CFLR Project (Name/Number): Missouri Pine-Oak Woodland Restoration CFLRP20

National Forest(s): Mark Twain National Forest

1. Match and Leveraged Funds:

a. FY18 Matching Funds Documentation

Fund Source – (CFLN/CFLR Funds Expended)	Total Funds Expended in Fiscal Year 2018
CFLN18	$863,568.13

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

Fund Source – (Funds expended from Washington Office funds (in addition to CFLR/CFLN) (please include a new row for each BLI))	Total Funds Expended in Fiscal Year 2018
NFVW* (Not tagged as CFLRP expenditure in database of record)	$534,493

This value (aka carryover funds or WO unobligated funds) should reflect the amount expended of the allocated funds as indicated in the 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)	Total Funds Expended in Fiscal Year 2018
CMRD	$15,671.04
NFTM	$167,778.67
CWKV* (Database of record shows $274,145)	$275,310.24
NFVW	$413,978.33
NFWF	$40,170.81
WFHF* (Did not get rolled-up into the expenditure report. All Prescribed fire activities for the zone were completed in the CFLR project area, See WorkPlan.)	$107,536.00

This amount should match the amount of matching funds obligated in the FMMI CFLRP 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.

Fund Source – (Funds contributed through agreements)	Total Funds Expended in Fiscal Year 2018
	$0
	$0

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 FMMI CFLRP reports such as NFEX, SPEX, WFEX, CMEX, and CWFS**). Please list the partner organizations involved in the agreement. Partner contributions for Fish, Wildlife, Watershed work can be found in WIT database.

Fund Source – (Partner In-Kind Contributions)	Total Funds Expended in Fiscal Year 2018
Northern Research Station – Bird Modeling	$5,000
Missouri State University Hydrological Monitoring/Study	$13,120

Fund Source – (Partner In-Kind Contributions)	Total Funds Expended in Fiscal Year 2018
Oak Woodlands and Forest Fire Consortium – Fire Ecology Workshops and Audio tour for Current River Pinery.	$10,490

Total partner in-kind contributions for implementation and monitoring of a CFLR project on NFS lands. Please list the partner organizations that provided in-kind contributions.

Service work accomplishment through goods-for services funding within a stewardship contract (for contracts awarded in FY18)	Totals
Total revised non-monetary credit limit for contracts awarded in FY18	$0

Revised non-monetary credit limits for contracts awarded prior to FY18 were captured in previous reports (FY16 and FY15). 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.

b. Please fill in the table describing leveraged funds in your landscape in FY2018. Leveraged funds refer to funds or in-kind services that help the project achieve proposed objectives but do not meet match qualifications.

There were no leveraged funds in 2018.

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***.

FY2018 Overview

FY18 Activity Description (Agency performance measures)	Acres
Number of acres treated by prescribed fire	15,863
Number of acres treated by mechanical thinning	1,939 Commercial Harvest 3,641 acres Precommercial thinning
Number of acres of natural ignitions that are allowed to burn under strategies that result in desired conditions	0
Number of acres treated to restore fire-adapted ecosystems which are maintained in desired condition	11,329
Number of acres mitigated to reduce fire risk	21,443

Please provide a narrative overview of treatments completed in FY18, including data on whether your project has expanded the pace and/or scale of treatments over time, and if so, how you've accomplished that – what were the key enabling factors?

- **How was this area prioritized for treatment?** Priority landscape per Forest Plan and designated State Conservation Opportunity Area for Forest/Woodlands and Glades.
- **Please tell us whether these treatments were in "high or very high wildfire hazard area** from the "wildfire hazard potential map" (Firelab.org). Low Hazard area but contains numerous identified WUIs and infrastructure.
- **What have you learned** about the interaction between treatment prioritization, scale, and cost reduction? What didn't work? Please provide data and further context here. Thinning and prescribed fire treatments are effective in reducing fire severity.

Please provide visuals if available, including maps of the landscape and hazardous fuels treatments completed, before and after photos, and/or graphics from fire regime restoration analysis completed locally. You may copy and paste these below or provide a link to a website with these visuals.

