CFLR Project (Name/Number): _Four-Forest Restoration Initiative (CFLR005)

National Forest(s): Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests

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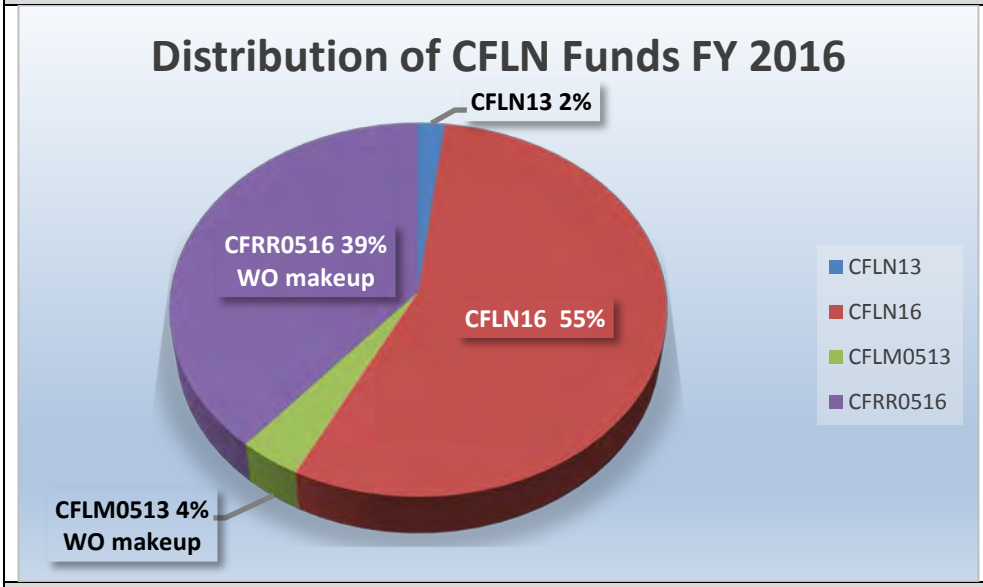
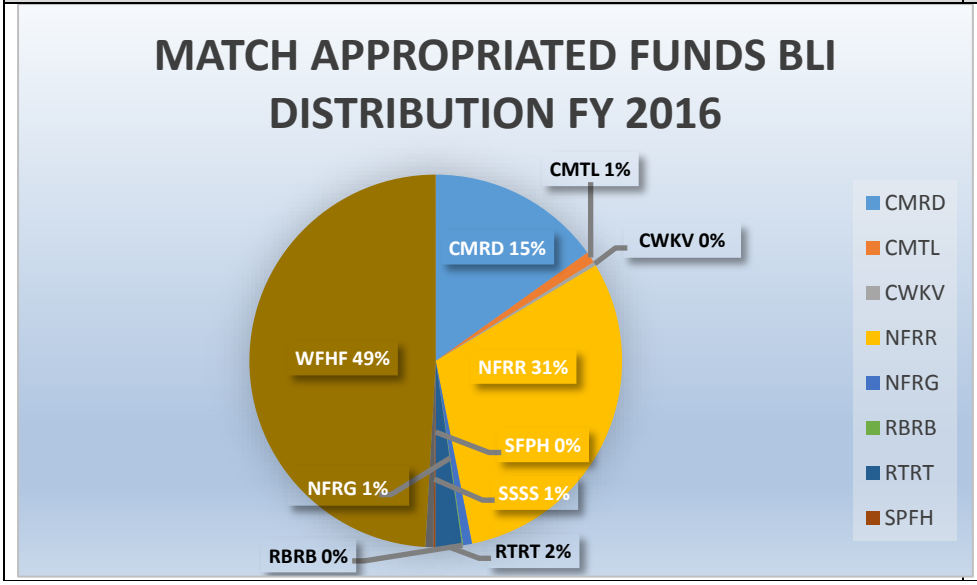
1. Match and Leveraged Funds:

a. FY16 Matching Funds Documentation

Fund Source – (CFLN/CFLR Funds Expended[1])	Total Funds Expended in Fiscal Year 2016 ($2,007,585)
	CFLN13 $67,000 CFLN16 $1,940,585
Fund Source – (Funds expended from Washington Office funds (in addition to CFLR/CFLN)[2] (please include a new row for each BLI))	**Total Funds Expended in Fiscal Year 2016 ($1,485,448)**
	CFLM0513 $129,448 CFRR0516 $1,356,000

1 This amount should match the amount of CFLR/CFLN dollars obligated in the PAS expenditure report. Include prior year CFLN dollars expended in this Fiscal Year.

2 This value (aka carryover funds or WO unobligated funds) should reflect the amount expended of the allocated funds as indicated in the FY16 program direction, but does not necessarily need to be in the same BLIs or budget fiscal year as indicated in the program direction.

Fund Source – (FS Matching Funds (please include a new row for each BLI)[3])	Total Funds Expended in Fiscal Year 2016 ($23,710,456)
	CMRD $3,588,291 CMTL $231,474 CWKV $75,496 NFRR $7,217,771[4] NFRG $184,346 RBRB $23,182 RTRT $544,095 SPFH $39,732 SSSS $162,036 WFHF $11,644,033

Fund Source – (Funds contributed through agreements[5])	Total Funds Expended in Fiscal Year 2016($)157,857
NFXN	$18,692
Burro Stewardship Agreement (14-SA-11030121-035)	$139,165
Fund Source – (Partner In-Kind Contributions[6])	**Total Funds Expended in Fiscal Year 2016($) 738,624**
Arizona Elk Society	$16,000
Ecological Restoration Institute	$82,300
Flagstaff FD	$350,000
Friends of Northern Arizona Forests	$57,358
Grand Canyon Trust	$64,464
Mottek Consulting	$70,502
The Nature Conservancy	$96,000
Trout Unlimited	$2,000

3 This amount should match the amount of matching funds obligated in the gPAS expenditure report, minus the Washington Office funds listed in the box above and any partner funds contributed through agreements (such as NFEX, SPEX, WFEX, CMEX, and CWFS) listed in the box below.

4 Total in gPAS is $8,573,771 for NFRR. The total displayed is less the $1,356,000 that are CFLN makeup funds and is displayed in the CFLN section above

5 Please document any partner contributions to implementation and monitoring of the CFLR project through an income funds agreement (**this should include partner funds captured through the gPAS job reports** such as NFEX, SPEX, WFEX, CMEX, and CWFS). Please list the partner organizations involved in the agreement. Partner contributions for Fish, Wildlife, and Watershed work can be found in WIT database.

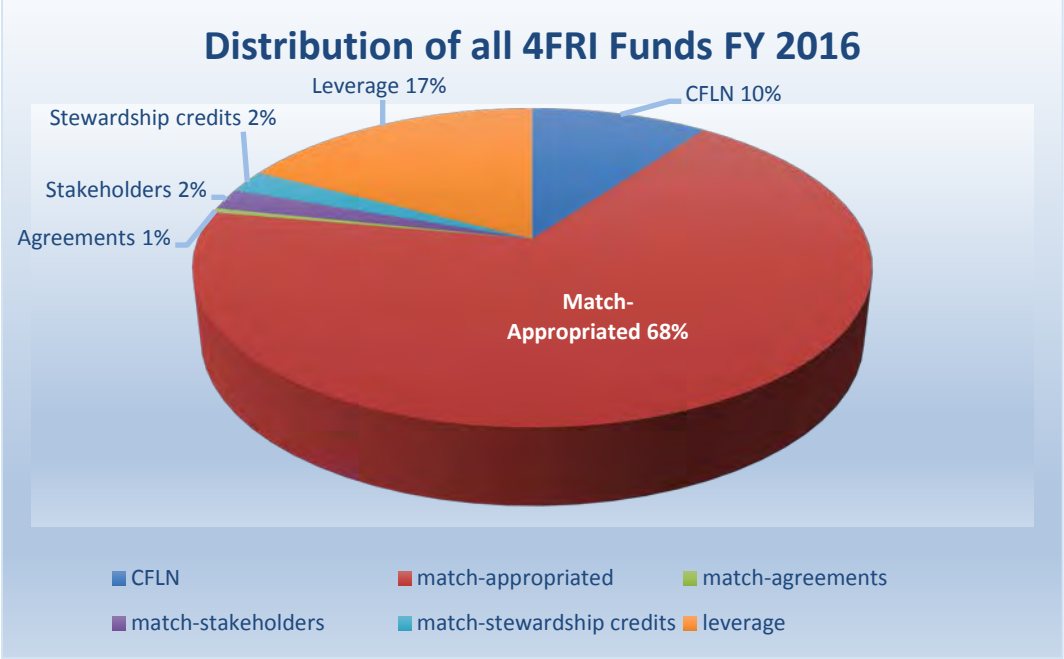
6 Total partner In-Kind contributions for implementation and monitoring of a CFLR project. Please list the partner organizations that provided In-Kind contributions.

Service work accomplishment through goods-for services funding within a stewardship contract	**Totals $801,927**
For Contracts Awarded in FY16:	
Total revised non-monetary credit limit for contracts awarded in FY16[7]	$801,927
Note: revised non-monetary credit limits for contracts awarded prior to FY16 were captured in the FY15 CFLR annual report.	

b. Please provide a narrative or table describing leveraged funds in your landscape in FY2016 (one page maximum).

