

CFLR Project (Name/Number): Missouri Pine/Oak Woodland Restoration Project, CFLRP20**National Forest(s): Mark Twain National Forest****Responses to the prompts on this annual report should be typed directly into this template, including narratives and tables.****1. Match and Leverage funds:****a. FY14 Matching Funds Documentation**

Fund Source – (CFLR Funds Expended¹)	Total Funds Expended in Fiscal Year 2014(\$)
CFLN	\$786,272.41

Fund Source – (Carryover funds expended (Carryover to in addition to CFLR/CFLN)² (please include a new row for each BLI))	Total Funds Expended in Fiscal Year 2014(\$)
WFHF	\$143,040

Fund Source – (FS Matching Funds (please include a new row for each BLI)³)	Total Funds Expended in Fiscal Year 2014(\$)
CMRD	\$19,174.07
CWKV	\$52,179.16
CWK2	\$54,500.00
NFVW	\$85,295.49
NFTM	\$475,296.51
WFHF	\$308,854.17

Fund Source – (Funds contributed through agreements⁴)	Total Funds Expended in Fiscal Year 2014(\$)

Fund Source – (Partner In-Kind Contributions⁵)	Total Funds Expended in Fiscal Year 2014(\$)
The Nature Conservancy – Missouri Field Office – Monitoring	\$2,541.00
Northern Research Station – IMPLAN Analysis support	\$24,350.00

Fund Source – (Service work accomplishment through goods-for services funding within a stewardship contract⁶)	Total Funds Expended in Fiscal Year 2014(\$)
	\$71,317.80

¹ This amount should match the amount of CFLR/CFLN dollars obligated in the PAS report titled CFLR Job Code Listing and Expenditure Report – Detailed Analysis by Fiscal Year.

² This value should reflect the amount of carryover funds allocated to a project as indicated in the program direction, but does not necessarily need to be in the same BLIs as indicated in the program direction. These funds should total the matching funds obligated in the PAS report.

³ This amount should match the amount of matching funds obligated in the PAS report.

⁴ Please document any partner contributions to implementation and monitoring of the CFLR project through an agreement (this should only include funds that weren't already captured through the PAS job code structure for CFLR matching funds). Please list the partner organizations involved in the agreement.

⁵ Total partner in-kind contributions for implementation and monitoring of a CFLR project. Please list the partner organizations that provided in-kind contributions. See "Annual Report instructions" for instructions on how to document in-kind contributions.

⁶ This should be the amount in the "stewardship credits charged" column at the end of the fiscal year in the TSA report TSA90R-01.

b. Please provide a narrative or table describing leveraged funds in your landscape in FY2014 (one page maximum)

Approved by (Forest Supervisor):/s/ William B. Nightingale

2. Discuss how the CLFR project contributes to accomplishment of the wildland fire goals in the 10-Year

Comprehensive Strategy Implementation Plan, dated December 2006. In a narrative format, describe the progress to date on restoring a more fire-adapted ecosystem, as identified in the project's desired conditions. This may also include a description of the current fire year (fire activity that occurred in the project area) as a backdrop to your response.

- All wildfires within the CFLR boundary were controlled during initial attack in FY 14. There were no wildfires in the CFLR project area which required recovery plans or treatments. There are no areas on MTNF identified or designated for wildland fire use at this time.
- There were 16 wildfires on the Eleven Point District and nine wildfires on the Poplar Bluff District, which is lower than annual average for these two units.
- A CWPP was completed for Shannon County in April 2012. It identified WUI as the zone of transition between unoccupied land and human development.
- The Forest completed mapping of WUI areas for the Forest and the CFLR project area.
- The Mark Twain National Forest uses the HFRA WUI definition and federal register data on communities at risk. In FY 2013, fuels were reduced and FRCC improved on 8,323 acres treated by prescribed burning within WUI on National Forest System lands. Missouri communities-at-risk in the vicinity of these treatments include: Pine and Ellsinore.
- There were also 7,150 non-WUI acres treated by prescribed burning and 195 acres by thinning. All treated acres were identified as priority based on potential for restoration, year last treated, and ability to reach restoration objectives. Over 3,736 acres of National Park Service lands were treated with prescribed burning in 2014.
- 100 percent of treated acres moved toward desired conditions. Treatments are designed to restore fire-adapted ecosystems and facilitate fire suppression as described in the National Fire Plan. Although many of these areas have been treated more than once, none have achieved desired conditions yet.
- In 2014, a total of approximately \$167,936 was invested by the Forest Service in a prescribed fire and fuels treatments within the project area—15,473 acres of fuels treatments were accomplished at a cost of approximately \$11/acre.