Expenditures

Category	**$**
FY2018 Wildfire Preparedness[1]	0
FY2018 Wildfire Suppression[2]	$31,108.75
The cost of managing fires for resource benefit if appropriate (i.e. full suppression versus managing)	0
FY2018 Hazardous Fuels Treatment Costs (CFLN)	See Below
FY2018 Hazardous Fuels Treatment Costs (other BLIs)	See Below

Accomplishment	Acres of non-WUI/WUI fuels treated	Cost
CFLN		
2510 - Invasives - Pesticide Application	1,614	$81/ac
2560 - Invasives - Biocontrol, Livestock	114	$163/ac
4521 - Precommercial Thin	1,156	$122 – 154/ac
CWKV		
4493 - Site Preparation for Natural Regeneration -	348	$119/ac
4521 - Precommercial Thin	910	$122 – 154/ac
NFHF		
1113 - Underburn - Low Intensity (Majority of Unit	WUI 1,656	$15/ac
1111 - Broadcast Burning	WUI 9,620	$15/ac
1111 - Broadcast Burning	1,252	$15/ac
1113 - Underburn - Low Intensity	231	$15/ac
NFVW		
2510 - Invasives - Pesticide Application	248	$81/ac
4521 - Precommercial Thin	833	$122 – 154/ac
XXX		
4117 - Stand Clearcut (w/ leave trees) (EA/RH/FH)	129	Sale Prep cost
4121 - Shelterwood Preparatory Cut (EA/NRH/NFH)	22	Sale Prep cost
4131 - Shelterwood Establishment Cut	143	Sale Prep cost
4132 - Seed-tree Seed Cut	128	Sale Prep cost
4152 - Group Selection Cut (UA/RH/FH)	59	Sale Prep cost
4220 - Commercial Thin	1,815	Sale Prep cost
4231 - Salvage Cut	301	Sale Prep cost
4232 - Sanitation Cut	416	Sale Prep cost

[1] Include base salaries, training, and resource costs borne by the unit(s) that sponsors the CFLRP project. If costs are directly applicable to the project landscape, describe full costs. If costs are borne at the unit level(s), describe what proportions of the costs apply to the project landscape. This may be as simple as Total Costs X (Landscape Acres/Unit Acres).

[2] Include emergency fire suppression and BAER within the project landscape. Describe acres of fires contained and not contained by initial attack. Describe acres of resource benefits achieved by unplanned ignitions within the landscape. Where existing fuel treatments within the landscape are tested by wildfire, summary and reference the fuel treatment effectiveness report.

Accomplishment	Acres of non-WUI/WUI fuels treated	Cost
SSCC		Sale Prep cost
4117 - Stand Clearcut (w/ leave trees) (EA/RH/FH)	23	Sale Prep cost
4220 - Commercial Thin	456	Sale Prep cost
4231 - Salvage Cut	90	Sale Prep cost
4232 - Sanitation Cut	11	Sale Prep cost
4493 - Site Preparation for Natural Regeneration	63	Sale Prep cost
4521 - Precommercial Thin	404	Sale Prep cost
Grand Total	**22,042**	

How may the treatments that were implemented contribute to reducing fire costs? If you have seen a reduction in fire suppression costs over time, please include that here. ?

Have there been any assessments or reports conducted within your CFLRP landscape that provide information on cost reduction, cost avoidance, and/or other cost related data as it relates to fuels treatment and fires? If so, please summarize or provide links here:

When a wildfire interacts with a previously treated area within the CFLR boundary:

If additional assessments have been completed since the FY2017 CFLRP annual report on fires within the CFLRP area, please note that and provide responses to the questions below.

Each unit is required to complete and submit a standard fuels treatment effectiveness monitoring (FTEM) entry in the FTEM database (see FSM 5140) when a wildfire occurs within or enters into a fuel treatment area. **For fuel treatment areas within the CFLR boundary, please copy/paste that entry here and respond to the following supplemental questions. Note that the intent of these questions is to understand progress as well as identify challenges and what didn't work as expected to promote learning and adaptation.**

NFPORS	Treatment Unit	Wildland Fire Name	Wildland Fire	Final Size	Date Burned	Acres Burned	Contribute?	Change?	Treatment year	Treatment type
090523RX0000018015	DD Pine 2	Bugsmasher	MO-MTF-124	3.18	3/13/2018	3	Y	Y	2016	Broadcast Burn
090523RX00000018011	Grassy Pond 3	Nichols 2	MO-MTF-138	68.33	3/15/2018	1	Y	Y	2016	Broadcast Burn
090523RX00000010000	Big Hollow RX	Big Hollow	MO-MTF-211	26.74	4/20/2018	26.74	Y	Y	2011	Broadcast Burn

- Bugsmasher was a small fire that started on a highway right-of-way and burned into one of our prescribed fire units. The wildfire burned entirely in the treatment unit and on the mowed right-of-way. Due to the prescribed fire there was a reduced amount of understory making direct attack more efficient and effective compared to other recent fires in untreated areas.
- The existing dozer line used in the Grassy Pond 3 prescribed fire unit was re-opened for the Nichols 2 fire. Nichols 2 started on private land, in brushy fuels, and was driven by wind towards USFS land where fuels transitioned to mainly hardwood leaf litter. A combination of fuels change and the ability to re-use existing fireline made this fire easier to suppress.
- The Big Hollow fire was started in a prescribed fire unit that has been burned twice. Due to prescribed fire, there is less woody understory making suppression actions quicker and more effective. The east section of the fire perimeter also intersected a thinning unit.

In all three cases fire severity was reduced due to prescribed fire activities.

When a wildfire occurs within the CFLR landscape on an area planned for treatment but not yet treated:
No wildfires met these parameters

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.

The inputs used in generating the number and/or percentages for CFLR/N and all matching funds are derived from WorkPlan and expenditure reports (transaction register). Product distributions were generated from TIMs cut and sold report.

FY 2018 Jobs Supported/Maintained (FY18 CFLR/CFLN/ WO carryover funding):

FY 2018 Jobs Supported/Maintained	Jobs (Full and Part-Time) (Direct)	Jobs (Full and Part-Time) (Total)	Labor Income (Direct)	Labor Income (Total)
Timber harvesting component	64	97	2,746.065	3,187,029
Forest and watershed restoration component	8	10	105,439	159,986
Mill processing component	94	162	3,702,571	6,432,294
Implementation and monitoring	5	6	146,646	175,427
Other Project Activities	0	0	9,175	13,104
TOTALS:	171	276	6,709,896	9,967,840

FY 2018 Jobs Supported/Maintained (FY18 CFLR/CFLN/ WO carryover and matching funding):

FY 2018 Jobs Supported/Maintained	Jobs (Full and Part-Time) (Direct)	Jobs (Full and Part-Time) (Total)	Labor Income (Direct)	Labor Income (Total)
Timber harvesting component	64	97	2,746,065	3,187,029
Forest and watershed restoration component	8	10	113,305	175,075
Mill processing component	94	162	3,702,571	6,432,294
Implementation and monitoring	10	14	651,147	778,942
Other Project Activities	0	0	13,391	19,125
TOTALS:	176	285	7,226,479	10,592,466

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 limit answer to two pages).

The Missouri Pine-Oak Restoration Project is slated for implementation across 126 thousand acres within the Mark Twain National Forest (MTNF). This area corresponds to about 8% of MTNF. About $20 million will be invested to implement the project with one half funded through the CFLRP national fund and the other half through the Knutson-Vandenberg Fund and nongovernmental sources. The $20 million invested on MTNF-CFLRP implementation over the 2012-2019 period are expected to support an average of 141 jobs, generate $33.7 million in labor income and contribute $44.2 million in added value to the regional 9-county economy. Merchantable tree volume at the end of this period is expected to exceed the initial amount by 14% although growth in timber volume will be lower than if the MTNF-CFLRP had not been implemented. Given the size and scope of the MTNF-CFLRP there were no sizeable or discernable negative effects to the local wood products industry although impacts on particular industry segments will need further evaluation.

Highlights

- Lands managed under the Mark Twain National Forest Collaborative Forest Land Restoration Project (MTNF-CFLRP) represent about 0.8% of all Missouri forests and 8% of lands in the Mark Twain National Forest.