Leveraged funds for the 4FRI projects this year total over $6 million dollars. The following is a summary of the organizations and the amount of leveraged funds from each entity. Specifics about the funds and projects contributed are listed below the summary table.

WHO	Amount
Arizona Game and Fish Department	$34,700
Arizona State Forestry and Fire Management	$160,000
Mottek Consulting	$6,000
The Nature Conservancy	$50,000
Tri Star Logging	$3,000,000
Trout Unlimited	$15,000
USFS	$2,775,351
Grand Total	**$6,041,051**



[7] This should be the amount in contract's "Progress Report for Stewardship Credits, Integrated Resources Contracts or Agreements" in cell J46, the "Revised Non-Monetary Credit Limit," *as of September 30*. Additional information on the Progress Reports is available in CFLR Annual Report Instructions document.

Fulton Timber Sale log deck, Black Mesa Ranger District Apache-Sitgreaves National Forest

Volunteers build a Zuni bowl in Merritt Draw on the Mogollon Rim Ranger District, Coconino National Forest

Date Received	WHO	Item Description	Treatment Activity	Description on where treatment/activity was carried out	total estimated amount	Source of funds	In-Kind or cash
10/1/2015-9/30/2016	USFS	NEPA to support future restoration projects	USFS-Perform NEPA and NFMA on forest restoration projects on the 4 Forests to be able to implement future restoration work in the Initiative boundary on approximately 2,200,000 acres	Black River NEPA (A-S), CC Cragin Watershed EA (Coconino), West Escudilla NEPA (A-S), Escudilla WRAP (A-S), Mixed Con LEARN NEPA (Coconino), Rim Country EIS (A-S, Coconino, Tonto), Turkey Barney EA (Coconino), and Black River NFMA (A-S)	$2,775,351	NFRR $1,065,193 WFHF $1,377,322 partner (SRP) $332,836	appropriated NFRR and WFHF and agreement (SRP)
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Audrey Owens (400hrs)	4FRI meetings, coordination, data collection & project review	$10,000	AGFD funds	In-Kind
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Steve Rosenstock (120hrs)	4FRI meetings, coordination, data collection & project review	$3,000	AGFD funds	In-Kind
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Dave Dorum (320hrs)	4FRI meetings, coordination, data collection & project review	$8,000	AGFD funds	In-Kind
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Kelly Wolff-Krauter (320hrs)	4FRI meetings, coordination, data collection & project review	$8,000	AGFD funds	In-Kind
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Julie Mikolajczyk (80hrs)	4FRI meetings, coordination, data collection & project review	$2,000	AGFD funds	In-Kind

Date Received	WHO	Item Description	Treatment Activity	Description on where treatment/activity was carried out	total estimated amount	Source of funds	In-Kind or cash
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Workshop participants (120hrs)	4FRI meetings, coordination, data collection & project review	$3,000	AGFD funds	In-Kind
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Rob Nelson (8hrs)	4FRI meetings, coordination, data collection & project review	$200	AGFD funds	In-Kind
10/1/2015-9/30/2016	Arizona Game and Fish Department	AGFD contributed labor	Hannah Griscom (20hrs)	4FRI meetings, coordination, data collection & project review	$500	AGFD funds	In-Kind
10/1/2015-9/30/2016	The Nature Conservancy	TNC 4FRI cooperator support	Meetings, work group leadership, monitoring	TNC time in 4FRI support roles (chairman, work group, monitoring board, meetings)	$50,000	Private donors	In-Kind: part-time efforts of 3.5 staff (Travis, Neil, Sue, Rob)
10/1/2015 - 9/30/2016	Arizona State Forestry and Fire Management	Arizona State Forestry BOBS/FRY Project	Hazardous fuels reduction	Coconino County - Arizona State Trust Lands	$160,000	State	In-Kind
2/16	Mottek Consulting	Harvesting Methods Fact Sheets/Poster Display	outreach	Flagstaff	$1,000	Fire Adapted Community Learning Network	Cash
6/16	Mottek Consulting	Harvesting Methods Fact Sheets/Poster Display	outreach	Flagstaff	$200	GFFP	Cash
2/16	Mottek Consulting	Harvesting Methods Workshop	outreach	Flagstaff	$1,500	Fire Adapted Community Learning Network	Cash

Date Received	WHO	Item Description	Treatment Activity	Description on where treatment/activity was carried out	total estimated amount	Source of funds	In-Kind or cash
6/16	Mottek Consulting	Harvesting Methods Workshop	outreach	Flagstaff	$300	GFFP	Cash
2/16	Mottek Consulting	Interpretative Kiosk - Ft Tuthill/County Fairgrounds	outreach	Flagstaff	$2,500	Fire Adapted Community Learning Network	Cash
6/16	Mottek Consulting	Interpretative Kiosk - Ft Tuthill/County Fairgrounds	outreach	Flagstaff	$500	GFFP	Cash
10/1/2015 9/30/2016	Tri Star Logging	2 grinders and two loaders	restoration treatment equipment	Apache-Sitgreaves and Tonto NF	$3,000,000	private	cash
10/1/2015 9/30/2016	Trout Unlimited	outreach and NEPA planning support 750 hours	meeting attendance	Rim Country EIS and Initiative wide	$15,000	In-Kind	In-Kind

2. Please tell us about the CFLR **project's progress to date in restoring a more fire-adapted ecosystem as described in the project proposal**, and how it has contributed to the wildland fire goals in the *10-Year Comprehensive Strategy Implementation Plan*. This may also include a brief description of the current fire year (fire activity that occurred in the project area) as a backdrop to your response (please limit answer to one page). ***Where existing fuel treatments within the landscape are tested by wildfire, please include a summary and reference the fuel treatment effectiveness report.***

The 4FRI project has begun large-scale implementation with the issuance of 26 Task Orders in the 4FRI Phase 1 Stewardship Contract, totaling 53,422 acres. 7,944 acres have been harvested to date. This 4FRI Phase 1 Stewardship Contract is in addition to the current timber program of work that includes 26 active timber sales covering about 35,330 acres. This combined effort to implement mechanical thinning treatments is moving these portions of the landscape toward desired conditions and the goals outlined in the 10-year strategy.

Mechanical treatments meet the 10-year comprehensive strategy by achieving these objectives:

- Treatments meet the goal of reducing fire intensities and conform to the National Fire Management Plan by reducing hazardous fuels.
- Treatments are designed to restore fire-adapted ecosystems by restoring the structure, pattern, and composition of ponderosa pine forests.

Including the specific projects discussed above, other treatments implemented in Fiscal Year 2016 within the 4FRI area that address the 10-year strategy include:

- Fuels reduction treatments with prescribed burning, wildfires managed for resource benefits and mechanical thinning on approximately 154,427 acres, of which approximately 55,336 acres are in Wildland Urban Interface.
- Prescribed fire and wildfires managed for resource benefits treatments designed to reduce fire intensities conform to the National Fire Management Plan by reducing hazardous fuels.

Fire Preparedness (WFPR)

The following table summarizes the costs for wildfire preparedness in the 4FRI project area. The total expenditures in WFPR were prorated by the relative area of the 4FRI project in relationship to the total forest acreage. The table displays, by forest, the total expenditures in WFPR for FY 2016, the percent of the forest covered by these expenditures, and the 4FRI expenditures allocated to WFPR. Approximately $11.5 million of wildfire preparedness funds were spent in FY 2016 in the 4FRI footprint.

FOREST	WFPR total	% of Forest	4FRI expenditures WFPR
Apache-Sitgreaves	$5,488,921	0.8	$4,391,137
Coconino	$4,791,238	0.8	$3,832,990
Kaibab	$3,797,152	0.5	$1,898,576
Tonto	$5,604,573	0.25	$1,401,143
TOTAL	**$19,681,884**		**$11,523,846**

Fire Suppression (WFSU)

The 4FRI project area had an active wildland fire year in 2016. The table below summarizes fire activity over 100 acres in the 4FRI area as reported in the Wildland Fire Decision Support System (WFDSS). There were 99,246 acres of wildfires

over 100 acres in size within the 4FRI footprint. All of these acres constituted wildfires with beneficial effects. No large fires were in full suppression.

Forest	Wildfire with Beneficial Effects Project Name	Size	Type
A-S	Balke	172	wildfire-beneficial effects
A-S	Maple	1,408	wildfire-beneficial effects
A-S	Baldwin	600	wildfire-beneficial effects
A-S	Elk	1,887	wildfire-beneficial effects
A-S	Sam Jim	2,350	wildfire-beneficial effects
Coconino	Cowboy	2,170	wildfire-beneficial effects
Coconino	Pivot Rock	5,900	wildfire-beneficial effects
Coconino	Jack	33,850	wildfire-beneficial effects
Coconino	Crackerbox	1,000	wildfire-beneficial effects
Coconino	Pine Hill	516	wildfire-beneficial effects
Coconino	Point	199	wildfire-beneficial effects
Coconino	Eden	150	wildfire-beneficial effects
Coconino	Pinchot	3,860	wildfire-beneficial effects
Kaibab	Bert	5,750	wildfire-beneficial effects
Kaibab	Scott	1,750	wildfire-beneficial effects
Kaibab	Airstrip	679	wildfire-beneficial effects
Kaibab	Sunflower	726	wildfire-beneficial effects
Kaibab	Coco	2,400	wildfire-beneficial effects
Tonto	Juniper	30,641	wildfire-beneficial effects
Tonto	Fulton	3,238	wildfire-beneficial effects
TOTAL		**99,246**	

3. **What assumptions were used in generating the numbers and/or percentages you plugged into the TREAT tool**? Information about Treatment for Restoration Economic Analysis Tool inputs and assumptions available here – Treat User Guide.

