and execution, all of which will be required to increase efficiency and achieve success.

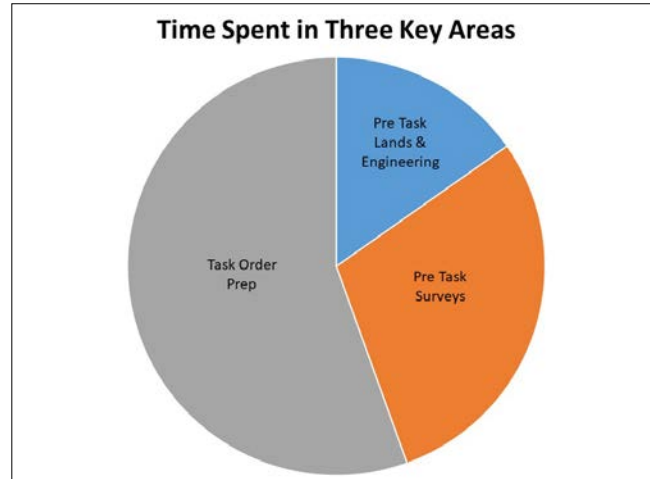


Figure 1. Relative amount of time spent on tasks.

The time and efficiency analysis also provided a window into what will happen if current processes do not improve. Figure 2 arrays three pieces of information to inform the future based on past performance. In order to achieve the goals of 4FRI (50,000 acres a year) using current approaches and contract sizes, the Forest Service will need to create and manage upwards of 40 contracts and agreements on an annual basis.

4FRI Acres Offered / Treated 2010-2017 and Acres Projected 2018-2022

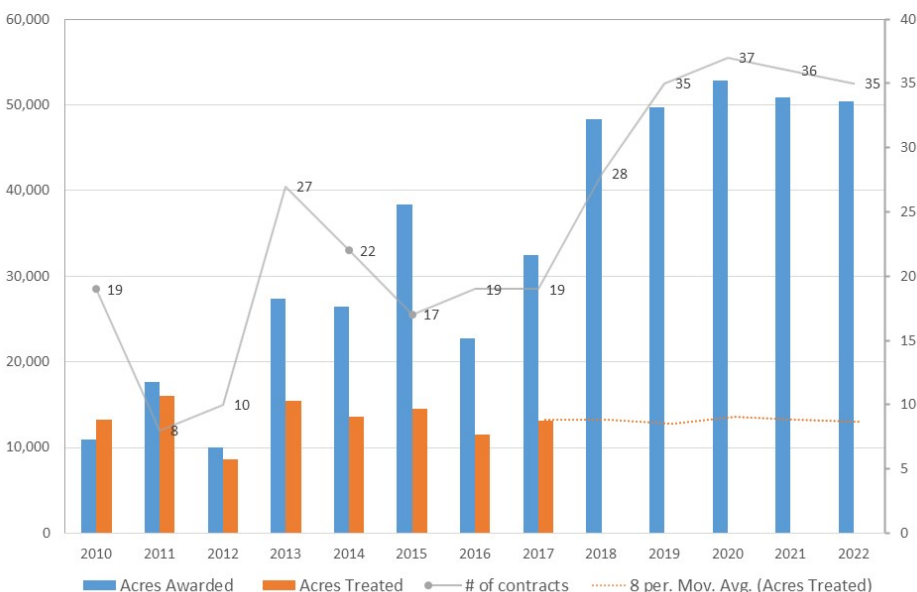


Figure 2. This figure shows the past and current acres awarded and harvested. It reveals several problems. In order to achieve the 4FRI annual goal of 50,000 acres of mechanical treatment per year more markets will be needed to stimulate investment as industry is not harvesting as many acres as the Forest Service is awarding. In addition, based on current approaches the Forest Service will be required to prepare and manage many more contracts.

Based on Mr. Kirby’s analysis it will be impossible to achieve the 4FRI goal of thinning and burning 50,000 acres a year using current and conventional approaches.

When asked how to achieve greater efficiency his response was:

1. Focus attention on areas where greatest efficiency can be achieved.
2. Seek new, efficient solutions, rather than always trying to fix the current processes.
3. Change the “can’t do” culture that exists today with one that is positive and creative.
4. Drive for immediate implementation of large-scale changes and innovations to meet 4FRI objectives and Forest Service goals.

Dick Fleishman, 4FRI Operations Coordinator

Mr. Fleishman summarized a list of recommendations that was sent to the participants prior to the workshop. The list was generated by analyzing and adding to existing recommendations. Specifically, the CFLR Annual Report identified 17 short-term needs to improve processes moving forward. The 4FRI Industry Working Group also developed 25 recommendations. Layout and marking of boundaries, paint, cruise, and check cruise are the highest costs incurred during implementation.

Mr. Fleishman’s suggestions for the greatest improvements in efficiency:

1. Understanding what authorities exist in sale layout, boundary flexibility, log accountability and branding waivers.
2. Cultural change.
3. Developing an understanding of the entire process instead of each individual focusing on individual components. This understanding is needed across the Forest Service to industry.

Other Innovative Efforts

A participant from the Cibola National Forest noted that they are now measuring decks for volume instead of cruising.

Major Discussion Themes

A number of major themes emerged during the following discussion. Cultural issues and their associated challenges were a recurring theme. These challenges were acknowledged as one of the biggest impediments to change. One participant stated that if the Forest Service had known in the past the problems that would need solving today, the Forest Service would not have designed the implementation process as it currently exists.

Industry participants expressed interest in better understanding the Forest Service valuation process because it has a large impact on business success. Some Forest Service participants responded by stating that the Forest Service focuses more on the supply side and lacks focus on and understanding of the demand side and the capacity of operators. The general implication is that previously, industry needed the Forest Service more than the Forest Service needed industry, but now the circumstances have changed. Industry representatives also asked questions about product value determinations in the absence of competition.

Several comments reinforced the theme that the real economic value of a treatment is the restored acre not the wood removed. A restored acre means reduced fire risk and protection of natural resource values. Associated with this concept were ideas about changing the system and processes to be commensurate with the value of the wood removed, valuing a restored acre so that the taxpayer understands what they are getting, and doing cost comparisons of process compared to product value.

Another theme was the issue of high transportation costs for wood removal and whether or not more processing could be done in the woods.

What Needs to Change?

Participants were asked to consider how their job would change if implementation shifted from valuing the wood removed during treatment to valuing the restored acre. The purpose of this exercise was to explore how a paradigm shift in how the Forest Service approaches the implementation process might look.

The resulting discussion was largely shaped around participants' job duties. One participant felt that the Forest Service has a responsibility to the taxpayer to properly value the wood. Another noted that the Forest Service should define what a restoration-focused industry looks like.

Concern was raised by contract administrators about how you measure a restored acre, what success looks like, and how to value the true cost of restoring an acre. A concern was also raised about how infrastructure would be paid for in the future if wood has no value. One observation was that industry would have to do more analysis to see what they are getting (if appraisal and cruising processes are changed) and that risk would shift from the Forest Service to purchasers.

In some cases, participants stated they would shift their attention to activities they considered more important like getting more acres prepared or achieving better outcomes. Several participants believed this would lead to getting more acres treated and would reduce contract administration time for the Forest Service and the contractors. One participant felt they could provide better customer service to industry and purchasers with this change.

For those involved in contracting, acquisition management (AQM), and grants and agreements, answers varied. For AQM, a change could have no impact or increase work due to changes in the goods and services. If restored acres are the deliverable, then a straight service contract with minor changes is all that would be needed, cutting down on administrative costs, but only if products stayed in the woods. However, there was frustration that staff often view contracts and agreements as being alike, even though they are two distinct tools with different rules.

Participants involved in engineering and ecological monitoring did not think a shift from valuing the wood to valuing the restored acre would have much impact on their job functions.

Participant Reactions

Participant reactions to the first day of the workshop were aligned according to several major themes, one of which was the importance of Mr. Kirby's time analysis of the implementation process. Participants were interested in understanding how that information might be used to catalyze larger cultural changes, as opposed to just using slightly different variations of the same processes used now. There was also discussion about whether or not Mr. Kirby's analysis reveals a critical pathway for improvements that can be explored further.

Another theme was the concern that discussing refinements to existing practices missed the overarching need to accelerate restoration before we lose forest cover due to catastrophic fire and warming and drying conditions. Several changes were emphasized as necessary to accelerate work. These included adjusting processes in order to work at the landscape level, working as a team and across all levels of the agency, and increasing accountability.

The importance of valuing the restored acre rather than valuing individual logs was another recurring theme. Some participants emphasized that the focus should be on how to get the landscape treated rather than getting top dollar for each log. One participant stated that we are restoring forests, not selling them.

With respect to industry and economics, a common theme was the need to include more industry in discussions about agency processes, respect industry as both customers and partners in restoration, and acknowledge that some of the proposed innovations would place greater risk and burden on industry. Concern was raised about fair market value for wood and whether or not that valuation led to no-bids. It was noted that there have only been six no-bids in Region 3 during the last three years.

Developing Innovations

Participants worked together to develop a list of proposed innovations to discuss in greater detail. The purpose of this exercise was to develop specific, testable actions to be implemented in 4FRI. Major topics were selected based on the pre-workshop innovations summary table presented by Dick Fleishman and from issues raised by the presenters and the workshop discussion. The items in the pre-workshop innovations summary table were identified using multiple sources including: 1) Preliminary information emerging from the Washington Office Modernization Team; 2) The 2013 and 2015 Task Force Report on the Costs of Sale Preparation and Cruising; 3)



Thinned logs being processed into wood chips in the field as part of the White Mountain Stewardship Project. *Photo courtesy of ERI*

Opportunities for innovation identified by the 4FRI Forest Service Team and the 4FRI Stakeholder Industry Work Group; 4) Lessons learned by TNC during the development of their Stewardship Agreement with the Forest Service; and, 5) A time and efficiency analysis done by an Experience Matters Fellow supported by TNC. A list of major topics was then finalized, and the group identified specific action items and assigned individuals to move those actions forward.

Workshop Outcomes

According to workshop participants, the majority of the proposed innovative actions that were identified prior to the workshop are already permitted by policy, the Forest Service Manual, or Forest Service Handbook—but are not being implemented. Participants felt that Forest Service culture is an impediment to change. There was general agreement that focused attention is needed to address the challenge. The cultural issues took several forms including:

1. Reluctance to deviate from strict interpretation of the handbook and manual out of fear that leadership will not support risk-taking.
2. Inconsistencies of interpretation of guidance across functional areas that lead to delays and confusion.
3. Reticence or time constraints that reduce the ability for staff to reach across regions where innovation is already underway.
4. Reluctance to engage industry in decision-making (within the confines of the law), creating an adversarial relationship with purchasers.
5. Failure to hold people accountable for performance, and concerns about the time it will take to adopt new approaches.

Together, the group systematically identified innovative actions to be tested during 4FRI implementation. For each action the group considered the factors below.

1. Purpose (why are we doing this?),
2. Return (expected cost/time savings),
3. Scale (stand versus landscape),
4. Short-term actions versus long-term actions,
5. Cultural change that may be required for success,
6. National role (if any),
7. Responsibility (who); and
8. Timeline (by when) to frame each action item.

The action items were grouped under seven distinct areas, however, time allowed only five areas to be discussed. In total, 19 action items were identified to move forward. The detailed discussion can be found in Appendix C. Developing a performance metric for each innovative action was delegated to the individuals implementing the action.

1. Sale Preparation
 - a. Simplified DxP
 - b. Boundary delineation
 - c. Assess the need for cruise and scaled sales
 - d. CCF/delegated authority
 - e. Dealing with special use permits, (sales less than 2000 CCFs), that prevent staff from working on landscape scale implementation
2. Industry Operational Changes
 - a. Log accountability, branding, barcoding
 - b. In-woods processing
 - c. In-woods drying
 - d. Transportation (road infrastructure, weights, routes)
 - e. Forest road closure and safety restrictions
 - f. Collaboration with industry
 - g. Better use of industry resources
3. Alignment in Timber Contracts/AQM Contracts and Agreements
 - a. Training and cross-training
 - b. Early, ongoing collaboration among contracts, agreements, and AQM personnel throughout projects
 - c. Develop a new, blended contract instrument
4. Appraisal process clarity/definition of products
 - a. Appraisal unit of measure
 - b. Standard rate appraising

5. Using new technologies (what training needs to happen)
 - a. Cruise with LiDAR
 - b. Unmanned Aircraft Systems (UAS) for sale administration and monitoring

6. What should we do differently—this was not discussed due to time constraints. However, the group identified the following topics for future consideration:
 - a. Decision-making
 - b. Organizational structure
 - c. Team approach to projects
 - d. Taking advantage of generational change
 - e. Working together across the agency
 - f. Moving from stand to landscape scale

7. Surveys. Time did not permit the group to develop actions. However, the following topics were developed for future analysis.
 - a. Surveys in multiple phases of analysis and action (are there opportunities to condense them)
 - b. Surveys at the stand versus landscape scale
 - c. Streamlining survey design from NEPA through implementation

Next Steps

The meeting concluded with the group committing to the following next steps:

1. National webinars held by the Washington Office Modernization Effort on December 5 and 13 included a summary of the outcomes from the workshop. *Completed*
2. The ERI sent out a draft report from the workshop for feedback on December 15. *Completed*
3. An executive summary of the meeting was completed and shared with the 4FRI Stakeholder Group, USFS employees, and others on December 15. *Completed.*
4. The Action Teams will define metrics for each action item, determine how to document change, and define measures of success, all of which will be action specific.
 - a. The Action Teams will meet and determine how to operate, take action, and determine what constitutes success (mid-January 2018).
5. The workshop participants will provide feedback to the workshop draft report, and the ERI will complete the final report (end of January 2018). *Completed*
6. The ERI will reconvene the group to assess progress (March–April 2018).
7. The Forest Service will share the workshop report/outcomes with 4FRI Industry Roundtable (Spring 2018).

Future Involvement and Communication

Forest Service staff and partners have expressed interest in this project and have asked to be informed of progress and to provide feedback. Once the workshop report is complete, outreach activities will be planned to broaden the conversation.

Identification of innovative changes will continue over time. Incorporating that learning into ongoing operations is crucial in order to get to the pace and scale of restoration that is needed.

Observations from the Workshop

The ERI made several observations during the planning and execution of the workshop. First and foremost, the Forest Service practice of focusing on the value of wood rather than the value of a restored forest as the primary product of restoration leads to inefficiency in sale preparation and the processes associated with contract implementation in places where timber has low traditional value, such as the 4FRI landscape. The largest monetary value (when full cost accounting is used) of restoration is really the treated acre.

During the workshop, it was observed that some participants were uncomfortable with discussions suggesting that less effort be directed at valuing the wood removed during restoration, and the point was made that, “the wood has some value.” It was also noted that the wood may have more value in the future as industry develops. Identifying the level of inventory and appraisal commensurate with the value of the wood and identifying the efficiency trade-offs associated with a reduced level of effort needs further discussion. Moreover, each contractual and operational decision made by the agency has a financial implication to industry. In a low-value environment, seemingly small decisions can quickly add up and undermine economic sustainability. These issues represent a significant culture and policy shift.

It was also noted that across the Forest Service, interpretations of the Forest Service Manual and Handbook varies from strict adherence on the one hand to those that believe it can be flexibly implemented on the other. Even those that adhere strictly to the manual and handbook vary in their interpretations. Consistent interpretation of the manual and handbook across functional areas and hierarchical levels is a significant cultural issue. Risk to the individual appears to be a key concern to those who are predisposed to rigidly adhere to the manual and handbook. Rigid adherence is also the path of least resistance, which contributes to resisting change or avoiding questioning of the way things are done.

Conflict and confusion was observed with respect to contracting, AQM, and grants and agreements. Staff from those functional areas expressed frustration that people do not understand the differences among these approaches. They also stated that too often an approach is determined without sufficiently involving representatives from these functional areas; however, others said privately this was not the case. This problem and perception leads to frustration from all parties when the instrument does not fit the work to be accomplished. Some approaches are flexible while others are not. Alternatively, statements were made that interpretation of what can be done with these instruments varies across the functional areas and, as a consequence, there are

delays until the conflict can be resolved. One participant indicated that the process is further confounded by confusion over who makes the final decision regarding the instrument.

Finally, it was observed that industry and purchasers are eager to work collaboratively with the Forest Service (within legal constraints) to improve operations and efficiency. Areas where industry may be ahead of the Forest Service include: Use of LiDAR, UAS, and tracking loads and trucks. One partner noted that an attitude change is needed to shift from approaching purchasers and partners as adversaries to recognizing the mutual benefits that accrue through cooperation in achieving restoration. The adversarial tone was attributed to the time when wood had more value and the need to ensure an adequate return on investment to the treasury was paramount.

Conclusion

Four goals were established for the workshop and accomplished. These were to build a common understanding of current activities designed to modernize processes in the Forest Service, identify challenges and innovative actions to fix the challenges, and to assign responsibility to individuals that will lead experimentation and change.

In fact, some innovation is already underway such as testing TNC tablet technology for implementation of DxP, testing the use of LiDAR for cruising, and increased consultation in the field between industry and the Forest Service to improve implementation. However, post-workshop discussions with Forest Service implementers suggests that there are insufficient staff resources to take action on all the innovation steps immediately. In order to move ahead with the smartest actions, priorities should be set. In addition, changing Forest Service culture to encourage and reward innovation, especially when it includes risk, is essential to moving beyond outdated and inefficient processes.

The 4FRI, with its large number of NEPA-approved acres, willing partners, and engaged industry, provides a unique opportunity for the Forest Service to change, improve, and test new approaches to achieving forest management and restoration goals. To be successful, support will be needed from the project to the highest levels of the Forest Service. This alignment can set the stage for success.

Appendices

- A. Workshop Participants
- B. Workshop Agenda
- C. Actions Matrix

APPENDIX A

Efficiencies Workshop Attendees

Name	Title
Best, Steve	Forest Supervisor, Apache Sitgreaves National Forest
Bosworth, Neil	Forest Supervisor, Tonto National Forest
Cawrse, David	Center Manager - Forest Management Service Center (WO)
Colavito, Melanie	Human Dimensions Specialist (ERI)
Covington, Wally	Executive Director (ERI)
Cummings, Dave	Timber Sale Admin. (R3)
Dils, Cliff	Director, Forest Mgt., Forest Health, Co-Op & Initial Forestry (R3)
Dunn, Walter	Program Manager (R3)
Dyer, Bill	Chief Operating Officer (New Life Products)
Fleishman, Dick	4FRI Operations Coordinator
Graham, Pat	Arizona State Director (TNC)
Hanna, Ehab	Deputy Director, Engineering (WO)
Hargrave, Ashton	Forester, Appraisal/TIM Specialist (R3)
Haskins, Wendy Jo	Deputy Forest Supervisor, Apache Sitgreaves National Forest
Higgins, Jeanne	Acting Associate Deputy Chief (WO)
Horner, Steve	Area Manager (Campbell Global)
Jones, Karen	Measurement Specialist (R3)
Jourden, Allison	Administrative Associate (ERI)
Kipervaser, Dan	4FRI Zone Monitoring Coordinator / Silviculturist
Kirby, Mike	Fellow with The Nature Conservancy (Formerly with Intel)
Knight, Larry	President (Knight Transportation)
Lawrence, David	Timber Sales analyst (WO)
Maass, Carl	Group Leader (WO)
Marshall, Rob	Director, Center for Science & Public Policy (TNC)
McCarthy, Laura	Associate State Director (TNC New Mexico)
Melendez, Carmen	Lead Supervisory Grants & Agreements Specialist (R3)
Montoya, Danny	Director, Engineering (R3)
Newbauer, Kim	Timber Sales Contracting Officer (R3)
Palmer, Judy	Deputy Director Fire & Aviation (R3)
Paquin-Leon, Melissa	Contracting Officer (R3)
Provencio, Heather	Forest Supervisor, Kaibab National Forest (R2)
Provencio, Henry	4FRI Innovations and Efficiencies Coordinator
Rathbun, Leah	Regional Biometrician (R6)

Russell, Scott	Chief Executive, 4FRI (R3)
Sanchez, Robert	Deputy Forest Supervisor, Coconino National Forest (R3)
Scaggs, Janet	Supervisory Contract Specialist (R3)
Smith, Gavin	Stewardship Procurement Analyst (WO)
Upchurch, Jim	Deputy Regional Forester (R3)
Vosick, Diane	Director of Policy & Partnerships (ERI)
Zachary, Roberta	Director, Acquisition Management (R3)

APPENDIX B

Accelerating Restoration Implementation

A workshop for the United States Forest Service that will identify strategies and actions to reduce the time and cost of implementing treatments that remove low or no value wood

When: Wednesday, November 29, 2017 9AM - 5PM
Thursday, November 30, 2017 8AM - 3PM

Where: Drury Inn & Suites Phoenix Airport
3333 E. University Drive
Phoenix, AZ 85034
602-437-8400

Workshop Goals:

1. Understand current efforts to improve efficiency for projects designed to remove low value wood and biomass
2. Identify specific business and implementation practices that should be changed to accelerate implementation
3. Identify solutions that are implementable and testable as a part of the Four Forest Restoration Initiative (4FRI) project
4. Identify USFS staff who will move identified solutions forward

DRAFT Agenda

Day 1 - Wednesday, November 29

Welcome - Introductions- Objectives - Goals	
9:00-9:45AM 45 min	Welcome and Introductions (ERI) <ul style="list-style-type: none">• Please share why you think you are here, what you want to contribute. Defining the Problem & Goals of the Workshop (Wally Covington/ ERI) <ul style="list-style-type: none">▪ The elephant in the room: the value of the wood vs the value of a restored acre▪ Why you were invited▪ What we hope to accomplish/ generate from this workshop▪ Clarifying questions▪ Any other items for consideration in the agenda?

Overview of current efforts to increase efficiency – Establishing a baseline	
9:45am 15 min	2013/2015 Task Force Report: Issues and concerns on costs of sale preparation and cruising in the U.S. Forest Service (Dave Cawrse)
10:15am 30 min	Update on Forest Modernization Team (Dave Cawrse)
10:30am 15 min	BREAK
10:45am 15 min	TNC 4FRI Stewardship Agreement (Rob Marshall, TNC)
11:00am 30 min	TNC Time and Effort Analysis (Mike Kirby, Experience Matters Fellow)
11:30am 15 min	4FRI Specific Analysis – Based on previous work and industry discussions (Fleishman)
11:45 15 min	Other efforts – What are we missing?
12:00 45 min	Discussion – Summary of issues presented and identify the issues with maximum improvement potential for further discussion <ul style="list-style-type: none"> ▪ How do issues manifest themselves? ▪ Which issues are the most salient? Which issues stick out from the pre-work and presentations?
12:45 1.25 hour	LUNCH on your own
Current programs and operations are based on an old paradigm that logs are valuable. Is it time to rethink this paradigm? If so, what needs to change?	
2:00 60 min	Discussion <ul style="list-style-type: none"> ▪ If so, what goals, benchmarks and processes would change? ▪ What are the risks and benefits of shifting this focus? ▪ Who/ what would need to change? Are these changes realistic? ▪ Would this change be geographically tied to low value wood? ▪ How would you shift the approach? ▪ What would be the metrics that measure a restored acre from the Forest Service perspective?
Afternoon will be devoted to discussing the issues with maximum improvement potential from the previous sessions and the work already accomplished. What is the barrier?	
	<ul style="list-style-type: none"> ▪ Why is it an issue? Statute, Manual, Handbook, Cultural ▪ What can be done to fix it? ▪ Who leads the change?
3:00	Topic 1

	Topic 2
	Topic 3
3:45	BREAK
4:00	Topic 4
	Topic 5
	Topic 6
Wrap Up - Day Two review	
4:45 15 min	Discussion – Summarize discussion from the day. Things to think about tonight in preparation for tomorrow
	DINNER on your own

Day 2 - Thursday, November 30

Synthesis of Previous Day/ Set Agenda for Today	
8:00-9:00AM 60 min	Discuss thoughts from previous day <ul style="list-style-type: none"> • What sticks out most? Anything missing?
What can be tested during 4FRI Implementation?	
9:00am 60 min	<p>What items and changes discussed during the workshop could be tested during 4FRI Implementation?</p> <ul style="list-style-type: none"> ▪ Is a special designation required? ▪ If not, how should the stage be set? Who is the project manager? <p>What management structure should be established to facilitate experimentation with changes?</p> <ul style="list-style-type: none"> ▪ Teams by issue? ▪ If there is a team approach do you include staff from all levels of the USFS? What is a most efficient configuration of staff? <p>What timeline is reasonable for implementing change?</p> <p>What other actions are needed?</p>
10:00 30 min	BREAK

Next Steps – This part of the agenda will be shaped based on previous workshop activity	
10:30 90 min	Discussion
12:00	LUNCH on your own
Communication of Workshop Outcomes	
1:00pm 105 min	Who should know what happened at this workshop? <ul style="list-style-type: none"> ▪ 4FRI Stakeholders and Industry? ▪ Senator Flake’s staff ▪ Internal USFS audiences
Wrap Up/ Conclusion	
2:45-3:00pm 15min	Discussion Adjourn

APPENDIX C

ACTION PLAN

1. Sale Preparation

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
a. Simplified DxP	Use more DxP	High (with unknown burden shift)	Figure out how to use DxP at project and landscape scale	-Increase number of acres in DxP -Need to have strong justification for not using DxP -Develop tool to measure/ track DxP outcomes (QC)	-Reflection/ assessment -Formalize guidance related to digital prescriptions	-Regional support -Letter from RF to authorize -Training for implementers -Mentoring from other regions using DxP -Cross train between sale prep and sale admin -Determine how to inform industry	-National training -Examine direction related to tree measurement -Share lessons learned from Region 6 and reasons for using DxP	-Regional Office to write RF letter and manual change -Deputy Regional Forest letter of intent on use of DxP -Small team leader	Summer 2018
b. Boundary delineation	Reduce layout costs/ time	Medium		-Implement current flexibilities -Use virtual boundaries		-Increase comfort level of operators -Team approach on Kaibab -Share successes/lessons learned	-Share lessons learned from Fremont-Winema		May 2018

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
c. Assess need for cruise and scaled sales	Why cruise if scaling timber?	Medium to low		-Pilot a “no cruise” approach (make estimates in other ways to determine value)		-Change comfort level with level of specificity needed on estimates	-Eliminate this process? -Loosening sampling error for scaled sales/ examine minimums -Create experimentation/ learning process	-Small team	Summer 2018
d. CCF/ delegated authority	Multiple SPA’s or one big one with same CCF?	High (with training workload impact)		-Determine how much authority can be passed down from chief’s office			-Letter from WO to RO regarding volume authority, number of SPA’s		
e. Dealing with special use permits (sales less than 2000 CCF’s) that prevent staff from working on landscape scale implementation	Taking time away from getting to scale on restoration			-Set standards for sales less than 2000 CCF -Letter of intent from RO -Examine CCF cap				-Small team to explain options	

2. Industry Operational Changes

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
a. Log accountability, branding, barcoding	Tracking materials	High		-Explore use of industry standard for tracking in FS -Test tracking options (incl. with respect to export laws) with industry -Consider using new tool (e.g. Lidar) to determine volume and reduce log accountability process	-Digital processes			-Document tracking process, consider new process	Summer 2018
b. In-woods processing	Facilitate industry ability to do work	Low (FS), high (industry)		-Clear CC Cragin sites in NEPA, measure outcomes -Evaluate Rim Country EIS candidate sites -Determine NEPA requirements/sites/ scale locations on West side				-Determine pre-NEPA plan	April 2018

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
c. In-woods drying	Industry advantage in terms of haul costs, fewer trucks on the road	High (industry), low-med (FS)		-Monitor economic and biological outcomes of leaving material (e.g. drying rates, bug activity) -Use industry-desired authority for 120 days of in-woods drying				-Determine whether use of in-woods drying feasible	Ongoing
d. Transportation (road infrastructure, weights, routes)	Minimize the number of trips, minimize impacts on road infrastructure, reduce costs	Low cost to FS, high benefit to industry		-Meet with transportation engineer and ADOT and FHA engineers regarding raising load limits -Evaluate asphalt and bridge impacts -Allow industry to propose haul routes during sale prep with FS		-Address timing restriction and cost concerns	-Funding for road improvements (Congress, working with counties)	-Continue conversations on transportation	February 2018

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
e. Forest road closure and safety restrictions	Move more trucks	High (industry), low (FS)		-Come up with procedure for dealing with closures				-Test on existing projects	Spring 2018
f. Collaboration with industry				-Share information about appraisal process from FS to industry -Allow industry to provide feedback/ offer help -Establish process -Meeting with industry to facilitate two-way conversation		-Communication		-Spend time with industry to demystifying appraisal process at next IWG meeting	Spring 2018
g. Better use of industry resources	Collaborate with industry partners to bring capacity and learn from industry			-Continue assessing the use partners in SPA prep				-Small team	Summer 2018

3. Alignment in Timber Contracts/ AQM Contracts and Agreements

TOPIC	PURPOSE	RETURN (COST/ TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
a. Training/ cross training	Consistent interpretation across agency on authorities and values of financial instruments	High		<ul style="list-style-type: none"> -Facilitate a clear interpretation of financial instruments -New Stewardship training -Implementation training at all levels -Identify coaches/ mentors -Learn what is working in other places that can be used in 4FRI and/ or nationwide -Test a new agreement for 4FRI 	<ul style="list-style-type: none"> -Understand the bounds of agreements 		<ul style="list-style-type: none"> -Training identified nationally -Different financial instruments and understanding of their use is needed, understanding should come from top-down -Share learning journeys -One stop shopping on guidance according to instrument 		

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
b. Early, ongoing collaboration among contracts, agreements, AQM personnel throughout projects	Get to the right instrument effectively, allow all parties to be heard in decision-making			-Examine out-year acquisition items, understand workload -Invite necessary experts to the table on decisions early		-Before making decisions, discuss options with all relevant people as part of a team approach			Spring 2018 check in
c. Develop new, blended contract instrument	New type of instrument to accomplish landscape scale objectives			-Identify issues with current instruments -Develop proposal for what new instrument would accomplish/ look like -Test a new instrument	-Assess options for the right instruments, examine what other agencies are doing		-Provide assistance	-Proposal	Spring 2018

4. Appraisal process clarity/ definition of products

TOPIC	PURPOSE	RETURN (COST/ TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
a. Appraisal unit of measure	Clear lines of communication, change unit of measure to dollars per acre (focus on value of the desired outcome)	Low to medium, industry value		-Determine appropriate definitions for products -Determine if this can be done across 4FRI footprint				-Examine definitions, process to value acre	Summer 2018
b. Standard rate appraising	Streamline appraisal process			-Examine pros and cons of standard rate appraisal with industry partners				-Discussion with industry partners	

5. Using new technologies (what trainings need to happen)

TOPIC	PURPOSE	RETURN (COST/TIME SAVINGS)	STAND VS. LANDSCAPE PROCESSES	SHORT-TERM ACTIONS	LONG-TERM ACTIONS	CULTURAL CHANGE ACTIONS	NATIONAL	RESPONSIBILITY (WHO)	TIMELINE (BY WHEN)
a. Cruise with LiDAR	Save time, high return, data has already been collected	High		<ul style="list-style-type: none"> -Compare Lidar data to data collected on cruises and determine outcomes -Utilize Lidar and focus on areas where cruises needed -Investigate RS tech that can create efficiencies in volume estimates -Share lessons learned from OR on Lidar use -Examine doing resource surveys with Lidar 	-Implement training		<ul style="list-style-type: none"> -Develop demonstration projects using Lidar -Share learning from other regions (e.g. Lidar story map) within FS and with industry partners 	<ul style="list-style-type: none"> -Work together to find areas to move forward -Share learning from Williams RD and work with NAU researchers -Determine who to attend Region 6 Lidar workshops 	Spring 2018
b. Unmanned aircraft systems (UAS) for sale administration and monitoring	Real time sale admin pattern and immediate AM feedback			<ul style="list-style-type: none"> -Work with Mod team -Work with A-S on project proposal 			<ul style="list-style-type: none"> -National direction on use of UAS outside of fire in development -Explore changes needed in UAS policy 		Check in Spring 2018

6. **What should we do differently** - This was not discussed due to time constraints. However, the group identified the following topics for future consideration:
 - a. Decision-making
 - b. Organizational structure
 - c. Team approach to projects
 - d. Taking advantage of generational change
 - e. Work together across agency
 - f. Landscape scale

7. **Surveys** - Time did not permit the group to develop actions. However, the following topics were developed for future analysis.
 - a. Surveys in multiple phases of analysis and action (are there opportunities to condense them)
 - b. Surveys at the stand versus landscape scale
 - c. Streamlining survey design from NEPA through implementation

Next Steps:

1. National webinar on Modernization Effort to mention learning from workshop (Dec. 5, 13)
2. ERI will send out draft report from workshop, distribute for feedback (Dec. 15)
3. Executive summary to share with 4FRI SHG, USFS employees, etc. (Dec. 15)
4. Define metrics (for each item, determine how to document change, define measurement/ success - will be dependent on topic)
 - a. Action item teams should meet and determine how to operation, take action, determine what constitutes success (mid Jan 2018)
5. Group will provide feedback, and ERI will complete final report (end of Jan 2018)
6. ERI will reconvene the group to assess progress (March 2018)
7. Share workshop report/ outcomes with 4FRI Industry Roundtable (Spring 2018)