- Results from economic and vegetation models show that total MTNF-CFLRP investments and subsequent implementation activities from 2012 to 2019 will likely result in:
    - annual average of 141 jobs supported, $33.7 million in labor income, and $44.2 million in added economic value to the local economy (nine-county region where the project is expected to have its largest impact)
    - $2.2 dollars added to the local economy for every dollar invested
    - 9.2 million in tax revenues
- Merchantable tree volume by the end of 2019 is estimated to be 14% greater with the implementation of the MTNF-CFLRP as compared to initial conditions.

Indicator	**Brief Description of Impacts, Successes, and Challenges**	**Links to reports or other published materials (if available)**
# Cross-institutional agreements/policies	The Forest has a Challenge Cost Share Agreement with Missouri State University and has financial arrangements with the Northern Research Station for assistance in monitoring.	Oakfirescience.com Missouristate.edu Wildlife.org
% Locally retained contracts	All timber sales, timber marking contracts, invasive species treatment contracts have been to local contractors within the State.	
Ease of doing business	CFLN and the required matching has allowed for more personal, flexibility in contracting and agreements.	
Relationship building/collaborative work	The Forest has had over 20 executed Wyden Amendments Participating Agreements to conduct prescribed fire on private lands adjacent to Forest Service lands.	

5. Based on your project monitoring plan, **describe the multiparty monitoring process.**

The Forest has a variety of collaborators assisting with multi-party monitoring with Central Hardwood Joint Ventures, The Nature Conservancy, Missouri State University Ozarks Environmental and Water Resources Institute, University of Missouri, NatureCite and Northern Research Station. In June of 2018, we had a monitoring meeting with our collaborators to review results of all the monitoring that is currently be conducted. Below is a summary of monitoring completed to date.

Bird Monitoring

The Missouri Pine-Oak Woodland Restoration Project implemented bird monitoring to 1) determine changes in abundance in response to restoration activities in the cooperative forest landscape restoration projects (CFLR) and 2) determine relationships between bird abundance and vegetation structure and composition in the Mark Twain National Forest. Objective 1 will require bird surveys spaced over the duration of the project. However, initial results from objective 2 will be available after 3 years based on the current variation in structure and management that has already taken place.

Please refer to 2013 – 2017 annual reports for details.

Melissa Roach, a University of Missouri graduate student has been monitoring bird response and has found pine-savanna and woodland restoration is benefiting nesting success of multiple species and guilds and is providing additional, possibly critical, habitat for declining early-successional species and species of concern. The positive relationship with focal species' nest success and densities provides even stronger inference that pine-savanna and woodland restoration is benefitting some bird species of concern. Management activities are effectively creating the necessary vegetation characteristics to attract focal species and these species are successfully nesting in these areas (Melissa Roach 2018).

No monitoring occurred in 2017, however, the Forest is collaborating with Northern Research Station, Missouri Department of Conservation and Central Hardwoods Joint Ventures in modeling habitat in 2018. This is being done to determine the possibility and practicality of re-introducing Brown-headed nuthatch to the CFLRP project area.

Brown-headed nuthatches (Sitta pusilla; BHNU) are a non-migratory resident bird of pine woodlands that were extirpated from Missouri in the late nineteenth century when pine forests were logged. There is growing interest in the reintroduction a brown-headed nuthatch to Missouri because of an increasing focus on pine woodland management in Missouri over this timeframe and current partner support.

The opportunity to reintroduce BHNU in Missouri is driven primarily by the renewed availability of habitat. The Mark Twain National Forest, and Missouri Department of Conservation (MDC) have been focusing on management of pine woodland natural communities across the Ozark Highlands through forest harvest and burning. These two agencies and additional partners are collaborating on the Missouri Pine-Oak Woodland Restoration Project, which is supported by the USFS Collaborative Forest Landscape Restoration Program (CFLRP). The project area in the CFLRP project includes 345,710 acres of public land across the Ozarks with 115,860 planned pine-oak woodland restoration treatment acres, which includes 15,500 acres on MDC lands (Angeline, Peck Ranch, Rocky Creek, and Sunklands Conservation Areas) and 88,400 acres on MTNF.

An assessment of the current amount and suitability of pine woodlands in the Ozark Highlands would help inform decisions and any future effort regarding the reintroduction of the BHNU in the region. We report on the progress of two components of that assessment: 1) the development of a habitat model from existing populations of BHNU to understand the landscape and forest stand characteristics that will be important for BHNU habitat in Missouri; and 2) the application of the habitat model to the CFLRP site and surrounding Ozarks landscape to map current habitat suitability. Work on the third component, the development of a dynamic-landscape population model to project viability of BHNU over time based on forest/landscape projections of the Ozarks from LANDIS models simulating continued management, will follow. This effort is supported by funding from the Mark Twain National Forest and the Northern Research Station and data from the USFS Southern Region landbird monitoring program on the Ouachita and Ozark-St. Francis National Forests.

The Ozark-ST. Francis and Ouachita National Forests detected 111 BHNU at 7342 points from 1997-2017. The Bayesian model reached convergence and we obtained posterior estimates for all parameters. Detection rates for BHNU varied among years but were generally below 25% (Figure 1). Day of year within the sampling season had little influence on detection probability.

The model showed significant effects of all variables for abundance. First, the occupancy component of the model indicated that BHNU occupied landscapes with greater basal area of pine. At the point count levels, were more associated with mixed and coniferous forests than deciduous. Abundance was also greater at points with intermediate levels of overstory canopy cover and mid-story canopy less than 25%. Locally, BHNU abundance increased greatly with the basal area of pines in the stand. And finally, higher abundances of BHNU also required at least 1-2 snags per ha. The

relationships between BHNU abundance and vegetation measures were consistent with existing knowledge of BHNU habitat relationships.

Application of the model to remote sensing data across the Ozarks indicated that in addition to the Ouachita National Forest, the landscapes in the Current River Hills subsection, including sections of the Mark Twain National Forest currently provide some level of habitat for BHNU (Figure 1). The two areas of highest habitat suitability for BHNU in Missouri are actually the two sites comprising the MTNF ownership within the CFLRP project area.

Ongoing efforts will look at the sustainability of BHNU over time by projecting changes in the forest landscape over time using the LANDIS forest landscape simulation model and assess impacts on habitat and abundance of other focal species such as pine warbler, prairie warbler, Eastern towhee, blue-winged warbler, and yellow-breasted chat.

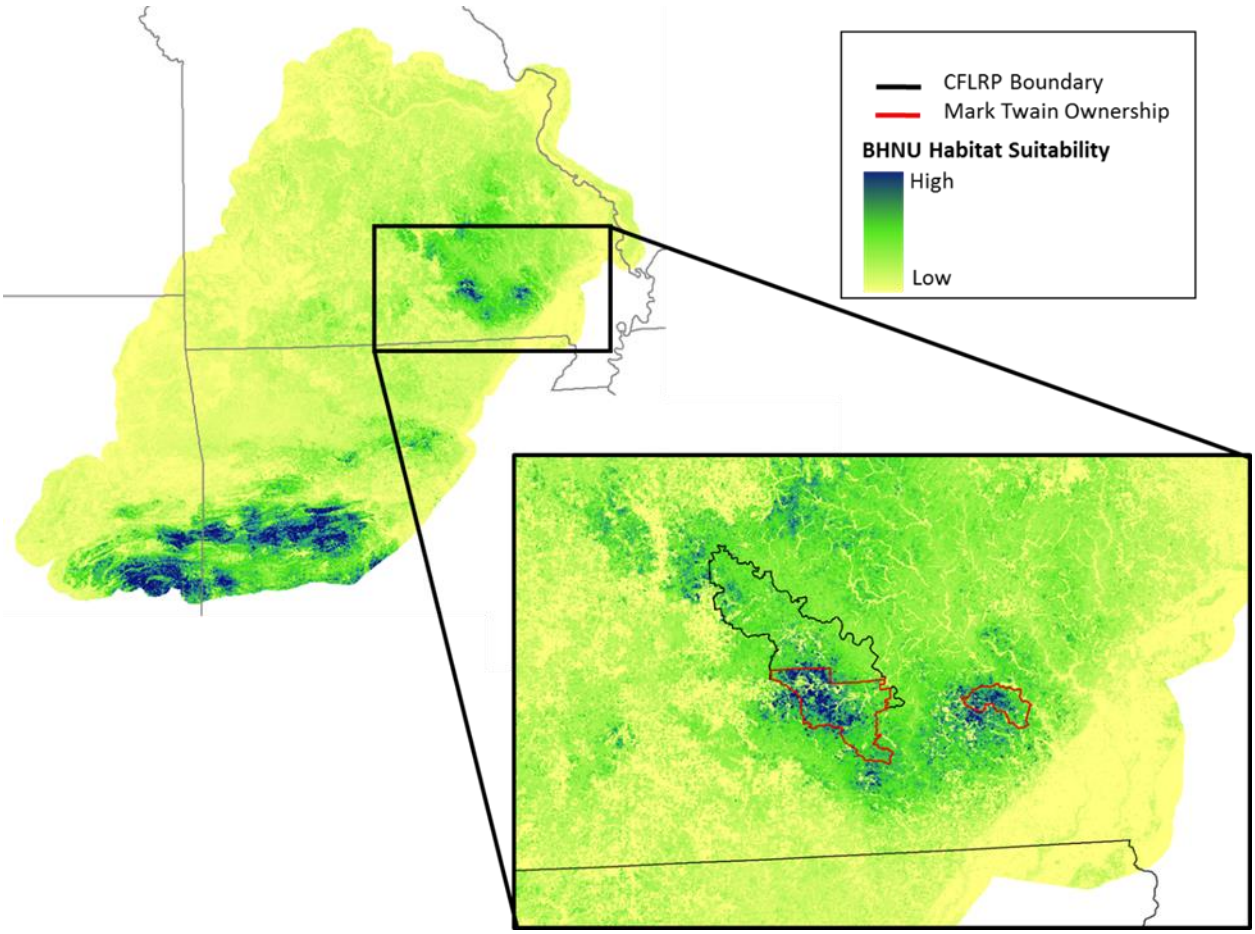


Figure 1 Estimated habitat suitability of brown-headed nuthatch across the Ozarks based on the application of abundance model to remote sensing landcover and forest data.

Watershed Monitoring

The Forest has a challenge cost share agreement (#15-CS-11090500-036) with Missouri State University and the Ozark Environmental and Water Resource Institute to conduct studies of forest management in the CFLRP area. The purpose of these studies is to monitor hydrological conditions of typical small streams within the Big Barren Creek watershed under different management conditions. The overall goal is to compare runoff yields and hydrograph shape among the different watersheds. The specific objectives of this project are to: 1) install 10 level logger gaging stations at 2nd and 3rd order streams where upstream watershed areas have different burn histories and monitor stage throughout the length of the project; 2) develop discharge rating curves to calculate annual runoff volume and for flow frequency analysis for each watershed; and 3) compare runoff characteristics of burned versus unburned watersheds. Year 1 work on this goal

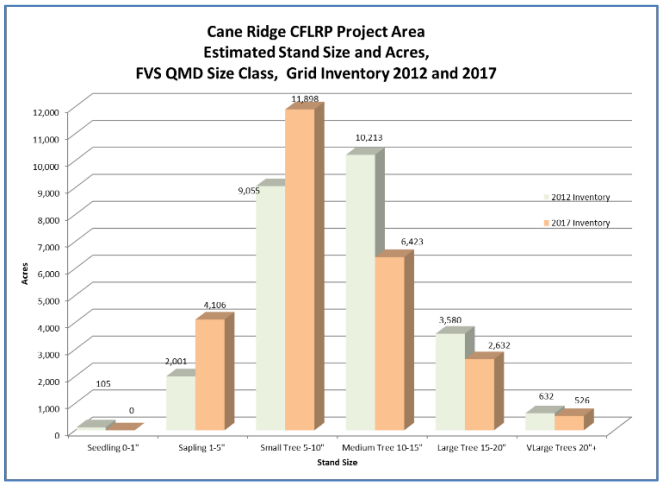
included site selection and installation of stage gages, development of stage-discharge rating curves using measured and modeled discharges, and preliminary runoff analysis. Project years 2 to 5 included continued discharge data collection, evaluation of site locations and potential adjustments to gaging network sites, more rigorous analysis of runoff records as affected by sub-watershed topography and soils, land use, forest management practices, and seasonal timing of events. Here is a link to papers and poster presentation completed in 2017 discussing results to ongoing studies CFLRP area.

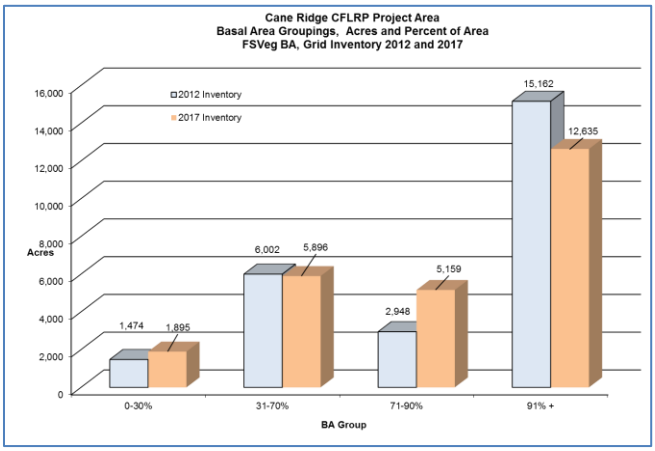
Smoke Monitoring

As a result of public concerns over prescribed fire activities and the effects this may have on air quality, the Forest has initiated additional smoke monitoring efforts that started in the spring of 2016. The Region has purchased for the Forest two E-Samplers that are utilized at receptor sites at selected prescribed burns based on smoke modeling by the Regional Air Quality Specialist. In addition, fixed visual smoke monitoring cameras will be placed in the key location (e.g. tower sites) within the project area. The following link is to one of four smoke monitoring assessments completed 2016. A new assessment for 2018 will be available in December.

Grid Inventory and LANDIS Modeling

Re-measures of the grid plot inventory on 1,320 plots within the CFLRP project area has begun with contracting of all plots in the Cane Ridge unit in 2017. These fixed plots are used to measure structural changes such as changes in canopy closure and basal area. This data will be used in FSveg and LANDIS modeling to measure how well restoration objectives are being meet. Some preliminary results for portions of the CFLRP project area displayed below.





We worked with collaborators from NRS and University of Missouri to apply the LANDIS PRO forest landscape model to analyze expected outcomes for a century of management under alternative scenarios with and without harvesting and burning (Jin et al. 2017). We predicted that pine-dominated woodlands could be restored and sustained on this landscape with periodic timber harvesting (including removal of low-valued small-diameter trees) and frequent burning. Recreating a woodland overstory of 40 to 80% canopy cover required scenarios with timber harvesting on a roughly 20-year reentry cycle to reduce tree cover and increases in the fire frequency (every four years) increased the proportion of pines at the end of the century. All scenarios without timber harvesting resulted in a landscape dominated by closed-canopy oak forest. With neither burning nor harvesting the proportion of white oaks increased. Repeated burning without harvesting increased the proportion of pines in the overstory, but the closed-canopy overstory will remain dominated by an oak overstory.

6. FY 2018 Agency performance measure accomplishments:

Performance Measure	Unit of measure	Total Units Accomplished	Total Treatment Cost ($) *(Contract Costs)*
Acres of forest vegetation established FOR-VEG-EST	Acres	596	CFKV/CFVW Tree Planting- $22,110 $66/ac; CFKV EA Regen – 844 Acres @ $118.00/Acre = $99,592.00; CFKV EA Regen – 844 Acres @ $118.00/Acre = $99,592.00 CFKV UEA Regen- 42 Acres @ $116.00/Acre = $4,872.00 & 164 Acres @116.00/Acre = $19,024.00
Acres of forest vegetation improved FOR-VEG-IMP	Acres	3,349	TSI - CFLN/CFKV/CFVW - $368,860 CFKV Slash Disposal- 15 Acres @ $58.00/Acre = $870.00 CFKV TSI – 957 Acres @ $122.00/Acre = $116,754.00 CFLN TSI – 700 Acres @ $122.00/Acre = $85,400.00 CFVW TSI – 390 Acres @ $122.00/Acre = $47,580.00 CFKV Slash Disposal – 36 Acres @ $58.00/Acres = $2,088.00
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	1,977	CFLN $30,575 $61.25/ac @ 500 ac CFLN $22,770 $339/ac @ 67 ac CFLN/CLWF $54,120 $60.00/ac @ 902 ac CFLN $18,582 $163/ac @ 114 ac.
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	14,151	Integrated
Miles of high clearance system road improved	Miles	1.05	CFLN/CFRD - $59,804

Performance Measure	Unit of measure	Total Units Accomplished	Total Treatment Cost ($) *(Contract Costs)*
RD-HC-IMP			
Acres of forestlands treated using timber sales TMBR-SALES-TRT-AC	Acres	1,105	Tree Marking Contract - CFVW $10,000
Volume of timber sold TMBR-VOL-SLD	CCF	35,499.96	
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	10,652	
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	11,199	Force Account - $15/ac
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	11,276	Force Account - $15/ac
Please also include the acres of prescribed fire accomplished	Acres	15,863	Force Account - $15/ac

Units accomplished should match the accomplishments recorded in the Databases of Record.

7. **FY 2018 accomplishment narrative** – Summarize key accomplishments and evaluate project progress *not already described elsewhere* in this report. (Please limit answer to three pages.)

A new stewardship proposal (Four Rivers) was approved with the National Wild Turkey Federation (NWTF). The Forest also completed one new SPA and are working a new agreement (Uplika South) to complete midstory TSI, NNIS and public access projects. One IRTC (Uplika North) was also signed with 426 acres of TSI service work.

8. **The WO (EDW) will use spatial data provided in the databases of record to estimate a treatment footprint for your review and verification**.

Fiscal Year	Footprint of Acres Treated (without counting an acre of treatment on the land in more than one treatment category)
FY 2018	2,837.27
Estimated Cumulative Footprint of Acres (2010 or 2012 through 2018)	72,090.27

9. **Describe any reasons that the FY 2018 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).

10. Planned FY 2019 Accomplishments

Performance Measure Code	Unit of measure	Work Plan 2019	Planned Accomplishment For 2019	Amount ($)
Acres of forest vegetation established FOR-VEG-EST	Acres	1,053	1,053	$102,000

Performance Measure Code	Unit of measure	Work Plan 2019	Planned Accomplishment For 2019	Amount ($)
Acres of forest vegetation improved FOR-VEG-IMP		1,513	1,513	$184,000
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	300	300	$18,000
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	15,000	15,000	Integrated
Miles of high clearance system road improved RD-HC-IMP	Miles	150	150	$183,000
Volume of timber sold TMBR-VOL-SLD	CCF	25,000	25,000	
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	7,000	7,000	$100,000
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	7,000	7,000	$100,000

Please include all relevant planned accomplishments, assuming that funding specified in the CFLRP project proposal for FY 2019 is available. Use actual planned funding if quantity is less than specified in CFLRP project work plan.

11. **Planned accomplishment narrative and justification if planned FY 2019 accomplishments and/or funding differs from CFLRP project work plan** (no more than 1 page): If do want to compare lifetime goals to date, link here.

No changes

12. **Please include an up to date list of the members of your collaborative if it has changed from previous years**. 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.

The Forest has also continued its partnership with APHIS Wildlife Services to eliminate feral swine off the MTNF. In 2018, 1,109 were removed off the Eleven Point and Poplar Bluff Ranger Districts with the majority of these removed from the CFLRP area. $25,000 of CFVW was allocated to the 2018 Interagency Agreement for this work.

No changes

13. **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.

Restoration of Pine-Oak Woodlands in Missouri

Signatures:

Recommended by (Project Coordinator(s)):_____

Approved by (Forest Supervisor(s)): _____

Draft reviewed by (collaborative chair or representative): _____