CFLR/CFLN Assumptions

1) Total CFLR funding in Table 1 includes appropriated CFLN plus carryover from final expenditure report.
2) % contract in Table 1 is 44% from contracts let using CFLN and CFLN carryover--$1.75 million of the $3.49 million. % of contracts derived from Work Plan contract values.
3) % of contracting split in Table 2 in CFLR is based on the percentage of the 39% that went to contracts out of the funds ($1.75 million), not out of the total ($3.49 million). % of contracts derived from Work Plan contract values.
4) Volume in Table 3 is from BIO-NRG performance measure for 4FRI from final gPAS report. Conversion of Green Tons in BIO-NRG to Dry Tons used 50% moisture content.
5) Volume in Table 3 for TMBR VOL HARVEST is from Timber Information Manager (TIM) database cut and sold report selected for CFLRP projects only.
6) % manufacturing in Table 4 is from values produced by Arizona Department of Forestry and Fire Management Wood Utilization & Marketing Specialist. In this project, energy is comprised of cogeneration as well as wood

pellets. Some biomass is going to soil amendments, decorative bark, horse bedding etc. that is not categorized and is actually manufactured outside of the project area in Maricopa County so the percentage is less than 100%.

FULL PROJECTASSUMPTIONS

1) Total project funding in Table 1 from final funding report and includes CFLN plus carryover
2) % of contracting in Table 1 is the 39% ($10.54 million of the $27.22 million) that went to contracts. % of contracts derived from Work Plan contract values.
3) % of split in Table 2 is based on the percentage of the actual cost by BLI, assigned to the categories in the table.
4) Volume in Table 3 is from BIO-NRG performance measure for 4FRI from final gPAS report. Conversion of Green Tons in BIO-NRG to Dry Tons used 50% moisture content.
5) Volume in Table 3 for TMBR VOL HARVEST is from Timber Information Manager (TIM) database cut and sold report selected for CFLRP projects only.
6) % manufacturing in Table 4 is from values produced by Arizona Department of Forestry and Fire Management Wood Utilization & Marketing Specialist. In this project, energy is comprised of cogeneration as well as wood pellets. Some biomass is going to soil amendments, decorative bark, horse bedding etc. that is not categorized and is actually manufactured outside of the project area in Maricopa County so the percentage is less than 100%.

FY 2016 Jobs Created/Maintained (FY16 CFLR/CFLN/ WO carryover funding):

	Jobs (Full and Part-Time)		Labor Income	
Project Type	**Direct**	**Total**	**Direct**	**Total[8]**
Timber harvesting component	140	212	$6,028,634	$7,137,401
Forest and watershed restoration component	11	14	$201,720	$279,324
Mill processing component	104	256	$3,233,326	$6,803,025
Implementation and monitoring	19	25	$1,303,665	$1,478,032
Other Project Activities	1	1	$20,344	$26,621
TOTALS:	275	507	$10,787,688	$15,724,403

FY 2016 Jobs Created/Maintained (FY16 CFLR/CFLN/ WO carryover **and matching funding**):

	Jobs (Full and Part-Time)		Labor Income	
Project Type	**Direct**	**Total**	**Direct**	**Total[9]**
Timber harvesting component	424	642	$18,268,263	$21,628,103
Forest and watershed restoration component	98	115	$874,787	$1,352,054
Mill processing component	213	640	$6,422,436	$15,774,038
Implementation and monitoring	341	389	$11,066,951	$12,547,174
Other Project Activities	2	2	$46,843	$61,296
TOTALS:	1,077	1,788	$36,679,281	$51,362,666

4. **Describe other community benefits achieved and the methods used to gather information about these benefits**. **How has CFLR and related activities benefitted your community from a social and/or economic standpoint?** (Please

[8] *Values obtained from Treatment for Restoration Economic Analysis Tool (TREAT) spreadsheet, "Impacts-Jobs and Income" tab. Spreadsheet and directions available at http://www.fs.fed.us/restoration/CFLR/submittingproposals.shtml#tools.*

[9] *Values obtained from Treatment for Restoration Economic Analysis Tool (TREAT) spreadsheet, "Impacts-Jobs and Income" tab. Spreadsheet and directions available at http://www.fs.fed.us/restoration/CFLR/submittingproposals.shtml#tools.*

limit answer to two pages). *If you have one story you could tell a member of Congress or other key stakeholder about the benefits in the community the project has helped achieve, what would it be?*

The Four Forest Restoration Initiative (4FRI) achieved a number of community benefits over the last year. The forest products industry within the 4FRI project area continues to provide employment opportunities across the 4FRI landscape. In addition to community job creation, restoration treatments have reduced the risk of stand-replacing fire on nearly 530,000 acres since 2010. Methods to gather information about benefits are displayed in the TREAT data above, as well as in Forest Service reporting accomplishments. One grant was obtained by the Mottek Consulting (4FRI stakeholder) to begin to gather data related assessing the economic impacts of 4FRI harvesting contractors. The grant created and tested five contractor reporting forms and associated databases for the data that will be used to track the economic impacts of 4FRI harvesting contractors.

The wood supply to one east side operation (Novo-Star) was enhanced this year through accelerated offerings on the Apache-Sitgreaves and Tonto National Forests. Novo-Star was the successful bidder on multiple sales that increased their wood supply to approximately 2 years. According to Novo Power president Brad Worsley, this saved 75 jobs associated with in-woods and mill operations[10].

4FRI has also provided numerous public education/outreach opportunities, including the following:

1) Regional Forester Cal Joyner, Brad Worsley from Novo-Power and Steve Reidhead from Tri-Star Logging all spoke to 300 conference attendees about 4FRI and forest restoration at the "Healthy Forest, Vibrant Economy" hosted by Salt River Project on October 7 and 8th
2) The multi-party monitoring board hosted a Mexican Spotted Owl workshop for practitioners and stakeholders on January 21st. Notes of the meeting can be found at the attached link MSO workshop;
3) The 4FRI stakeholders group hosted three public meetings for the Rim Country EIS. One meeting was for the draft proposed action and two meetings were for the formal scoping period of the Proposed Action;
4) the Forest Service and 4FRI Stakeholder Group presented a hands-on presentation of forest restoration at the Harvesting Methods and Firewise Preparedness Open House on May 7th in Flagstaff;
5) created and distributed a monthly 4FRI update summarizing progress on planning and implementation (on 4FRI website at 4FRI monthly reports);
6) FS led a field trip to observe proposed actions within the CC Cragin watershed area as part of the Salt River Project Board and Council Tour;
7) The 4FRI Stakeholder Group held monthly stakeholders meetings open to the and publishes a monthly new letter (the most recent copy of the newsletter can be found on the home page of the 4FRI stakeholders at 4FRI home page.

The poor performance of the 4FRI phase 1 stewardship contract is still limiting the full potential to meet all of the 4FRI restoration goals as well as the development of a robust restoration economy on the west side of the project (Kaibab and Coconino National Forest area). The move to make the majority of the offerings outside of the 4FRI phase 1 contract on the west side has opened the door to one potential new mill with the purchase of two sales on the Coconino National Forest to Terry Hatmaker who is looking to cite a small sawmill in and around the Flagstaff area.

The move by the Forest Service to increase the amount of offerings on the east side of the project area (Apache-Sitgreaves and Tonto National Forests) has providing increased stability to some of the industry on the east side, but the

[10] Communication at 4FRI stakeholder meeting, November 16, 2016 in Show Low, Arizona.

lack of completed NEPA on the Apache portion of the Apache-Sitgreaves is still limiting offerings close to industry that will completely stabilize all of the east side industry. This is a legacy of the NEPA lost in the Wallow Fire. The West Escudilla EA and Greens Peak CE scheduled for completion in FY 17 will address this shortfall.

5. Based on your project monitoring plan, **describe the multiparty monitoring process. What parties (who) are involved in monitoring, and how? What is being monitored? Please briefly share key broad monitoring results and how results received to date are informing subsequent management activities (e.g. adaptive management), if at all.** What are the current weaknesses or shortcomings of the monitoring process? (Please limit answer to two pages. Include a link to your monitoring plan if it is available).