3. What assumptions were used in generating the numbers and/or percentages you plugged into the TREAT tool?

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

FY 2014 Jobs Created/Maintained (FY14 CFLR/CFLN/ Carryover funding only):

Type of projects	Direct part and full-time jobs	Total part and full-time jobs	Direct Labor Income	Total Labor Income ⁷
Commercial Forest Product Activities	35.8	61.8	\$1,456,228	\$2,813,959
Other Project Activities	5.4	7.3	\$182,577	\$259,320
TOTALS:	41.1	69.1	\$1,638,805	\$3,073,279

FY 2014 Jobs Created/Maintained (FY14 CFLR/CFLN/ Carryover and matching funding):

Type of projects	Direct part and full-time jobs	Total part and full-time jobs	Direct Labor Income	Total Labor Income ⁸
Commercial Forest Product Activities	91.9	158.8	\$3,742,434	\$7,231,734
Other Project Activities	13.1	17.2	\$419,199	\$580,357
TOTALS:	105.0	176.0	\$4,161,632	\$7,812,091

4. Describe other community benefits achieved and the methods used to gather information about these benefits.

At this point, the MOPWR project will be using the TREAT worksheet to quantify economic benefits to the affected counties (Shannon, Carter, Oregon, Ripley, Butler, Wayne, Texas, Reynolds, Howell and Wright). In 2014, approximately 47 percent of all funds went toward contracted work (thinning contracts, road reconstruction, landlines and invasive species treatments). There are currently 19 open timber sales with the majority of the purchasers from Shannon, Carter, Butler and Howell counties.

5. Describe the multiparty monitoring, evaluation, and accountability process.

Bird Monitoring: The collaborative 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. Objective 1 will require bird surveys spaced over the duration of the project. However, initial results from objective 2 will be available after three years based on the current variation in structure and management that has already taken place.

The Northern Research Station received \$23,000 from the Mark Twain National Forest through an In-service Agreement to implement bird monitoring in 2014. A graduate assistant was hired to supervise the project and along with three technicians to help complete surveys. The Missouri Department of Conservation provided housing for the field technicians.

The monitoring crew conducted diurnal bird surveys at 151 FQI points and 100 additional grid points within the CFLR project area in portions of the Eleven Point and Poplar Bluff Ranger Districts between May 27 and July 1, 2014; these were the same points surveyed in 2013. Focal species were Acadian Flycatcher, Black-and-white Warbler, Blue-winged Warbler, Eastern Towhee, Eastern Wood-Pewee, Kentucky Warbler, Ovenbird, Pine Warbler, Prairie Warbler, Red-headed Woodpecker, Summer Tanager, White-eyed Vireo, Wood Thrush, Worm-eating Warbler, and Yellow-breasted Chat. Bird abundance was documented by using point counts. The survey methods were designed to estimate bird densities as opposed to relative abundance by accounting for species detectability; detectability is estimated using distance and time of detection models. Point counts were conducted between 15 minutes after sunrise and 10:00 am and were not conducted during precipitation, wind > 13 kph, or when temperatures were < 10°C. Measurements of the

⁷ 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>.

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>.

bird's initial detection and the distance between the observer and the bird's initial detection location using a laser range-finder but had to estimate distances on or near the bird when vegetation or topography obstructed the laser. We recorded wind speed, cloud cover, and precipitation before each count. Vegetation characteristics were documented at each point in 2013.

Similar numbers were detected on diurnal point counts in 2013 (Table 1). Abundant number of species characteristic of open woodland and savanna (e.g. Prairie warbler, Yellow-breasted chat) as well as species characteristic of closed canopy forest (e.g. Acadian flycatcher, Ovenbird; Table 1) were detected.

Two new monitoring efforts were implemented in 2014. Nest success was monitored on two plots in the project area from April 4 to August 18. Two - 70 hectare plots that contained point counts and included stands with recent restoration management and stands with no recent management. We searched for and monitored nests of 6 species commonly found in savanna and woodland: Eastern Towhee, Yellow-breasted Chat, Prairie Warbler, Summer Tanager, Eastern Wood-Pewee, and Pine Warbler. We located and monitored 235 nests (Table 2).

Also initiated in 2014, were nocturnal roadside surveys for Eastern Whip-poor-will and Chuck-will's-widow using a modified protocol from the National Nightjar Survey Network. A total of 237 point counts along county and forest roads within and around the CFLR project area from May 11 to July 10. 290 Eastern Whip-poor-will and 65 Chuck-will's-widow were detected.