Multiparty Monitoring Process:

The Multiparty Monitoring Board (MPMB) has collaborated with the Forest Service to design and implement data collection activities based on high priority stakeholder monitoring questions. Meetings are held on a monthly basis to develop study designs, review ongoing data collection efforts, and assess information needs. Recently, the MPMB developed a plan that will implement a long term strategic approach to data collection that will answer ecological and socioeconomic questions at landscape scales. They have also engaged a pool of subject matter experts who are available to review and consult on monitoring design and data analysis. A variety of stakeholders are active participants in the MPMB particularly in the development of monitoring question and study design. These include the Ecological Restoration Institute at Northern Arizona University, The Nature Conservancy, Arizona Department of Game and Fish, Campbell Global, Mottek Consulting, the Salt River Project, the Greater Flagstaff Forest Partnership, the Grand Canyon Trust, Trout Unlimited, and others listed below.

Ongoing Monitoring:

Data collection has begun on a number of fronts. The following monitoring projects will provide information on the short term and long term effects of some restoration activities.

- Songbird occupancy bird data has continued to expand and continues to be collected in partnership with the Bird Conservancy of the Rockies across the treatment landscape. When complete, it will help identify the effects of landscape restoration on bird communities. This data will also leverage existing regional and national songbird data to separate treatment effects from climate driven changes to bird populations.

- Mexican Spotted Owl occupancy and reproduction monitoring is occurring as part of a broader region-wide effort lead by U.S. Fish and Wildlife Service. Initial baseline monitoring of protected activity centers continues in anticipation of restoration treatments and should ultimately improve our understanding of the effects of restoration on MSO populations. The design will explore the differences between paired mechanical and prescribed fire treatments and treatments that only use prescribed fire. This data will be aggregated with identical studies that are occurring throughout the state to increase the size of the dataset and the predictive power. This year pre-treatment vegetation surveys were conducted for all study PACs.

- Landscape pattern analysis of remote sensing imagery is being conducted in partnership with Northern Arizona University to describe the pattern and distribution of canopy cover across the restoration landscape. Once treatments are underway, we will be able to measure residual canopy cover and describe the heterogeneity that is being created through restoration.

- In cooperation with Northern Arizona University, permanent vegetation plots were established across the ponderosa pine belt of the Coconino National Forest. These plots were established using a multi-scale sample design that will allow data collected at fine scales to support broader scale analyses. The sample design also dovetails with the permanent plots established on the Kaibab National Forest and will allow cross-boundary trend analysis. These plots will evaluate changes in vegetation composition and structure that occur as a result of restoration treatments. Tree structure, surface vegetation cover, and fuel components are quantified to not only describe residual vegetation structure, but also to model the effects of fire on the landscape. The effect will be to create a dataset that is more cost efficient and capable of answering questions that go beyond the scope of this restoration project.
- This year we have developed and used a new platform for data collection and citizen science engagement in partnership with the Springs Stewardship Institute at the Museum of Northern Arizona. Using the Collector for ArcGIS app, we developed a process for citizen science/volunteer groups to collect critical information on the health of ephemeral streams within the project area. This platform leverages a large volunteer workforce and delivers the data directly to subject matter experts as digital shapefiles without the need for processing field forms. The next effect has been an increase in efficiency for the agency and valuable engagement with a concerned population. This same platform was also leveraged this year to begin a long term study of changing water flow in interrupted perennial streams.
- In a new partnership with the Grand Canyon Trust and the Springs Stewardship Institute, we surveyed over 30 springs and assessed restoration needs. This data will reside in a national database and will not only guide our restoration efforts, but will also provide to data to measure the effects of restoration treatments (Arizona Daily Sun monitoring article).

Preliminary Data:

The vast majority of the monitoring information collected at this point describes the current condition. As the implementation of restoration treatments progresses, we will return to describe and document the changed condition. Some of the monitoring data will reveal important short-term changes in components such as tree structure, forest composition, diameter distribution, and canopy cover. Some of this data may be available as soon as next summer. Other components of the monitoring data will require time to mature and provide relevant information such as the response of the herbaceous layer in restored forests and the effect of changes in forest structure on MSO reproduction.

Our preliminary data on forest vegetation supports our understanding that mid-sized trees are overrepresented across the landscape while large trees and small trees are generally underrepresented. Forest canopy is far more continuous than historically occurred and forest pattern is less aggregated and heterogeneous than desired. In MSO protected activity centers designated for restoration, initial surveys indicate that occupancy is inconsistent. This is likely a reflection of the quality of the habitat. We hope that after restoration treatments are complete, the quality of the habitat will improve and the protected activity center will be more consistently occupied.

Weaknesses:

Our monitoring process is vibrant and provides additional confidence to a highly engaged stakeholder group. However, the greatest shortcoming of this process is that it takes time to collect and properly interpret the data. There is a genuine and reasonable desire to swiftly integrate new information into an adaptive management framework, but the most important questions are frequently those that cannot be quickly answered. So we collect both short-term and

longer term-data and combine it with the best available science to inform our decisions and adapt our approaches to management.

Monitoring Plan: Multi-Party Monitoring Plan

6. **FY 2016 accomplishments**.

Performance Measure	Unit of measure	Total Units Accomplished [11]	Total Treatment Cost ($)	Type of Funds (CFLR, Specific FS BLI, Partner Match)[12]
Acres of forest vegetation established FOR-VEG-EST	Acres	11,972	$624,495[13]	**BLI** **acres** **total cost** CONT 100 $30,000 NFRR 168 $50,400 RTRT 11,704 $544,095
Acres of forest vegetation improved FOR-VEG-IMP	Acres	29,483	$2,063,824[14]	**BLI** **acres** **total cost** CFLN 6,393 $447,510 CONT 3 $210 CWKV 242 $16,940 GSRV 405 $28,350 NFRR 8,812 $616,854 RTRT 281 $19,670 SPFH 80 $5,600 WFHF 5,987 $419,090 WFSU 5,107 $357,490 XXXX 2,173 $152,110
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	1,487.8	$334,755[15]	**BLI** **acres** **total cost** CFLN 99.9 $22,478 CWKV 61 $13,725 NFRG 156.2 $35,145 NFRR 1169.2 $263,070 WFHF 1.5 $338
Highest priority acres treated for invasive terrestrial and aquatic species on NFS lands INVSPE-TERR-FED-AC	Acres	0	$0	
Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions. S&W-RSRC-IMP	Acres	43,822	$3,437,158[16]	**BLI** **acres** **total cost** CFLN 3,824 $149,304 CMRD 9 $2,092 CWFS 1,574 $36,168 CWKV 53 $28,319 GSRV 242 $0 NFRG 20 $996 NFRR 12,716 $684,487 NFXN 2,067 $65,198

[11] Units accomplished should match the accomplishments recorded in the Databases of Record.
[12] Please include the type of Funds (CFLR, Specific FS BLI, Partner Match) if you have accurate information that is readily available. Please report each BLI on a separate line within a given performance measures' "Type of Funds" box. .
[13] Average cost of $52.16/acre
[14] Average cost of $70.00/acre
[15] Average cost of $225/acre
[16] Average cost of $78.43/acre

Performance Measure	Unit of measure	Total Units Accomplished [11]	Total Treatment Cost ($)	Type of Funds (CFLR, Specific FS BLI, Partner Match)[12]
				PTNR 113 $1,494 RTRT 223 $27,548 WFHF 21,946 $2,329,100 WFXN 676 $27,016 XXXX 360 $85,435
Acres of lake habitat restored or enhanced HBT-ENH-LAK	Acres	92	$1,500[17]	NFRR 92 $1,500
Miles of stream habitat restored or enhanced HBT-ENH-STRM	Miles	31.4	$890,733[18]	**BLI acres total cost** CFLN 0.1 $34,973 NFRR 7.0 $142,211 PTNR 12.0 $703,099 PTNR-IN-KIND 12.3 $10,451
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR		134,755	$3,975,732[19]	**BLI acres total cost** <null> 2,516 $0 CFLN 5,030 $680,009 CWFS 4,384 $79,308 GSRV 470 $0 NFRR 33,680 $763,951 NFXN 1,891 $87,976 PTNR 36,150 $111,708 PTNR-IN-KIND 14,947 $68,212 RTRT 731 $330,362 WFHF 31,239 $1,799,620 WFXN 3,718 $54,586
Acres of rangeland vegetation improved RG-VEG-IMP	Acres	30,341	$758,525[20]	**BLI acres total cost** CFLN 6,358 $158,941 CWFS 1,535 $38,372 NFRR 12,333 $308,328 NFXN 542 $13,555 NONE 971 $24,282 PTNR 4,562 $114,046 SSCC 476 $11,899 WFHF 1,026 $25,658 WFSU 2,538 $63,444
Miles of high clearance system roads receiving maintenance RD-HC-MAIN	Miles	555.1	$213,714[21]	**BLI acres total cost** CMRD 555.1 $213,714

[17] Average cost of $16.30/acre
[18] Average cost of $28,367/acre
[19] Average cost of $29.50/acre
[20] Average cost of $25/acre
[21] Average cost of $385/mile

Performance Measure	Unit of measure	Total Units Accomplished [11]	Total Treatment Cost ($)	Type of Funds (CFLR, Specific FS BLI, Partner Match)[12]
Miles of passenger car system roads receiving maintenance RD-PC-MAINT	Miles	1,195.3	$2,390,600[22]	**BLI acres total cost** CMRD 1010 $2,020,000 NFRR 185.3 $370,600
Miles of road decommissioned RD-DECOM	Miles	.25	$248[23]	**BLI acres total cost** CMRD 0.25 $248
Miles of passenger car system roads improved RD-PC-IMP	Miles	65.3	$1,371,300[24]	**BLI acres total cost** NFRR 65.3 $1,371,300
Miles of high clearance system road improved RD-HC-IMP	Miles	27.3	$27,200[25]	**BLI acres total cost** CMRD 27.2 $27,200
Number of stream crossings constructed or reconstructed to provide for aquatic organism passage STRM-CROS-MTG-STD	Number	0	$0	
Miles of system trail maintained to standard TL-MAINT-STD	Miles	75.6	$234,490[26]	**BLI acres total cost** CMTL 6.9 $21,390 NONE 1.5 $4,650 PTNR 67.2 $208,450
Miles of system trail improved to standard TL-IMP-STD	Miles	14	$158,200[27]	**BLI acres total cost** PTNR 14.0 $158,200
Miles of property line marked/maintained to standard LND-BL-MRK-MAINT	Miles	11.7	$129,870[28]	**BLI acres total cost** NFLM 11.7 $129,870
Acres of forestlands treated using timber sales TMBR-SALES-TRT-AC	Acres	10,764	$1,291,630[29]	**BLI acres total cost** CFLN 2,469 $296,280 NFRR 756 $90,737 NONE 4,671 $560,483 PTNR 1,605 $192,586 SSCC 491 $58,976 WFHF 771 $92,568
Volume of Timber Harvested TMBR-VOL-HVST	CCF	117,706		
Volume of timber sold TMBR-VOL-SLD	CCF	174,125	$1,786,129[30]	**BLI acres total cost** CFLR 74,979 $769,117 NFRR 97,777 $1,002,972 SSSS 1,369 $14,041

[22] Average cost of $2,000/mile
[23] Average cost of $991/mile
[24] Average cost of $21,000/mile
[25] Average cost of $996/mile
[26] Average cost of $3,101/mile
[27] Average cost of $11,300/mile
[28] Average cost of $11,100/mile
[29] Average cost of $120 per acre
[30] From timber value sold on cut and sold report, average of $10.26/CCF

Performance Measure	Unit of measure	Total Units Accomplished [11]	Total Treatment Cost ($)	Type of Funds (CFLR, Specific FS BLI, Partner Match)[12]
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	116,688		NONE 116,688
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	99,090	$9,909,030[31]	**BLI** **acres** **total cost** CFLN 3,170 $317,000 CWKV 13 $1,300 NFRR 12,856 $1,285,580 NONE 2,450 $245,000 PTNR 3,400 $340,000 RTRT 279 $27,900 SSSS 168 $16,800 WFHF 9,505 $950,450 WFPR 801 $80,100 WFSU 66,449 $6,644,900
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	55,336	$11,067,200[32]	**BLI** **acres** **total cost** CFLN 4,037 $807,408 CWKV 211 $42,265 NFRR 3,479 $695,839 NFXN 4,241 $848,122 RTRT 128 $25,579 SPFH 300 $60,046 WFHF 42,940 $8,587,940
Number of priority acres treated annually for invasive species on Federal lands SP-INVSPE-FED-AC	Acres	0	$0	
Number of priority acres treated annually for native pests on Federal lands SP-NATIVE-FED-AC	Acres	0	$0	

7. **FY 2016 accomplishment narrative** – Summarize key accomplishments and evaluate project progress not already described elsewhere in this report. (Please limit answer to three pages.)

Overall, restoration activities accelerated over the 4FRI landscape in 2016 as indicated the increased footprint acreage that was accomplished through multiple activities. Specifically, the 4FRI footprint accomplishment acres went from 84,997 acres in 2015 to 144,443 acres in 2016---a 169% increase. One reason for the increase was that the Four Forest Restoration Initiative (4FRI) received an additional influx off funding to accelerate restoration efforts across the landscape. An additional $10,000,000 in WFHF and $1,600,000 in NFRR funds were added to accelerate implementation across the landscape. This was accomplished by 1) moving two FY 17 offerings on the Apache-Sitgreaves to FY 16 4th

[31] Average cost of $100/acre
[32] Average cost of $200/acre

quarter offerings; 2) increasing the total acres treated with prescribed fire across the landscape using WFHF funding from 33,888 acres in 2015 to 52,444 acres in 2016; and 3) completing over to 300,000 acres of wildlife surveys (primarily northern goshawk and Mexican spotted owl surveys) and 4) over 100,000 acres of cultural resource surveys contracted to be prepared for additional out year accelerated implementation. Additional highlights of FY 2016 are discussed below.

In 2016 the Forest Service accelerated timber offerings outside of the 4FRI phase 1 contract on the east side (a total of 15,000 acres offered and sold on the Apache-Sitgreaves National Forest) to existing White Mountain industries. The effect has partially stabilized biomass and wood products needs to White Mountain industries. To expand the biomass market for existing White Mountain Industries, the 4FRI stakeholders and Forest Service have built a new relationship with the White Mountain Apache Tribe that added an additional 5,000 acres of wood product material to existing industries in the White Mountains on the east side of the project. Additional work needs to be done to stabilize all of the biomass industries in the White Mountains, but 2016 made great strides towards that goal. An all lands approach to management has brought additional material to existing industries on the west side of the project from Arizona State Lands and the City of Flagstaff. Also, in 2016 two offerings on the Coconino National Forest were bought by a new purchaser who is looking to build a small mill that will add to the capacity to achieve mechanical restoration on the west side of the initiative. Creating and stabilizing industry partners in a restoration economy will allow for the ability to get more acres treated through mechanical harvests, thus increasing forest resiliency across the initiative.

Additional work on the east side of the initiative includes the extension of the Healthy Forest Pilot Program designed by Eastern Arizona Counties for one year in order to continue data collection on the effect of increasing the logging trucks maximum weight from 80,000 pounds to 90,800 pounds on certain designated Arizona highways in the White Mountains. This is an encouraging success and a very significant contribution to the economic viability of forest restoration treatments on the Apache-Sitgreaves National Forest.

The relative wet spring and early summer allowed for the use of wildfires to attain resource benefits on an unprecedented scale for the initiative. In FY 2016, just under 100,000 acres of wildfires burned that attained resource benefits (see section 2 above for a full list of fires). OF these 100,000 acres that were in the initiative boundary, approximately 74,000 acres contributed to the fuels accomplishment for the initiative. This, in addition to prescribed fire and mechanical thinning, allowed the 4FRI project to report just over 155,000 acres of fuels accomplishment (see table above for FP-FUELS- WUI and FP-FUELS-NON-WUI acres). The influx of additional WFHF funds also allowed for an increase in fuel treatments using WFHF funds of 155% over FY 15 outputs. The use of all fuels reduction tools in 2016 is also increasing forest resiliency to wildfire across the landscape.

A partnership between the National Forest Foundation and Salt River Project, the Northern Arizona Forest Fund (NAFF) provides an opportunity for Arizona businesses and residents to invest in watershed improvement projects on national forest lands in the Salt and Verde River watersheds. During FY16, the NAFF contributed $640,000 to on-the-ground restoration in the Salt and Verde watersheds. Projects funded this year in the 4FRI footprint include the Stoneman Lake Watershed Health and Habitat Protection Project on the Coconino National Forest, the McCracken Woodland Health and Habitat Improvement Project on the Kaibab National Forest, and the Black River Stream and Riparian Protection Project on the Apache-Sitgreaves National Forest. A summary of these projects can be found on pages 15- 17 of the NAFF report that can be found at the following link Northern Arizona Fund. The NAFF increases the ability of the Forest Service to implement more restoration projects and increases resiliency across the landscape. This can also be a model for other collaborates to look at alternative funding sources to meet restoration goals.

2016 also provided opportunities for innovation across the landscape. The Nature Conservancy (TNC) and the Forest Service continued to explore and expand upon using tablet technology to improve layout efficiency, decrease costs and attain a better outcome on-the-ground for designation by prescription. The Forest Service and TNC co-hosted a presentation by John Deere and their Timber-Navi© tablet technology to Forest Service and stakeholders in December. TNC also presented tablet technology to the Natural Resources Working Group in September as well. Additionally, TNC, the Forest Service and the Arizona State Forestry worked together to layout with tablets and harvest 114 acres on the Bob Fry project on an Arizona State Land Department and a 500-acre mechanized sale on the City of Flagstaff's Observatory Mesa Natural Area. The Forest Service also broadened the use of table technology by designating prescriptions using tablets on 1,038 acres on the Chimney Springs Timber Sale and 1,452 acres on the Johnney's Timber Sale (both FY 17 offerings) on the Flagstaff RD of the Coconino National Forest. The use of these technologies is tied to using the expanded designation by prescription authority authorized in the 2014 Farm Bill on these two sales. For more information on tablet technology, please refer to the link to the CFLRP share point site listed here 4FRI-TNC-FS tablet technology. Added use of the designation by prescription using the Farm Bill authority is being utilized on the Cougar Park and Junction Timber sales on the Kaibab National Forest with these being offered in 2017 as well.

Further innovations were utilized in the monitoring arena with apps for cell phones created by the Springs Stewards Institute and the Forest Service that is being utilized by citizen scientists to collect spring condition data across the 4FRI landscape. Similar app based citizen science technology was conducted by the Grand Canyon Trust and the Forest Service that mapped ephemeral stream courses and wet/dry stream course locations across the Coconino and Kaibab National Forests . This work was published in an article in the Arizona Daily Sun that can be viewed at the following link Arizona Daily Sun citizen scientist article.

2016 also saw an increase in members of the 4FRI collaborative (from 37 in 2015 to 47 in 2016) and more organizations stepping up into leadership roles, truly a sign of collaborative health and the belief in the vision of restoration of our Northern Arizona Forests. This included the creation of the Comprehensive Implementation Work Group, focused on implementing the full-spectrum of restoration treatments throughout the 1st EIS area. In 2016 there was more integration of the 4FRI stakeholders group and the Natural Resources Working Group (the NRWG was established with the White Mountain Stewardship project) as well. Please see section 12 below for a full list of 4FRI stakeholders.

NEPA planning to support restoration activity continues as well, with the Proposed Action for the 1.2 million acre Rim Country EIS that covers portions of the Coconino, Tonto and Apache-Sitgreaves National Forests being published in the summer of 2016. On the Apache-Sitgreaves NF, the Upper Rocky Arroyo EA was signed in FY 2016 and additional planning continues on the West Escudilla EA as well in 2016.

8. ***Review the gPAS spatial information sent to you by the Washington Office after gPAS closes out on October 31***

- **If the footprint estimate from gPAS is consistent and accurate**, please confirm and skip this question.
- **If the gPAS spatial information does NOT appear accurate**, describe the total acres treated in the course of the CFLR project below (cumulative footprint acres; not a cumulative total of performance accomplishments). What was the total number of acres treated?[33]
-

[34] Please note that planned accomplishments are aggregated across the projects to determine the proposed goals for the programs out year budget justification. These numbers should reflect what is in the CFLRP work plan, with deviations described in question 11.

Fiscal Year	Total number of acres treated (treatment footprint) 530,954 acres 2010-2016
FY 2010	75,255
FY 2011	57,684
FY 2012	37,079
FY 2013	46,655
FY 2014	84,841
FY 2015	84,997
FY 2016	144,443

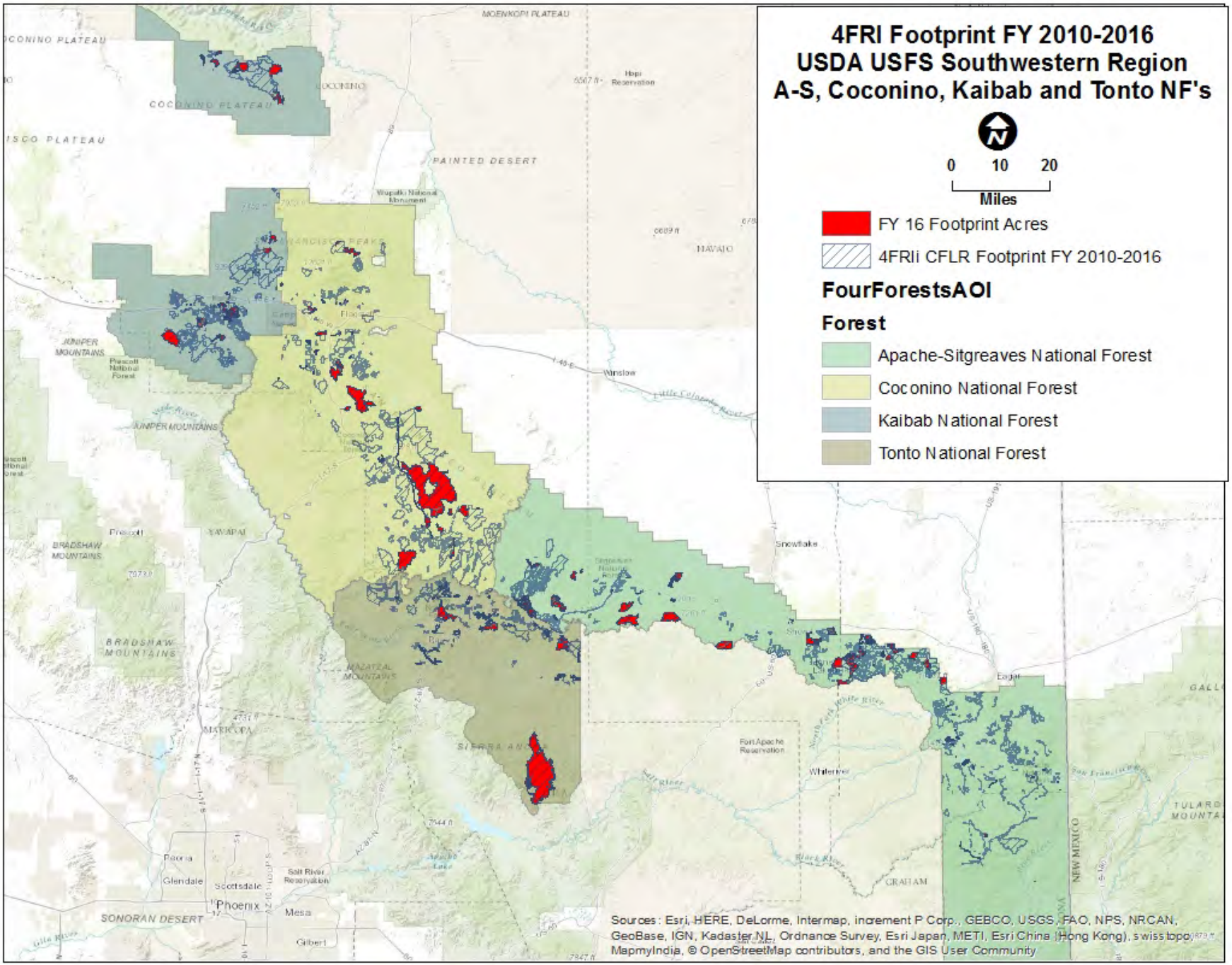
Please briefly describe how you arrived at the total number of footprint acres: what approach did you use to calculate the footprint?

The calculated Enterprise Data Warehouse acres of footprint of 210,164 acres appeared to be overstated when compared to FACTS activities layers (many of the WIT accomplishments are integrated targets off of core FACTS data, in checking WIT accomplishments we saw examples of WIT double counting acres when there where multiple funding sources, and also in looking at the data it appeared to include activity codes that were not on the ground accomplishments, such as stand prescription (FACTS activity code 4331). 4FRI filtered the EDW data looking at these issues and came up with an EDW footprint to just over 148,000 acres), thus 4FRI chose to use the following method for footprint acres. The acreage is derived from the spatial and tabular FACTS fuels accomplishments across four forests from the geospatial interface application in ARCMAP©. The accomplishments for 2010 are direct from FY 2010 accomplishments that are in the database. The accomplishments include all of the spatial extent within the ponderosa pine. Not all accomplishments were tagged as CFLRP accomplishments in the data base, so this acreage amount more accurately displays the activities in the ponderosa pine type, and thus the 4FRI Initiative boundary, within the project area. Polygons not tagged with CFLRP are data entry errors. Each year after that is a GIS exercise of adding the next year's accomplishments to the spatial extent, dissolving the solution, and then subtracting the previous year's accomplishments to get the footprint acres for the actual year. This was repeated for each year to get footprint acres by fiscal year. See the map below for the footprint acres FY 2010-2016.

9. **Describe any reasons that the FY 2016 annual report does not reflect your project proposal, previously reported planned accomplishments, or work plan.** Did you face any unexpected challenges this year that caused you to change what was outlined in your proposal? (Please limit answer to two pages).

In FY 16, The Four Forest Restoration Initiative (4FRI) received an additional influx off funding to accelerate restoration efforts across the landscape that is not reflected in the original work plan. As such, restoration activities in most functional areas has increased over the original and revised 4FRI work plan. The timber volume sold and bio-energy portions are exceptions to this because of the lack of infrastructure on the west side of the project. Specifically, the first large-scale, 10-year stewardship contract awarded in FY 12 (4FRI Phase 1 Stewardship Contract, currently being heal by Good Earth Power AZ LLC (GEPAZ)) is still underperforming, with only about 8,000 acres treated of the 56,000 acres of task orders issued to date. Another challenge that was outlined in the FY 2015 annual report concerning a lack of completed NEPA on the eastside of the initiative because of the 2011 Wallow Fire was overcome in 2016 with the signing of the decisions for the Larson and Upper Rocky Arroyo Projects on the Apache Sitgreaves (A-S) National Forests. With these acres in place, as well as the West Escudilla NEPA project set to be signed in 2017 on the A-S and the abundance of signed NEPA acres available on the west side of the project area due to the 4FRI EIS decision, the emphasis in FY 2016 was to make offerings to existing industry outside of the 4FRi phase 1 contract. Only one task order was offered to GEPAZ this year with the remaining acres.