Table 1. Total number of bird detections by species on 251 point count surveys on the Mark Twain National Forest Cooperative Forest Landscape Restoration Project in 2013 and 2014.

<u>Species</u>	Number of detections	
	<u>2013</u>	<u>2014</u>
Acadian flycatcher	136	105
Black-and-white warbler	37	39
Blue-winged warbler	6	18
Eastern towhee	95	103
Eastern wood-pewee	220	283
Kentucky warbler	21	24
Ovenbird	144	148
Pine warbler	246	236
Prairie warbler	93	74
Red-headed woodpecker	70	41
Summer tanager	112	157
White-eyed vireo	34	40
Worm-eating warbler	59	47
Wood thrush	20	18
Yellow-breasted chat	227	225

Table 2. Number songbird nests monitored on the Mark Twain National Forest Cooperative Forest Landscape Restoration Project in 2014.

Species	Number of nests
Eastern towhee	33
Yellow-breasted chat	56
Prairie warbler	26
Summer Tanager	28
Eastern wood-pewee	55
Pine warbler	37

This winter we complete preliminary analyses of the data collected to date to look at relationships between forest management activity and structure with abundance and nest success. We will repeat diurnal point count surveys at the same points surveyed in 2013-2014; complete additional nocturnal point count surveys at new points, and survey and monitor nests at two new plots in May-August 2015. A final report for this project will be completed in May 2016. Tentative plans are to repeat this survey effort near the end of the current proposed forest restoration project.

Pineknot Canopy Monitoring - This summer, The Nature Conservancy partnered with the Mark Twain National Forest to obtain canopy image data from all 100 vegetation monitoring plots within the Pineknot project. These images are currently being analyzed to determine canopy cover for each plot. These data can then be analyzed to reveal canopy effects by treatment, and also serve as a valuable reference against which to assess change over time as management actions precede. The methodology also allows direct comparison with similar projects on other Ozark sites. One concern with the current state of Ozark woodland systems is the paucity of herbaceous ground cover vegetation, in terms of abundance, diversity, and mean conservatism. Data from similar projects elsewhere in the Ozarks and Midwest suggest a strong correlation between ambient light levels and ground layer abundance, diversity, and quality, and that under a fire regime these are strongly linked to canopy cover. Thus, canopy cover monitoring serves as an efficient, valuable tool to provide direct feedback informing management actions.

Pineknot FQI Assessment – The Forest contracted the Institute of Botanical Training, LLC, to re-measure the 100 FQI Plots in Pineknot which were first established in 2000. This will make the fifth time these plots have been re-measured. This data is being used as a bench mark for expected responses in the floristic quality of the shortleaf pine restoration efforts which began in 2003. This data is currently being loaded into FSVeg and will be used to analyze the species richness, native diversity, cover and abundance of the herbaceous understory in treated and untreated sites.

IMPLAN Analysis – The Forest began collaboration in 2014, with the Northern Research Station and the University of Missouri to conduct and IMPLAN Analysis to evaluate the economic impacts that CFLRP is having in those counties affected by pine woodland restoration efforts on the Forest. In July of 2014, the University of Missouri replicated the baseline information for the CFLRP project and collaborated with Susan Winter on the FS approach utilizing the TREAT tool. The University is currently in the process of updating and compiling the most recent economic data within the CFLRP to utilize in the IMPLAN analysis. In early 2015, a preliminary economic impact analysis will be available for stakeholders (industry, local governments, and the collaborative) regarding the potential economic impact of restoration activities of the CFLRP. A final report containing a comparison of multiplier effects of CFLRP expenditures and any expected loss in economic activities is scheduled for release in winter 2016.