Even with this switch in emphasis to making mechanical restoration treatment offerings available to existing industry, we are behind in the expected acres of mechanical treatments across the landscape. This is due to the lack of


4FRI Footprint FY 2010-2016
USDA USFS Southwestern Region
A-S, Coconino, Kaibab and Tonto NF's
0 10 20
Miles
FY 16 Footprint Acres
4FRIi CFLR Footprint FY 2010-2016
FourForestsAOI
Forest
Apache-Sitgreaves National Forest
Coconino National Forest
Kaibab National Forest
Tonto National Forest
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

manufacturing capacity on the west side of the 4FRI footprint, which continues to present challenges for product removal. This lack of production of the 4FRI Phase 1 Contract is especially evident in the low output of BIO-NRG and TIMBER-VOL-SOLD, and is different from what was planned in the 4FRI CFLRP work plan. In addition, the BIO-NRG from the revised 4FRI work plan assumes that all acres are having biomass removed, which is not the case with approximately ½ of the acres harvested having biomass removed. The remaining acres are having biomass piled at the landing and subsequently burned.

With that being said, most performance measures are actually higher than the expected output displayed in the CFRLP work plan for 4FRI. The acres of FP FUELS-ALL are at 195% of accomplishment, with more acres treated outside the WUI and fewer acres treated inside the WUI in 2016 than planned. There are several reasons for the additional accomplishment in the fuels arena---first, there were additional WFHF funds added to the initiative. Second, there were large acres of wildfires that were managed for resource benefits. While the expenditures for wildfire managed for resource benefits do not count as 4FRI match, the accomplishments associated with these wildfires are appropriate to track as accomplishments and boosted the total accomplishments for FY 16. The integrated accomplishments for wildlife and watershed also show an increase over the 4FRI work plan due to the increased WFHF funding and wildfire for resource benefits accomplishments. The following table summarizes actual outputs for FY 16 compared to the FY 16 work plan expected outcomes.

Performance Measure	Unit	Actual accomplishment 2016	4FRI work plan 2016	% difference from work plan
Acres of forest vegetation established	Acres	11,973	5,546	216%
Acres of forest vegetation improved	Acres	29,483	16,427	179%
Manage noxious weeds and invasive plants	Acres	1,488	4,278	35%
Highest priority acres treated for invasive terrestrial and aquatic species on NFS lands	Acres	0	0	n/a
Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions.	Acres	43,821	17,560	250%
Acres of lake habitat restored or enhanced	Acres	92	1	9200%
Miles of stream habitat restored or enhanced	Miles	2	2	100%
Acres of terrestrial habitat restored or enhanced	Acres	134,755	70,600	191%
Acres of rangeland vegetation improved	Acres	30,341	13,929	218%
Miles of high clearance system roads receiving maintenance	Miles	555	394	141%
Miles of passenger car system roads receiving maintenance	Miles	1,195	508	235%
Miles of road decommissioned	Miles	0	17	0%
Miles of passenger car system roads improved	Miles	65	41	159%
Miles of high clearance system road improved	Miles	27	28	96%

Performance Measure	Unit	Actual accomplishment 2016	4FRI work plan 2016	% difference from work plan
Number of stream crossings constructed or reconstructed to provide for aquatic organism passage	Number	0	0	n/a
Miles of system trail maintained to standard	Miles	76	167	46%
Miles of system trail improved to standard	Miles	14	30	47%
Miles of property line marked/maintained to standard	Miles	13	10	130%
Acres of forestlands treated using timber sales	Acres	10,764	6,898	156%
Volume of timber sold (CCF)	CCF	174,124	391,496	44%
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production	Green tons	116,688	685,118	17%
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire	Acre	99,090	16,577	598%
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire	Acres	55,336	62,360	89%
Number of priority acres treated annually for invasive species on Federal lands	Acres	0	0	n/a

10. **Planned FY 2018 Accomplishments**[34]

In an effort to simplify reporting, we've reduced the number of performance measures we are asking you for here. However, the ones below are still needed for our annual budget request to Congress. In our justification to Congress for continued funding each year, we have to display planned accomplishments for the coming year.

The table below displays the performance measure totals for what is in the current 4FRI work plan for 2018 (column 3) and what are the planned accomplishments for FY 2018. The discussion in Item 11 below explains the difference in expected outputs of the work plan versus the planned accomplishments for HBT-ENH-STRM, TMBR-VOL-SOLD, BIO-NRG and the FP-FUELS performance measures.

[34] Please note that planned accomplishments are aggregated across the projects to determine the proposed goals for the programs out year budget justification. These numbers should reflect what is in the CFLRP work plan, with deviations described in question 11.

Performance Measure Code	Unit of measure	4FRI Work Plan 2018	Planned Accomplishment For 2018	Amount ($)
Acres of forest vegetation established FOR-VEG-EST	Acres	7,698	7,698	$385,801
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	5,609	5,609	$1,257,480
Miles of stream habitat restored or enhanced HBT-ENH-STRM	Miles	2	2	$56,000
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	94,614	70,000	$6,773,200
Miles of road decommissioned RD-DECOM	Miles	17	17	$17,000
Miles of passenger car system roads improved RD-PC-IMP	Miles	41	41	$850,000
Miles of high clearance system road improved RD-HC-IMP	Miles	28	28	$28,000
Volume of timber sold TMBR-VOL-SLD	CCF	611,840	240,000	$2,808,000
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	1,070,720	240,000	$802,286
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	26,561	40,000	$2,654,400
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	99,919	60,000	$11,834,400

11. **Planned FY 2018 accomplishment narrative and justification if planned FY 2017/18 accomplishments and/or funding differs from CFLRP project work plan** (no more than 1 page):

There will be shortfall in FY 2018 in the TMBR-VOL-SOLD and BIO-NRG due to the underperformance of the 4FRI Phase 1 IRSC with Good Earth Power AZ LLC and the lack of infrastructure and mill capacity on the west side of the project area, both for sawtimber and especially for biomass. The eastside (A-S and Tonto) will continue with their approximately 15,000 acres per year[35] of timber offerings per year that has carried the bulk of the accomplishment to date.

The revised 4FRI work plan expected 4FRI phase 1 contract to be have 56,480 acres of task order offerings in FY 2018 and other industry 20,000 acres for a total of 76,480 acres of mechanical harvest offerings in 2018. Looking at expected industry capacity in 2018, we see that the 4FRI phase 1 contract will be offered approximately 5,000 acres (based on the harvest amount in FY 17 and the acre-for-acre contract modification), and existing industry to be at 30,000 acres initiative-wide[36] for a total of 35,000 acres of mechanical harvest in 2018. The expected output reduction is based on the

[35] On average, 14,000 acres/year on the Apache-Sitgreaves and 1,000 acres/year on the Tonto.

[36] 15,000 acres on the east side (A-s/Tonto) of the initiative and 15,000 acres on the west side (Coconino/Kaibab) of the project.

mill capacity of existing industry. We expect out prescribed fire acres to increase to 55,000-60,000 acres in 2018, and the revised 4FRI work plan had 50,000 acres of prescribed fire in 2018. Again, the prescribed fire acreage may be larger or smaller than expected based on weather and fuel conditions. If FY 2016 is an indication, when weather and fuel conditions are favorable for prescribed and wildfires to be managed to meet resource objectives, the acreage output is greater than planned.

Mill capacity on the west-side of the initiative may increase in FY 17 as Terry Hatmaker begins to bring and additional mill on-line in the Flagstaff/Williams area. In FY 17 the Coconino and Kaibab National Forest are also looking at Stewardship agreements and/or Good Neighbor Authority supplemental project agreements to provide additional restoration acres available for industry. The thought behind these actions will be to add additional material to the market that may spur further investment to increase local industry mill capacity. Even with these efforts and the expected increase in mill capacity, it will still not make up for what we expected for mill capacity and corresponding restoration acres associated with the 4FRI phase 1 IRSC contract. The corresponding reduction in HAB-ENH-TERR and FP-FUELS-WUI and NON-WUI from the work plan to the FY 18 outputs are the corresponding reduction in acres treated using mechanical thinning

The influx of additional WFHF funds of $10,000,000 and $1,600,000 in NFRR for accelerated restoration efforts are not in the existing 4FRI work plan. These funds will allow for FP fuels prescribed fire and hand thinning projects to continue to be able to occur at an accelerated level as long as weather and fuels conditions allows for burning. See above for the total reduction in expected FP fuels outputs due to the reduction of expected harvested acres. In FY 17 a portion of these funds are being utilized for resource surveys to expand the pool of potential areas for prescribed fires so that more acres can be treated if conditions exist to be able to implement them. The NFRR funds are being utilized to do level 2 and 3 road maintenance prior to timber offerings to make the offerings more saleable. IN FY 16, we were able to accomplish more miles of RD-PC-IMP than what was in our revised 4FRI work plan due to these funds. This will likely be the case as well for FY 18 and there may be a need to adjust this in the 4FRI work plan.

12. **Please include an up to date list of the members of your collaborative if it has changed from the list you submitted in the FY15 report** (name and affiliation, if there is one). If the information is available online, you can simply include the hyperlink here. If you have engaged new collaborative members this year, please provide a brief description of their engagement.

4FRI operates with rotating chair persons and in 2016, additional stakeholders volunteered to work in the chairperson position. Stakeholders from Navajo County, Gila County, Novo Power have volunteered to take leadership positions. In addition, stakeholder group expanded their collaborative roll with the creation of the Comprehensive Implementation Work Group, focused on implementing the full-spectrum of restoration treatments throughout the 1st EIS area.

Organization Name	**Organization Name**
Apache County	Arizona Elk Society
Arizona Game and Fish Department	Arizona State Forestry
Arizona Wildlife Federation	Bejac Corp
Campbell Global	Canyon Creek Logging
Center for Biological Diversity	Coconino County Board of Supervisors
Coconino Natural Resources Conservation District	Coconino Rural Environment Corps
Eastern Arizona Counties Organization	Ecological Restoration Institute
Empire Machinery	Flagstaff Fire Department
Grand Canyon Trust	Forest Energy Corporation
Great Old Broads for Wilderness	Gila County

Organization Name	Organization Name
Life in the Forest	Greenlee County
Navajo County and Natural Resources Working Group	Mottek Consulting
Northern Arizona University Forest Ecosystem Restoration Analysis	Navajo County
Northland Pioneer College	Northern Arizona Loggers Association
Novo Star Wood Products	Northern Arizona Wood Products Association
Pine Strawberry Fuel Reduction Inc. Pioneer Forest Products	Novo BioPower
Real Arizona Development Corridor	Southwest Forest Little Colorado NRCD
The Nature Conservancy	Southwest Forestry Inc.
Tri Star Logging Inc.	Town of Pinetop - Lakeside
U.S. Fish and Wildlife Service	Town of Snowflake
University of Arizona Cooperative Extension	TRACKS
White Mountain Stewardship - Monitoring Board	Trout Unlimited
White Mountain Conservation League	Governor's Forest Health Council
Wildwood Consulting	

13. **Did you project try any new approaches to increasing partner match funding in FY2016** (both In-Kind contributions and through agreements)? (No more than one page):

4FRI reached out to the Arizona State Forestry to add capacity. After working together to get a Master good Neighbor Authority agreement in place, the 4FRI forests and Arizona State Forestry signed a supplemental project agreement to assist in the continuation of the implementation of the Four Forest Restoration Initiative (4FRI), the State has provided an employee, Dr. Patrick Rappold, to provide restoration coordination services for no less than 6 months.

14. **Media recap**. Please share with us any hyperlinks to videos, newspaper articles, press releases, scholarly works, and photos of your project in the media that you have available. You are welcome to include links or to copy/paste.

MEDIA:

Arizona Daily Sun citizen scientist article

http://azdailysun.com/news/local/making-a-forest-ready-for-fri/article_b32fd837-1f14-54dd-a315-e41e96ad2eca.html

http://azdailysun.com/news/local/fri-gets-million-boost-from-forest-service/article_05995ac6-e70b-5647-9444-a20b357ceffe.html

http://azdailysun.com/news/local/intensive-thinning-upsets-neighbors/article_86cda504-1568-54a3-823e-ca2c253ca8e4.html

http://m.paysonroundup.com/news/2016/may/17/averting-disaster/

Arizona Republic article thinning not happening

Arizona Highways 4FRI article

Arizona Daily Sun monitoring article

NAU news mixed conifer research

white mountain independent value-of-forest-thinning-k-per-acre

white mountain independentinnovative-carbon-offset-methodology-for-restoring-forests

white mountain independent forest-service-sets-meetings-on-fri-rim-country-project

white mountain independent tablet-technology-to-speed-up-forest-restoration

white mountain independent special-unit-works-to-speed-up-forest-restoration

white mountain independent forest-restoration-gains-traction

white mountain independent part 1-bridge-the-gap

white mountain independent part 2 bridge-the-gap

white mountain independent part 3-bridge-the-gap

white mountain independent part 4-bridge-the-gap

kjzz wildfire-prevention-effort-aims-protect-arizona-water

kjzz bruce-hallin-rob-davis-importance-healthy-forests

paysonroundup forest-thinning-progress-and-criticism

paysonroundup forest-service-wants-speed-4fri-thinning

paysonroundupcan-we-save-rim-countrys-forest

paysonroundup spotted-owls-complicate-thinning

JOURNAL ARTICLES

Laughlin, D.C., R.T. Strahan, D.W. Huffman, and A.J. Sánchez Meador. 2016. Using trait-based ecology to restore resilient ecosystems: historical conditions and the future of montane forests in western North America. *Restoration Ecology*, doi: 10.1111/rec.12342

Rodman, K.C., A.J. Sánchez Meador, D.W. Huffman, and K.M. Waring. 2016. Reference conditions and historical fine-scale spatial dynamics in a southwestern mixed-conifer forest, Arizona, USA. *Forest Science*, http://dx.doi.org/10.5849/forsci.15-136

Schneider, E.E., A.J. Sánchez Meador, and W.W. Covington. 2016. Reference conditions and historical changes in an unharvested ponderosa pine stand on sedimentary soil. *Restoration Ecology*, doi: 10.1111/rec.12296

Yarborough, R.F., J.A. Gist, C.D. Loberger, and S.S. Rosenstock. 2015. Habitat use by Abert's squirrels (*Sciurus aberti*) in managed forests. *The Southwestern Naturalist*, 60(2-3):166-170.

Vosick, D. 2016. Democratizing Federal Forest Management Through Public Participation and Collaboration. Arizona State Law Journal, 48, 93-109.

Covington, W.W., and D. Vosick. 2016. Restoring the Sustainability of Frequent-Fire Forests of the Rocky Mountain West. Arizona State Law Journal, 48, 11-33

Kalies, E.L. and L.L. Yocom Kent. 2016. Are fuel treatments effective at achieving ecological and social objectives? A systematic review.*Forest Ecology and Management* (375): 84-95.

Kalies, E.L., K.A. Haubensak, and A.J. Finkral. 2016. A meta-analysis of management effects on forest ecosystem carbon. *Journal of Sustainable Forestry*.

Hjerpe, E., Y.S. Kim, and L. Dunn. 2016. Forest density preferences of homebuyers in the wildland-urban interface.*Forest Policy and Economics*, 70 (2016) 56-66

FACT SHEETS

Huffman, D.W. 2015. Long-term Herbivore Exclusion for Recovery of Buckbrush Populations During Restoration of Ponderosa Pine Forests in Northern Arizona. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 2 p.

Roccaforte, J.P. 2016. Evaluating Treatment Effectiveness Following the 2014 San Juan Fire, White Mountains, Arizona. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 3 p.

Huffman, D.W. 2015. Fire History of a Mixed-Conifer Forest on the Mogollon Rim, Northern Arizona, USA. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University. 2 p.

Sanchez Meador, A.J. 2016. Reference Conditions and Historical Changes in an Unharvested Ponderosa Pine Stand on Sedimentary Soil. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 2 p.

Stoddard, M.T. 2016. Five-Year Post-Restoration Conditions and Simulated Climate Change Trajectories in a Warm/Dry Mixed-Conifer Forest, Southwestern Colorado, USA. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 2 p.

Strahan, R.T. 2016. Increasing Evidence That Thinning and Burning Treatments Help Restore Understory Plant Communities in Ponderosa Pine Forests. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 2 p.

Taylor, M.H., and A.J. Sánchez Meador. 2016. The Economics of Ecological Restoration and Hazardous Fuel Reduction Treatments in Ponderosa Pine Forest Ecosystem. ERI Fact Sheets. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 2 p.

WORKING PAPERS

Wasserman, T.N. 2015. Wildlife and Fire: Impacts of Wildfire and Prescribed Fire on Wildlife and Habitats in Southwestern Coniferous Forests. ERI Working Paper No. 36. Ecological Restoration Institute and Southwest Fire Science Consortium, Northern Arizona University, Flagstaff, AZ.

O'Donnell, F.C. 2016. The Influence of Restoration Treatments on Hydrologic Output in Fire-Adapted Forests of the Southwest. ERI Working Paper No. 37. Ecological Restoration Institute and the Southwest Fire Science Consortium, Northern Arizona University. 14 pp

GENERAL AND TECHNICAL REPORTS

Lucas, A.M., and Y.S. Kim. 2016. White Mountain Stewardship Project: Ten-year Socioeconomic Assessment. ERI Technical Report. Ecological Restoration Institute, Northern Arizona University, Flagstaff, AZ. 64 p.

Signatures:

Recommended by (Project Coordinator(s)):__/s/ Scott A Russell__4FRI Chief Executive_____

Approved by (Forest Supervisor(s))[37]:_/s/ Stephen Best Apache-Sitgreaves NF Supervisor_____

Approved by (Forest Supervisor(s)):__/s/ Laura Jo West Coconino NF Forest Supervisors_____

Approved by (Forest Supervisor(s)):__/s/ Heather Provencio_Kaibab NF Forest Supervisor_____

Approved by (Forest Supervisor(s)):_/s/ Neil Bosworth_Tonto NF Forest Supervisor_____

(OPTIONAL) Reviewed by (collaborative chair or representative): _____

[37] If your project includes more than one National Forest, please include an additional line for each Forest Supervisor signature.