6. FY 2014 accomplishments

Performance Measure	Unit of measure	Total Units Accomplished ⁹	Total Treatment Cost (\$)	Type of Funds (CFLR, Specific FS BLI, Partner Match) ¹⁰
Acres of forest vegetation established FOR-VEG-EST	Acres	787	\$60/ac	CWKV – Contracts \$31,609
Acres of forest vegetation improved FOR-VEG-IMP	Acres	6,072	\$75/ac	CWKV - Contract \$43,540 CFVW – Salary \$27,457 CFVW – Contract \$51,000 Stewardship Service Acres
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	354.3		CFLN – Contracts \$6,600 CFVW20 – Contracts \$4,950 WFHF /LN – Contracts \$28,925
Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions. S&W-RSRC-IMP	Acres	16,748		Integrated
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	10,850		Integrated
Miles of high clearance system roads receiving maintenance RD-HC-MAIN	Miles	6.5		
Miles of high clearance system road improved RD-HC-IMP	Miles	7.2		
Miles of property line marked/maintained to standard LND-BL-MRK-MAINT	Miles	18.25 (0 reported in PAS)		CFLN - \$40,000
Acres of forestlands treated using timber sales TMBR-SALES-TRT-AC	Acres	1,251		
Volume of Timber Harvested TMBR-VOL-HVST	CCF	12,356.2		
Volume of timber sold TMBR-VOL-SLD	CCF	21,129.8		CFTM – Salary \$438,098 CFLN - IDIQ Timber Sale Marking Avg 40/ac
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	6,306.9		

⁹ Units accomplished should match the accomplishments recorded in the Databases of Record.

¹⁰ Please use a new line for each BLI or type of fund used. For example, you may have three lines with the same performance measure, but the type of funding might be two different BLIs and CFLR/CFLN.

Performance Measure	Unit of measure	Total Units Accomplished ⁹	Total Treatment Cost (\$)	Type of Funds (CFLR, Specific FS BLI, Partner Match) ¹⁰
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	11,793.3	\$15/ac	WFHF/LN – Salary \$122,949 CFHF – Salary/Equip - \$441,659 CFHF - Helicopter Contract - \$1,500
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	8,323		

7. FY 2014 accomplishment narrative – Summarize key accomplishments and evaluate project progress. (Please limit answer to three pages.)

8. Describe the total acres treated in the course of the CFLR project (cumulative footprint acres; not a cumulative total of performance accomplishments). What was the total number of acres treated?¹¹

Fiscal Year	Total number of acres treated (treatment footprint)
FY14	6,532
FY10, FY11, FY12, FY13 and FY14 (as applicable- projects selected in FY2012 may not have data for FY10 and FY11; projects that were HPRP projects in FY12, please include one number for FY12 and one number for FY13 (same as above))	31,317

9. In no more than two pages (large landscapes or very active fire seasons may need more space), describe other relevant fire management activities within the project area: None

10. Describe any reasons that the FY 2014 annual report does not reflect your project proposal, previously reported planned accomplishments, or work plan. Previous projections of FOR-VEG-IMP included claiming more prescribed fire accomplishments that achieve this objective. The Forest is working on increasing the amount of prescribed fire activities that meet FOR-VEG-IMP accomplishments within what would be considered a reasonable definition.

¹¹ This metric is separate from the annual performance measurement reporting as recorded in the databases of record. Please see the instructions document for further clarification.

11. Planned FY 2016 Accomplishments

Performance Measure Code ¹²	Unit of measure	Planned Accomplishment	Amount (\$)
Acres of forest vegetation established FOR-VEG-EST	Acres	400	\$24,000
Acres of forest vegetation improved FOR-VEG-IMP	Acres	5,000	\$375,00
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	300	\$30,000
Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions. S&W-RSRC-IMP	Acres	10,000	Integrated
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	5,000	Integrated
Miles of high clearance system roads receiving maintenance RD-HC-MAIN	Miles	10	\$50,000
Miles of road decommissioned RD-DECOM	Miles	2	\$10,000
Miles of high clearance system road improved RD-HC-IMP	Miles	6	
Miles of property line marked/maintained to standard LND-BL-MRK-MAINT	Miles	10	
Acres of forestlands treated using timber sales TMBR-SALES-TRT-AC	Acres	800	
Volume of Timber Harvested TMBR-VOL-HVST	CCF	8,000	
Volume of timber sold TMBR-VOL-SLD	CCF	18,000	
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	6,000	
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	10,000	\$150,000

¹² Please include all relevant planned accomplishments, assuming that funding specified in the CFLRP project proposal for FY 2016 is available. Use actual planned funding if quantity is less than specified in CFLRP project work plan, and justify deviation from project work plan in question 13 of this template.

Performance Measure Code ¹²	Unit of measure	Planned Accomplishment	Amount (\$)
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	5,000	\$75,000

12. Planned FY 2016 accomplishment narrative:

The FY 2016 program of work will continue to focus on awarding timber sale contracts, stewardship contracts and understory thinning contracts. Completion of NEPA for the Fremont and Pineknott East will be completed by this time authorizing additional treatment acres.

13. Describe and provide narrative justification if planned FY 2015/16 accomplishments and/or funding differs from CFLRP project work plan: