CFLR Project (Name/Number): Longleaf Pine Ecosystem Restoration & Hazardous Fuels Reduction/CFLN023
National Forest(s): De Soto Ranger District, National Forests in Mississippi

1. CFLRP Expenditures, Match, and Leveraged Funds:

a. FY20 CFLN and Matching Funds Documentation

Fund Source – (CFLN Funds Expended)	Total Funds Expended in Fiscal Year 2020
CFLN20	$2,060,211

This amount should match the amount of CFLN dollars obligated in the FMMI CFLRP expenditure report. Include prior year CFLN dollars expended in this Fiscal Year. CFLN funds can only be spent on NFS lands.

Fund Source – (FS Matching Funds)	Total Funds Expended in Fiscal Year 2020
CMRD	$330,297
CWKV	$353,917
NFHF	$226,160
NFLM	$62,640
NFTM	$236,296
NFWF	$78,047
Total	$1,287,357

This amount should match the amount of matching funds in the FMMI CFLRP expenditure report, *minus* any partner funds contributed through agreements (such as NFEX, SPEX, WFEX, CMEX, and CWFS) listed below. Per the updated Program Funding Guidance, federal dollars spent on non-NFS lands (for example, through Wyden authority) may be included here if aligned with CFLRP proposal implementation within the CFLRP landscape. NOTE: In FY20, projects received their allocation only in CFLN – there are no "Washington Office funds" to report.

Fund Source – Partner Match	In-Kind Contribution or Funding Provided?	Total Estimated Funds/Value for FY20	Description of CFLRP implementation or monitoring activity	Where activity/item is located or impacted area
DOD	☒ **In-kind contribution: Partner** ☐ **Funding**	**$262,202**	**683 acres Hazardous Fuel Reduction**	☐ **National Forest System Lands** ☒ **Other lands within CFLRP landscape: Camp Shelby Joint Forces Training Center**
DOD	☒ **In-kind contribution: Partner** ☐ **Funding**	**$135,800**	**790 acres of Prescribed Burning**	☐ **National Forest System Lands** ☒ **Other lands within CFLRP landscape: Camp Shelby Joint Forces Training Center**

Fund Source – Partner Match	In-Kind Contribution or Funding Provided?	Total Estimated Funds/Value for FY20	Description of CFLRP implementation or monitoring activity	Where activity/item is located or impacted area
USDA	☐ In-kind contribution ☒ Funding: USDA	$1,884,030	62,801 acres of Prescribed Burning	☒ National Forest System Lands: Forest Service ☐ Other lands within CFLRP landscape:
USDA DOD	☒ In-kind contribution: Partner ☒ Funding	$557,550	3717 acres of Maintenance Activities in Longleaf	☒ National Forest System Lands: Forest Service ☒ Other lands within CFLRP landscape: Camp Shelby Joint Forces Training Center
NRCS USFWS PRIVATE NGO Corporate	☒ In-kind contribution: Partner ☐ Funding	$94,650	631 acres of Maintenance activities in Longleaf	☐ National Forest System Lands ☒ Other lands within CFLRP landscape: Private Lands, The Nature Conservancy, Weyerhaeuser
MFC NRCS USFWS Corporate NGO	☒ In-kind contribution: Partner ☐ Funding	$2,060,000	5150 acres of Longleaf Pine Established	☐ National Forest System Lands ☒ Other lands within CFLRP landscape: Private Lands, The Nature Conservancy, Weyerhaeuser
USDA	☐ In-kind contribution ☒ Funding: USDA	$337,200	843 acres of Longleaf Pine Established	☒ National Forest System Lands: Forest Service ☐ Other lands within CFLRP landscape:
MFC NRCS USFWS Corporate	☒ In-kind contribution: Partner ☐ Funding	$347,580	11,586 acres of Prescribed Burning	☐ National Forest System Lands ☒ Other lands within CFLRP landscape:

Fund Source – Partner Match	In-Kind Contribution or Funding Provided?	Total Estimated Funds/Value for FY20	Description of CFLRP implementation or monitoring activity	Where activity/item is located or impacted area
NGO **Private**				**Private Lands, The Nature Conservancy, Weyerhaeuser**
DOD	**☒ In-kind contribution: Partner** **☐ Funding**	**$120,038**	**144 acres of Invasive Plant Species (Kudzu and Cogongrass)**	**☐ National Forest System Lands** **☒ Other lands within CFLRP landscape: Public Lands**
USDA **DOD**	**☒ In-kind contribution** **☒ Funding**	**$4,216,230**	**67,027 acres treated in the Longleaf Landscape (SGA)***	**☒ National Forest System Lands: Forest Service** **☒ Other lands within CFLRP landscape: Camp Shelby Joint Forces Training Center**

***SGA stand for Significant Geographic Area

Total partner in-kind contributions for implementation and monitoring of a CFLR project across **all lands** within the CFLRP landscape.

Service work accomplishment through goods-for services funding within a stewardship contract (for contracts awarded in FY20)	Totals
Total revised non-monetary credit limit for contracts awarded in FY20	$0
Revenue generated through Good Neighbor Agreements	**Totals**
MFC (Mississippi Forestry Commission)	$0

Revised non-monetary credit limits 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. Information for contracts awarded prior to FY20 were captured in previous annual reports. Revenue generated from GNA should only be reported for CFLRP match if the funds are intended to be spent within the CFLRP project area for work in line with the CFLRP project's proposed restoration strategies and in alignment with the CFLRP authorizing legislation

b. *(If needed)* Describe additional leveraged funds in your landscape in FY2020. Leveraged funds refer to funds or in-kind services that help the project achieve proposed objectives but do not meet match qualifications. *NOTE: Work on non-National Forest System lands previously reported in this section should now be reported under Partner Match.* Additional leverage might include investments in restoration equipment, research (not monitoring), and planning funds.

Fund Source – (Funds contributed through agreements)	**Total Funds Expended in Fiscal Year 2020**
NFXN1018	$129,353
Fund Source – (Partner In-Kind Contributions)	**Total Funds Expended in Fiscal Year 2020**
Camp Shelby and The Nature Conservancy	$379,310

ORGANIZATION	ACTIVITY	ACRES	FUNDS Partner Match
Camp Shelby FS Land	Feral Pig Eradication	6,252	$47,188
TNC (117,000 ac Special Use Permit with Camp Shelby)	Resource Monitoring (Gopher Tortoise, LAQ, CSBC, etc.)	58,500	$332,122
The Corps Network	T&E / NNIPS Surveys NNIPS Treatment	1,600 surveyed 10 treated	$42,313
Totals			**$421,623**

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***.

FY2020 Overview

FY20 Activity Description (Agency performance measures)	**Acres**
Number of acres treated by prescribed fire	48,801
Number of acres treated by mechanical thinning	215
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	62,554
Number of acres mitigated to reduce fire risk	49,016

Please provide a narrative overview of treatments completed in FY20, 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?

Prescribed fire treatment accomplishments were improved from FY 19. The late fall and winter seasons were very productive. However, once again, other factors came into play. During our primary spring prescribed burning season, beginning in the middle of March, the Southern Region suspended all prescribed fire due to COVID-19. This suspension lasted through the middle of May. We accomplished a few burns in the summer before the western fire season became a factor. From the end of August, through the middle of October, the National Fire Preparedness Level was at 5, the highest level. Again, we paused prescribed fire. The end result was total acres treated with fire – 48,801 acres. Due to the spring pause, only 9% of the acres treated were in the growing season.

- **How was this area prioritized for treatment?** What kinds of information, input, and/or analyses were used to prioritize? Please provide a summary or links to any quantitative analyses completed.

PRESCRIBED FIRE PRIORITIZATION

Using an interdisciplinary approach, the district has developed a plan for yearly, and daily, prioritization of burn units. Specific locations for each burn unit, by year, cannot be anticipated. The average number of days available for prescribed fire on the De Soto Ranger District is about 45 per year. Each day is utilized for maximum benefit. After a burn season is complete, we produce a map showing the departure from desired return interval. Normally an overall goal of 84,000 acres per year is reasonable and attainable. Realizing that some years may be less, and hopefully some are more productive.

The following summarizes the classification criteria utilized by the ID team to develop the plan.

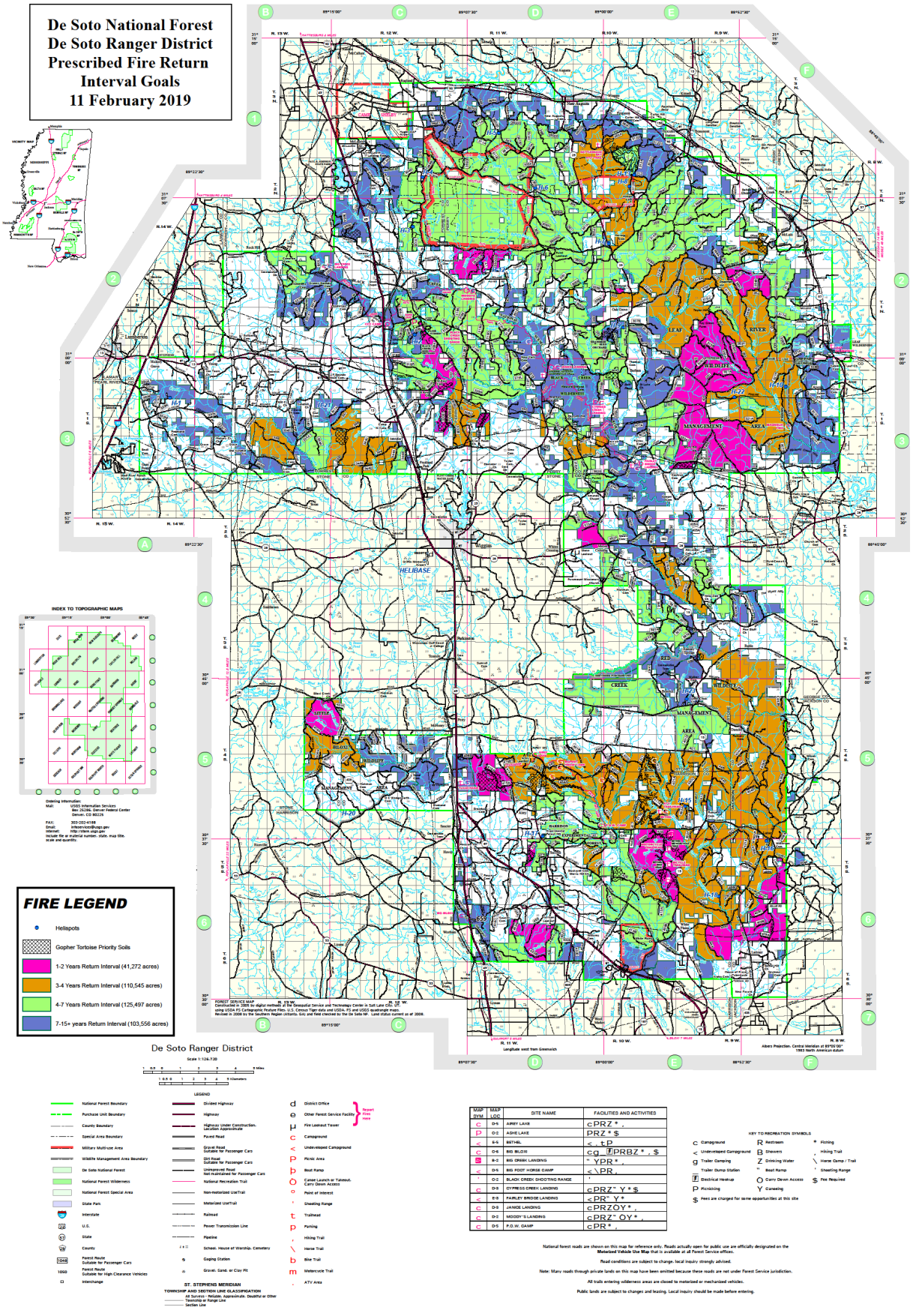
CLASSIFICATION CRITERIA

1) **Purple – Low Priority, 7-15+ Year Return Interval**
    a. **Close to major highways, especially up drainage from highways. From our safety engagement training, "the benefits of the work task are not worth the associated risks".**
    b. **Ecological significance. North slopes. Steep hardwood ridges. Mesic slopes. Generally, soils and vegetation that does not require frequent fire to maintain the ecosystem. And/or, intense fire may damage the desired ecosystem.**
    c. **Small, labor intensive, inefficient areas. Or, another phrase from the safety engagement sessions, "the juice is NOT worth the squeeze".**
    d. **These areas that are low priority and/or low frequency for prescribed fire may in turn be high priority for other fuels treatments such as mechanical or herbicides.**
2) **Magenta - Very High Priority, 18 – 24-month Return Interval**
    a. **Critical T&E habitat**
        i. **Gopher frog pond area**
        ii. **Buttercup flats**
        iii. **Large areas of gopher tortoise priority soils, with gophers.**
        iv. **Within RCW HMAs and gopher tortoise present.**
        v. **Proposed sandhill crane habitat**
    b. **Critical hazardous fuels areas. (high fire occurrence, WUI, etc.)**
3) **Orange - High Priority, 3-4 Year Return Interval**
    a. **The remaining parts of RCW HMAs and priority soils areas**
    b. **Some selected longleaf dominated areas of the district that have been well maintained and should continue to be maintained by fire.**
    c. **Some critical longleaf restoration sites**
    d. **High density of pitcher plant bogs**
    e. **Camp Shelby burrowing crayfish**
    f. **Important hazardous fuels areas**
4) **Green - Moderate Priority, 4-7 Year Return Interval - everything else.**

The following table and map utilize the above rationale, separating the burnable areas of the district into four desired return interval classifications, or "priorities".

YEARLY PRESCRIBED FIRE GOALS BY RETURN INTERVAL CLASS

MAP COLOR	BURN PRIORITY	AVERAGE RETURN INTERVAL GOALS (YEARS)	BURNABLE ACRES	ESTIMATED BURN ROTATION (YEARS)	GOAL ACRES PER YEAR
PURPLE	LOW	8 – 15+	80,000	11	7000
GREEN	MODERATE	7-Apr	103,000	6	17,000
ORANGE	HIGH	4-Mar	96,000	3	32,000
MAGENTA	VERY HIGH	1 – 2	37,000	2	19,000
		TOTALS	316,000		84,000



MAP SYM	MAP LOC	SITE NAME	FACILITIES AND ACTIVITIES
C	D-5	ABEY LAKE	cPRZ*,
P	D-2	AGNE LAKE	PRZ*$
<	E-5	BETHEL	<,tP
C	D-5	BIG BLUFF	cg,fPRBZ*,$
⛵	B-2	BIG CREEK LANDING	",YPR*,
<,	D-5	BIG FOOT HORSE CAMP	<,^PR,
'	D-2	BLACK CREEK SHOOTING RANGE	'
C	D-3	CYPRESS CREEK LANDING	cPRZ",Y*$
<,	E-3	FARLEY BRIDGE LANDING	<PR",Y*
C	D-3	JANICE LANDING	cPRZOY*,
C	D-2	MOODY'S LANDING	cPRZ",OY*,
C	D-5	P.O.W. CAMP	cPR*,

KEY TO RECREATION SYMBOLS

C Campground	R Restroom	* Fishing	
< Undeveloped Campground	B Showers	\ Hiking Trail	
g Trailer Camping	Z Drinking Water	\ Horse Camp / Trail	
Trailer Dump Station	" Boat Ramp	' Shooting Range	
f Electrical Hookup	O Carry Down Access	$ Fee Required	
P Picnicking	Y Canoeing		

$ Fees are charged for some opportunities at this site

National forest roads are shown on this map for reference only. Roads actually open for public use are officially designated on the Motorized Vehicle Use Map that is available at all Forest Service offices.

Road conditions are subject to change. local inquiry strongly advised.

Note: Many roads through private lands on this map have been omitted because these roads are not under Forest Service jurisdiction.

All trails entering wilderness areas are closed to motorized or mechanized vehicles.

Public lands are subject to changes and leasing. Local inquiry should be made before entering.

- **Please tell us whether these treatments were in "high or very high wildfire hazard area** from the "wildfire hazard potential map" (https://www.firelab.org/project/wildfire-hazard-potential)
  - Were the treatments in **proximity to a highly valued resource** like a community, a WUI area, communications site, campground, etc.?

  All of the treatments were in proximity to WUI areas and communities. Many of the treatments were near communication sites, power and transmission lines, gas pipelines, campgrounds, and other recreation sites.

- **What did you learn** about the interaction between treatment prioritization, scale, and cost reduction? What didn't work? Please provide data and further context here.

  Treatment prioritization – see above.

  Scale and cost reduction – Yearly fixed costs for district fuels planning and operations, including all salary and equipment, are around $1,700,000. Variable costs average around $4.50 per acre.

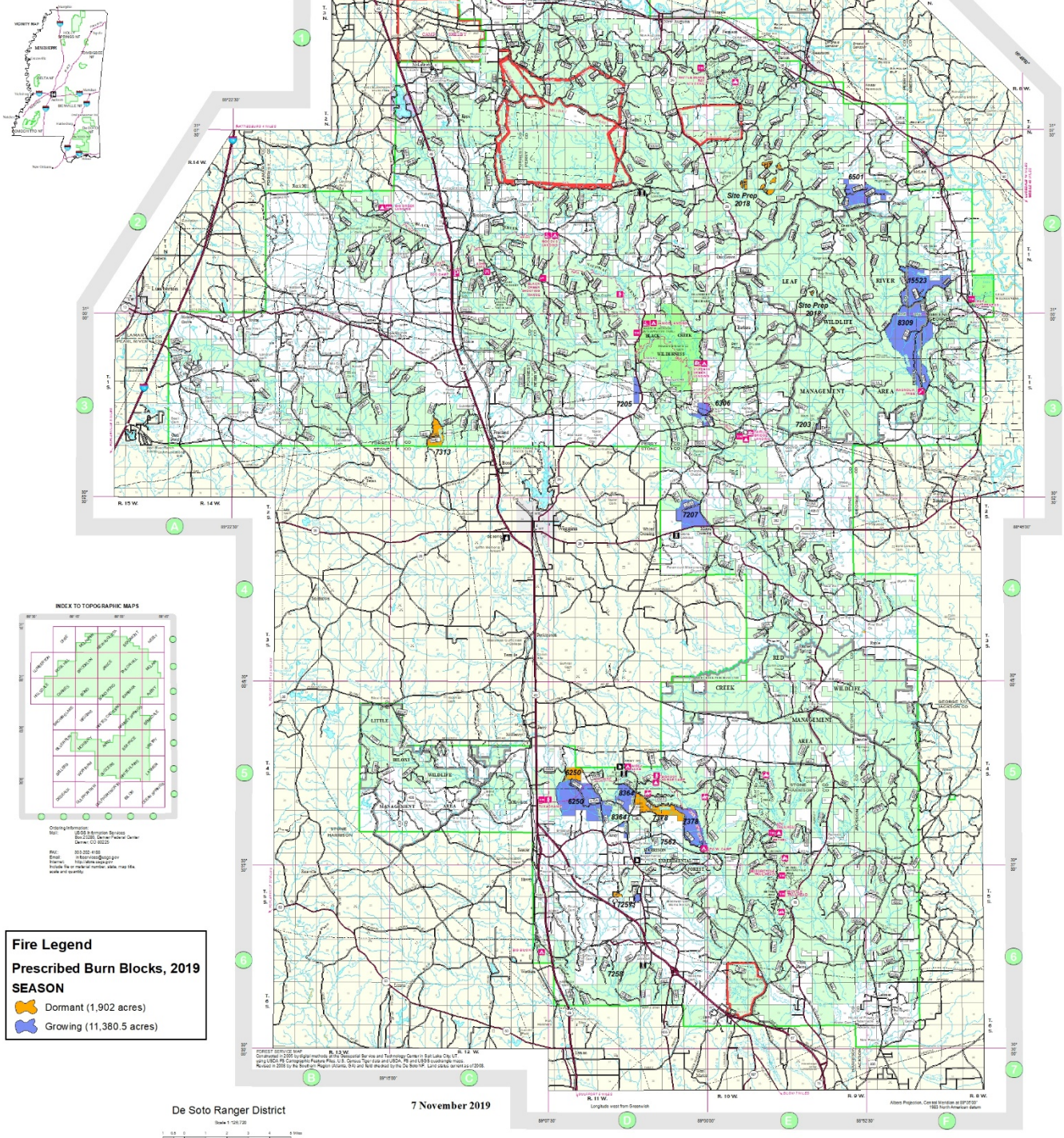
  Total fuels treatment costs per acre are drastically reduced by economy of scale.

  - **10,000 ac. $215 / ac.**
  - **30,000 ac. $68 / ac.**
  - **50,000 ac. $44 / ac.**
  - **70,000 ac. $32 / ac.**
  - **90,000 ac. $28 / ac.**
  - **130,000 ac. $23 / ac.**

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.

Please see FY20 prescribed Fire Treatment Map on the following page.

Prescribed Burn Blocks, FY2019



Fire Legend

Prescribed Burn Blocks, 2019

SEASON

- Dormant (1,902 acres)
- Growing (11,380.5 acres)

MAP SYM	MAP LOC	SITE NAME	FACILITIES AND ACTIVITIES
A	D-5	AIREY LAKE	
P	C-2	ASKE LAKE	
A	E-5	BETHEL	
A	C-6	BIG BILOXI	
A	B-2	BIG CREEK LANDING	
A	D-5	BIG FOOT HORSE CAMP	
A	C-2	BLACK CREEK SHOOTIN RANGE	
A	D-3	CYPRESS CREEK LANDING	
A	E-3	FARLEY BRIDGE LANDING	
A	D-3	JANICE LANDING	
A	D-2	MOODY SLANDING	
A	D-5	P.O.W. CAMP	

KEY TO RECREATION SYMBOLS

- Campground
- Undeveloped Campground
- Trailer Camping
- Trailer Dump Station
- Electrical Hookup
- Picnicking
- Restroom
- Showers
- Drinking Water
- Boat Ramp
- Carry Down Access
- Canoeing
- Fishing
- Hiking Trail
- Horse Camp / Trail
- Shooting Range
- Fee Required

Fees are charged for some opportunities at this site

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Expenditures

Category	**Cost**
FY2020 Wildfire Preparedness[1]	$150,000
FY2020 Wildfire Suppression[2]	$275,000
The cost of managing fires for resource benefit if appropriate (i.e. full suppression versus managing)	No fires were managed for resource benefit
FY2020 Hazardous Fuels Treatment Costs (CFLN)	$1,700,000
FY2020 Hazardous Fuels Treatment Costs (other BLIs)	$500,000

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.

Wildfire occurrence on the De Soto in FY 2020 was up considerably and just above the 10-year average. In 2020, the De Soto Ranger District suppressed 61 wildfires which burned about 11,838 acres of Forest Service lands. All fires in 2020 were contained at initial attack.

Although no fires were managed for resource benefits, almost all the wildfires produced desirable outcomes by reducing fuel loads, and maintaining a longleaf ecosystem, or by changing the ecology more towards a longleaf favorable condition. A typical yearly average for wildfire suppression cost would be around $330,000. In 2020 the suppression costs were around $275,000.

Wildfire Preparedness costs are down, primarily due to the local units no longer paying directly for fixed costs. Fixed costs for preparedness are now covered at the regional level. In fact, no preparedness costs are distributed at the district level. Cuff record estimates were used for the above figures.

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:

Ongoing collaboration in the form of annual meetings and multi-party monitoring would be part of the overall approach, in accordance with the Healthy Forests Restoration Act, to continue to build and maintain working relationships with forest stakeholders. Forest Service and multi-party monitoring would be conducted to assess how proposed actions maintain or make progress toward desired conditions and objectives consistent with the goals of the purpose and need of the proposed actions and forest plan direction. Monitoring is also designed to provide feedback for planning, implementation, and improvement of management techniques.

[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.

Annual collaborative meetings and field days would be conducted to provide partners and collaborators with opportunities for input and shaping of the program of work associated with the proposed actions. Multi-party monitoring would be incorporated into annual collaborative review field trips and/or associated field days to allow Forest Service personnel and forest stakeholders to work side by side in assessing and evaluating results of the proposed actions.

Management activities would be monitored by randomly selecting points within a subset of stands that received treatments in each compartment or project area.

Monitoring would be conducted:

- **during late summer and fall (September–November);**
- **2 to 5 years after project/sale area closure; and**
- **at a rate of one plot for every 100 acres for a project/sale area up to 1,000 acres; for project or sale areas over 1,000 acres, one plot would be added for every additional 200 acres.**

Seedling and reforestation success for longleaf pine: Longleaf pine seedling survival checks are a standard Forest Service measurement of silvicultural treatment and reforestation success. These survival checks would be completed in the first and third years after planting to ensure survival of at least 300 seedlings per acre. Replanting of longleaf pine seedlings would occur if this mark was not achieved.

Monitoring for insects and disease will be done by the Forest Health Protection Unit of the Forest Service.

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

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.**

Fuel treatment effectiveness is documented in the IFTDSS FETM database. In FY 2020, 34 wildfires occurred within areas that had received fuels treatments within the previous three years. Fire behavior was positively affected on 75% of the wildfires that occurred within treatment areas. The treatments helped control 97% of the wildfires that occurred within or adjacent to those treatments.

Clearly the hazardous fuel reduction work being done within this CFLRP project area is reducing the costs of suppression and making suppression efforts safer for our firefighters and the public.

No BAER was required within the project scope.

Please describe if/how partners or community members engaged in the planning or implementation of the relevant fuels treatment.

Yearly prescribed fire coordination meetings are conducted with the following goals:

1. **Review and update the Prescribed Fire Return Interval Goal Map**
    a. **Compare with Ecological Condition Map**
    b. **Compare with 5-year timber and restoration plans.**
    c. **Compare with other priorities; T&E, Military, WUI, Fire Occurrence, etc.**

d. Compare with Departure from Desired Return Interval analysis

2. General review of map of district prescribed burn planned areas

a. Compare with all the above.

b. Discuss next year's priorities for prep and burning

c. Discuss priorities for growing vs. dormant

- **Coordination meetings generally may include; US Fish and Wildlife, MS Department of Wildlife, Fisheries and Parks, and Military representatives.**
- **In addition, many partners and community members were engaged in the Environmental Assessment process for our fuel's projects.**
- **Many contacts are made, through social media and email, prior to each prescribed burn including; Congressmen, Media, County Fire Coordinators, adjacent landowners, and cooperating agencies**

- *Did treatments include coordinated efforts on other federal, tribal, state, private, etc. lands within or adjacent to the CFLR landscape?*

Yes. All treatments are coordinated with the US Fish & Wildlife Service, tribes, State Historic Preservation Office, and the Mississippi Forestry Commission. Some treatments are also coordinated with the Department of Defense.

- *What resource values were you and your partners concerned with protecting or enhancing? Did the treatments help to address these value concerns?*

Values at risk, to protect or enhance - RCW habitat, Dusky Gopher Frog habitat, Gopher Tortoise habitat, Black Pine Snake habitat, birds (some ground nesting) and other wildlife species, Louisiana Quillwort or other sensitive plant species, merchantable timber, pine plantations, Longleaf ecosystem, pitcher plant bog ecosystems, mesic slope ecosystems, Black Creek Wild and Scenic River, seed orchards, Harrison Experimental Forest, minerals and energy production facilities, soil and water values, and heritage resources.

Yes, treatments enhanced or protected these values.

- *Did the treatments do what you expected them to do? Did they have the intended effect on fire behavior or outcomes? Please include a brief description.*

Yes. On all wildfires which interacted with prescribed fire treatments, the fire behavior was less intense, less erratic, and results were less severe. In addition, all the above listed resources were enhanced or protected by these treatments.

- *What is your key takeaway from this event – what would you have done differently? What elements will you continue to apply in the future?*

All treatments were effective and will continue to be used in the future. Possible methods of treatment to be considered in the future are roller drum chopping, and hazardous fuel reduction with herbicides or endogenous biocides.

- *What <u>didn't</u> work as expected, and why? What was learned?*

All treatments were effective.

- *Please include the costs of the treatments listed in the fuels treatment effectiveness report: how much CFLR/CFLN was spent? How much in other BLI's were spent? If cost estimates are not available, please note and briefly explain.*

Expenditures were not separated between projects but generally large-scale understory prescribed burns cost around $29 per acre.

When a wildfire occurs within the CFLR landscape on an area planned for treatment but not yet treated:

- Please include:
  - *Acres impacted and severity of impact*
    In FY 2020, 27 wildfires occurred within areas planned for treatment but not treated in the 3 years prior to the wildfire. These 27 fires impacted 5240 acres. All impacts were positive and similar in effects to the prescribed fire treatments which were planned.
  - *Brief description of the planned treatment for the area*
    Prescribed fire
  - *Summary of next steps – will the project implement treatments elsewhere? Will they complete an assessment?*
    Yes, other treatment areas will be implemented. No additional assessment is necessary. Most planned treatment areas where a wildfire occurred will be treated despite the previous wildfire.
  - *Description of collaborative involvement in determining next steps.*
    No additional collaborative involvement is necessary.

Please include acres of fires contained and not contained by initial attack and acres of resource benefits achieved by unplanned ignitions within the landscape, and costs.

Contained by IA – 61 fires for 11,838 acres.

Not contained by IA – 0 Fires.

- Include expenses in wildfire preparedness and suppression, where relevant
- Include summary of BAER requests and authorized levels within the project landscape, where relevant

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.

FY 2020 Jobs Supported/Maintained (CFLN and matching funding):

FY 2020 Jobs Supported/Maintained	Jobs (Full and Part-Time) (Direct)	Jobs (Full and Part-Time) (Total)	Labor Income (Direct)	Labor Income (Total)
Timber harvesting component	26	36	$1,422,784	$1,758,858
Forest and watershed restoration component	12	18	$186,603	$312,830

FY 2020 Jobs Supported/Maintained	Jobs (Full and Part-Time) (Direct)	Jobs (Full and Part-Time) (Total)	Labor Income (Direct)	Labor Income (Total)
Mill processing component	45	100	$3,106,734	$5,803,743
Implementation and monitoring	31	34	$835,244	$954,086
Other Project Activities	0	1	$29,384	$38,959
TOTALS:	**114**	**189**	**$5,580,749**	**$8,868,476**

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).

Benefits to communities across the landscape range from direct financial benefits and increased safety to the long-term health of natural systems and continued impacts of ecosystem services.

Contract Information

Of the $2.75 million appropriated to De Soto Ranger District for high priority accelerated ecosystem restoration, *over $1.3 million* went to job creation and the private sector workforce. The jobs created or maintained by the project in FY 2020 are mostly technical and manual labor positions utilized in new and existing contracts. Small and large businesses in our area have benefitted from the implementation of the project. Almost all contractors are based in south Mississippi. The table below contains contract information for major projects on the De Soto Ranger District utilized for high priority accelerated ecosystem restoration implementation.

Contract Description	Funding Obligated or Spent in FY 2020	Contractor Location
Silvicultural Contract Layout and Inspection	$75,000	Mississippi
Timber Sale Preparation	$39,315	Mississippi
Release of LL seedlings	$74,391.20	Mississippi
Mechanical Site Prep (for planting LL Pine)	$105,160.00	Mississippi
Tree Planting (Longleaf Pine)	$5,472.00	Arkansas
Mastication of NNIS	$7,780.50	Louisiana
Pitcher Plant Bog Restoration	$24,000	Mississippi
NNIPS Treatments (cogon grass)	$50,750	Mississippi
Landline Maintenance	$101,750	Mississippi
Road Maintenance	$229,000	Mississippi
Trail Maintenance	$65,000	
Helicopter for Prescribed Burning	$9,100	Montana
Challenge Cost Share Agreements (Universities)	$72,000	Mississippi
MS Forestry Commission GNA	$41,699	Mississippi
Total Contracts & Agreements	$900,418	

Jobs include tree harvesting, tree planting, heavy machinery operation, timber sale layout, timber cruising, and survey work in preparation for treatments. Also, local fuel, food service, equipment supply, and lodging vendors benefit from these contracts.

Local Agreements

Two Challenge Cost Share Agreements were utilized with University of Southern Mississippi. USM employees are working on vegetation, soil, pollinator, fungi, and microorganism monitoring that support and inform CFLR and high priority accelerated ecosystem restoration activities as well as conducting survey work to support treatments.

The University of South Alabama (USA) Agreement continues to involve students and professors providing technical assistance with field surveys, evaluations, and reports in support of priority longleaf pine ecosystem restoration and management efforts. This work serves as on-the-job training for student employees and provides them with valuable technical skills.

The Mississippi Forestry Commission (MFC) Good Neighbor Authority (GNA): The State of Mississippi MFC provided employees to assist with timber sale preparation and stand inventory on approximately 5,000 acres and treat 80 acres of cogongrass around the impact area of Camp Shelby. This work will allow MFC employees to apply skills and enhance work experience in identified skill areas. The Forest Service will benefit by the additional capacity in timber sale preparation and stand inventory provided by the State; with a total of $41,699.

The De Soto Ranger District continues to host a Resource Assistant Program (RAP) intern via a cooperative agreement funded by The Corps Network (TCN), The Nature Conservancy (TNC), and Climb Community Development Corporation (CDC) from the prior year (FY19) funding. The new and developing professionals serve as integrated resource aids primarily to recreation and/or archeology programs, and other programs such as fire, wildlife, timber/silviculture as opportunities allow. Climb CDC's Gulf Corps Crew continues to support bog restoration, Non-Native Invasive Species assessments, treatments, T&E surveys, mapping, and other projects to aid in the watershed improvement within the longleaf pine ecosystem.

A non-funded challenge cost share agreement with TCN was developed to restore the hydrologic connectivity of Back Bay Biloxi. TCN is being funded through a grant from the National Fish and Wildlife Foundation and the Gulf Environmental Benefit Fund. Restoration acres accomplished are shown as partner-in-kind contributions.

Local Markets

In FY20, there was no green wood sold to the local markets due to COVID-19 delays and pending concurrences from the State Historic Preservation Office.

Impact on the Landscape of South Mississippi

The De Soto Ranger District occupies a large portion of the landscape in south Mississippi. In addition to basic ecosystem services such as providing clean air, clean water, carbon sequestration, and nutrient cycling, specific impacts of high priority accelerated ecosystem restoration on the landscape and surrounding communities are noteworthy.

Activity	Result	Benefit on the Landscape
Re-establish (restore) Longleaf Pine	Increased Forest Health = Longleaf are less susceptible to wind events (hurricanes, tornados), disease, insects (SPB outbreaks), & fire	Provide for a large part of the landscape to be less susceptible to widespread damage from natural disasters and outbreaks (SPB). Also supply wood to local markets during restoration operations.

Hazardous Fuel Reduction (PXB, Thinning, Herbicide)	**Safer fuel condition class, Improved smoke management**	**Defensible WUI, Protection of resources on and off the Forest. Supply wood to local markets via thinning.**
Wildlife Habitat Improvement	**Provide healthy habitat for a diversity of plants and animals**	**Forest provides natural systems for forage, cover, cache, and dens as these areas become less common on adjacent lands.**
NNIS Treatment	**Eradication or control of invasive pests**	**Help prevent the spread of these plants and animals to adjacent state and private lands where treatment and effects of NNIS prove costly.**
Pitcher Plant Bog Restoration	**Maintenance or reclamation of unique and sensitive ecosystems.**	**Provide habitat for a diversity of rare plant and animal species including many host plants and pollinators. Very few of these unique ecosystems are found on adjacent lands due to modification of the landscape.**
Pollinator Habitat Maintenance and Improvement	**Open, diverse herbaceous communities are restored and maintained.**	**Pollinator diversity and abundance is maintained and improved across the landscape.**

Indicator	**Brief Description of Impacts, Successes, and Challenges**	**Links to reports or other published materials (if available)**
Contributions to local Economy	The above-mentioned contracts have helped with local economy by contractors using Hotels, purchase of fuel, food, supplies at hardware stores, etc.	
Relationship building/Collaborative work	The project has added new partnerships and collaborators which has resulted in additional acres being treated on private lands and NGO lands.	
Job training opportunities	We have worked with Americorp, Gulf Corps, Jobs Corps, and Veterans in fire Programs, to train Vets and students, provide job opportunities, etc.	
Cross-institutional agreements	We have agreements in place with the University of South Alabama, University of Southern Mississippi, and Mississippi State University for cultural resource surveys, soil & plant monitoring, summer intern programs.	

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

Extensive collaboration with partners, other agencies, and the public was conducted during the process of completing our Healthy Forest Restoration Act (HFRA) EA for Longleaf Pine Ecosystem Restoration and Hazardous Fuels Reduction. This EA authorized most of the CFLRP and high priority accelerated ecosystem restoration activities up until September 2020. Many of the same collaborators were involved in the CFLRP proposal process. We strongly value our relationship with our collaborators and provide

open access to our projects at any phase of development or implementation. Some of these relationships and associated monitoring are discussed in the answers to questions below.

NEPA Update: Collaborative meetings were held in July and September of 2019 to review, identify, and develop management actions in support of CFLR activities. The collaboratively developed, updated, and expanded proposed actions were incorporated into a new EA and Decision signed in September 2020. This new EA provides NEPA coverage for most CFLR activities for another 10 years or more.

Informal multi-party monitoring has been conducted on an annual basis by hosting collaborative team field trips to view actual on the ground successes and challenges. Partners, congressional staffers, researchers, members of the public, and representatives from our sister agencies join De Soto Ranger District specialists on site visits to ecosystem restoration areas to have open honest dialogue and discussion about site selection, design criteria for resource protection, restoration methodologies, and expected versus actual results. During these field expositions, input is gathered both verbally and in writing via open conversation and survey/comment forms for site locations and types. Seeing is believing, and we find this collaborative approach to reviewing our work gives the best opportunity for gathering information pertinent to attainable and sustainable restoration practices. Formal monitoring is also a topic of conversation during these field excursions and inputs and outputs are discussed throughout the day. Formal monitoring is discussed below.

- *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 major positive and negative ecological, social and economic shifts observed through monitoring? Any modifications of subsequent treatment prescriptions and methods in response to these shifts?*

The University of Southern Mississippi, The Nature Conservancy, Mississippi Army National Guard, and USGS are involved in formal monitoring protocols.

The Nature Conservancy (TNC) and Camp Shelby

The De Soto Ranger District and the Mississippi Army National Guard (a member of our collaborative team) have a long history of working together to ensure protection of the Forest on the 117,000 acres of land utilized under special use permit for training troops. Collaboration between agencies has provided valuable data on federally threatened and endangered species as well as Forest Service sensitive species on the De Soto Ranger District. The Nature Conservancy Camp Shelby Conservation Program provides rare species and habitat monitoring services for the Mississippi Army National Guard on Forest Service, Department of Defense and State of Mississippi lands included within the Camp Shelby Joint Forces Training Center boundaries. CFLRP and high priority accelerated ecosystem restoration activities in the form of prescribed burning, NNIS eradication, thinning, longleaf re-establishment, native herbaceous understory seed collection, and more occur on these special use permit areas of the Forest.

The Nature Conservancy monitoring focuses on the following species and their habitat: Louisiana quillwort (federally listed as endangered), gopher tortoise (federally listed as threatened), black pine snake (federally listed as threatened), Camp Shelby burrowing crayfish (lives in pitcher plant bogs - monitoring required as part of US Fish and Wildlife Service agreement to remove from candidate status), and cogongrass and kudzu (invasive species). This monitoring is funded by the Department of Defense

National Guard Bureau and annual reports are provided to De Soto Ranger District. This is valuable information for assessing effects of various treatments on a large portion of our landscape.

Forest Service Monitoring across the Landscape of De Soto Ranger District

The De Soto Ranger District monitors RCW populations on our Forest. We also collect and review annual bird point data. Every 5 years, a district wide gopher tortoise survey on gopher tortoise priority soils is conducted via contract. We also collect data on fuel loading and fuel reduction associated with prescribed burning. The De Soto also began a black pine snake monitoring program with TNC on the southern portion of the District this year. A catalog of species caught in the traps is maintained by District Personnel. Many species of snakes, rodents, frogs, lizards, and salamanders were cataloged. A description of our overall management and treatment effectiveness on the landscape can be extrapolated when all of the data from partners, contractors, and Forest Service work are gathered and reviewed.

University of Southern Mississippi

The University of Southern Mississippi (USM) has entered into 2 Challenge Cost Share Agreements with the De Soto Ranger District. These agreements utilize the skill and expertise of this nearby institution to monitor and study the effects of specific restoration efforts identified in our CFLR Proposal. Several departments at USM were part of the collaborative team for the De Soto CFLR proposal and now play a greater role in monitoring effects on the landscape. The monitoring of CFLR and high priority accelerated ecosystem restoration activities in these agreements has been designed to provide descriptive data for tracking and analyses of project effectiveness. A past agreement incorporated dendrochronology research to help inform current prescribed burning management practices. Results of this dendrochronological fire scar study is available at this link.

https://aquila.usm.edu/cgi/viewcontent.cgi?article=1142&amp=&context=masters_theses&amp=&sei-redir=1&referer=https%253A%252F%252Fwww.bing.com%252Fsearch%253Fq%253Ddendrochronology%252Bde%252Bsoto%252Bnational%252Bforest%2526src%253DIE-SearchBox%2526FORM%253DIESR4N#search=%22dendrochronolgoy%20de%20soto%20national%20forest%22

Currently, USM biology and geology staff are collecting data from shared monitoring points on the De Soto Ranger District. These monitoring points are in areas planned for or currently experiencing CFLR and high priority accelerated ecosystem restoration activities. USM is collecting soil samples to conduct and provide analyses for organic matter, total nitrogen, extractable phosphorus, pH, moisture content, particle size, fungi, microorganisms, and other parameters requested by the Forest Service as the project progresses.

USM is also collecting and analyzing data from monitoring sites with regard to vegetation structure and composition including but not limited to species identification, species diversity, species richness, canopy cover, litter type and depth, stem counts, pollinator diversity and herbaceous understory cover in treated and untreated areas. Photo points are also utilized as part of the monitoring process.

Results of this monitoring will be used to support or modify current and future treatments on the landscape based on observable changes through the longleaf ecosystem restoration process and associated

hazardous fuel reduction. Results are still being analyzed with only a couple of years of post-treatment data in most cases.

Air Quality

Ozone monitoring was conducted in FY 2012 by a Forest Service Air Specialist. The results indicated that levels were normal with no issues or concerns to address at this time.

Local Sources of Technical Information

The Southern Research Station and Harrison Experimental Forest are conducting research related to Longleaf Pine Restoration, Carbon Sequestration, and Long-Term Climate Change. The De Soto has facilitated timber sales, site preparations, and reforestation efforts for this project. Although these studies are not specifically monitoring our restoration efforts, the information provided from these local studies may inform decision making and management on the De Soto Ranger District. This type of expertise is beneficial to have on our Forest.

- ***What are the current weaknesses or shortcomings of the monitoring process? How might the CFLRP monitoring process be improved?***

Monitoring sites are spread out across the District. Treatment implementation cycles take time. Actual measured and potentially significant results of monitoring will paint a picture of treatment effectiveness, but this is a long-term project. We are implementing treatments and conducting monitoring and awaiting results patiently.

- *Please provide a link to your most up-to-date multi-party monitoring plan and any available monitoring results from FY20.* **There is no link available at this time.**

6. FY 2020 Agency performance measure accomplishments:

Performance Measure	Unit of measure	Total Units Accomplished	Total Treatment Cost ($) *(Contract Costs)*[3]
Acres of forest vegetation established FOR-VEG-EST	Acres	72	$5,472
Acres of forest vegetation improved FOR-VEG-IMP	Acres	598 (648 in database of record)	$74,391.20
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	57 (243 in database of record)	$7,780.50
Highest priority acres treated for invasive terrestrial and aquatic species on NFS lands INVSPE-TERR-FED-AC	Acres	175 (not reported in database of record)	62,475

[3] Please include the costs associated with a contract to complete acres reported, if this level of detail is available, including partner funds

Performance Measure	Unit of measure	Total Units Accomplished	Total Treatment Cost ($) *(Contract Costs)*[3]
Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions. S&W-RSRC-IMP	Acres	114 (7,523 in database of record)	$24,000
Acres of lake habitat restored or enhanced HBT-ENH-LAK	Acres	0	0
Miles of stream habitat restored or enhanced HBT-ENH-STRM	Miles	0	0
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	29,111 (55,349 in database of record)	$1,878,106
Acres of rangeland vegetation improved RG-VEG-IMP	Acres	0	0
Miles of high clearance system roads receiving maintenance RD-HC-MAIN	Miles	234 (not reported in database of record)	$324,203.41
Miles of passenger car system roads receiving maintenance RD-PC-MAINT	Miles	163 (not reported in database of record)	$225,293.89
Miles of road decommissioned RD-DECOM	Miles	0	0
Miles of passenger car system roads improved RD-PC-IMP	Miles	168 (not reported in database of record)	$140,448
Miles of high clearance system road improved RD-HC-IMP	Miles	51.1 (not reported in database of record)	$42719.6
Road Storage *While this isn't tracked in the USFS Agency database, please provide road storage miles completed if this work is in support of your CFLRP restoration strategy for tracking at the program level.*	Miles	0	0
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	20 (16.5 in database of record)	$65,000
Miles of system trail improved to standard TL-IMP-STD	Miles	0	$0
Miles of property line marked/maintained to standard LND-BL-MRK-MAINT	Miles	86 (not reported in database of record)	$101,750
Acres of forestlands treated using timber sales TMBR-SALES-TRT-AC	Acres	1,506 (2,212 in database of record)	$47,601
Volume of Timber Harvested TMBR-VOL-HVST	CCF	32,997	$1,042,974
Volume of timber sold TMBR-VOL-SLD	CCF	99 (376.17 in database of record)	$2,737

Performance Measure	Unit of measure	Total Units Accomplished	Total Treatment Cost ($) *(Contract Costs)*[3]
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	0	0
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	0	0
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	0 (46,844 in database of record)	0
Acres mitigated FP-FUELS-ALL-MIT-NFS	Acres	0	0
Please also include the acres of prescribed fire accomplished	Acres	48,801	$1,464,030
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 land SP-NATIVE-FED-AC	*Acres*	0	0

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

7. **FY 2020 accomplishment narrative** – Summarize key accomplishments and evaluate project progress *not already described elsewhere* in this report. What impact, if any, has Shared Stewardship in your region had on your CFLRP work?
There are no additional key accomplishments to expound on.

8. The WO (EDW) will use spatial data provided in the databases of record to **estimate a treatment footprint** for your review and verification. This information will be posted here on the internal SharePoint site for verification *after the databases of record close October 31*.

- If the estimate is consistent and accurate, please confirm that below 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?

Fiscal Year	Footprint of Acres Treated (without counting an acre of treatment on the land in more than one treatment category)
FY 2020	32,554
Estimated Cumulative Footprint of Acres (2010 or 2012 through 2020)	FY 2012 – 109,746 acres FY 2013 – 120,276 acres FY 2014 – 96,890 acres FY 2015 – 58,727 acres FY 2016 – 56,065 acres FY 2017 – 37,683 acres

Fiscal Year	Footprint of Acres Treated (without counting an acre of treatment on the land in more than one treatment category)
	FY 2018 – 71,501 acres FY 2019—29,111 acres Total (w/FY 20) 612,553 acres

If you did not use the EDW estimate, please briefly describe how you arrived at the total number of footprint acres: what approach did you use to calculate the footprint? Collectively, we accomplished approximately 32,554 acres in our CFRLP efforts. These acres consisted of vegetation establishment and improvements, treatments of noxious weeds and evasive plants, sale preparation for Longleaf restoration, habitat restoration, and improvement for sensitive species.

9. **Describe any reasons that the FY 2020 annual report does not reflect your project proposal, previously reported planned accomplishments, or work plan. Our biggest hurdle this year was the onset the global pandemic. This impacted us severely forcing us to transition into shelter is place and work virtually. field work, office work, contracts were minimized to mission critical work. Lumber mills shutdown thus we were unable to move timber products from our timber sales which led us to temporarily suspension all logging operations. Our state partners and collaborators were impacted in a similar manner. This affected our timber target as a district. Also in this year, on the south eastern region experienced historically hurricane season while the west experienced catastrophic wildfires. In closing, these events effected our ability to accomplished prescribed fire targets**

10. Planned FY 2021 Accomplishments

Performance Measure Code	Unit of measure	Planned Accomplishment for 2021 (National Forest System)	*Planned Accomplishment on non-NFS lands within the CFLRP landscape*[4]
Acres of forest vegetation established FOR-VEG-EST	Acres	72	unknown
Manage noxious weeds and invasive plants INVPLT-NXWD-FED-AC	Acre	144	0
Miles of stream habitat restored or enhanced HBT-ENH-STRM	Miles	0	0
Acres of terrestrial habitat restored or enhanced HBT-ENH-TERR	Acres	8,418	0
Miles of road decommissioned RD-DECOM	Miles	0	0

[4] As we shift to more emphasis on sharing results across all lands within the CFLRP projects – if relevant for your project area – please provide estimates for planned work on non-NFS lands within the CFLRP areas for work that generally corresponds with the Agency performance measure to the left and supports the CFLRP landscape strategy. Give your best estimate at this point; if it's unknown how much work will occur off NFS lands, simply state unknown.

Performance Measure Code	**Unit of measure**	**Planned Accomplishment for 2021** (National Forest System)	***Planned Accomplishment on non-NFS lands within the CFLRP landscape[4]***
Miles of passenger car system roads improved RD-PC-IMP	Miles	550	0
Miles of high clearance system road improved RD-HC-IMP	Miles	250	0
Volume of timber sold TMBR-VOL-SLD	CCF	50,000	0
Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production BIO-NRG	Green tons	0	0
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire FP-FUELS-NON-WUI	Acre	0	0
Acres of wildland/urban interface (WUI) high priority hazardous fuels treated to reduce the risk of catastrophic wildland fire FP-FUELS-WUI	Acres	84,000	0
Miles of property line marked/maintained to standard LND-BL-MRK-MAINT	Miles	116	0

Please include all relevant planned accomplishments, assuming that funding specified in the CFLRP project proposal for FY 2020 is available.

11. **Planned accomplishment narrative and justification <u>if</u> planned FY 2021 accomplishments and/or funding differs from CFLRP project work plan** (no more than 1 page): Same

12. **Please include an up to date list of the members of your collaborative <u>if</u> it has changed from previous years**. If the information is available online, you can simply include the hyperlink here.

A current listing of the MS Longleaf Implementation Team (LIT) may be found on page 23 of the Mississippi Longleaf Pine Ecosystem Strategy developed by the MS LIT Work Group. Additionally with the onset of the joint unit HRFA (Healthy Forest Restoration Act) NEPA project for longleaf pine ecosystem restoration on the De Soto National Forest, staff from the Chickasawhay and De Soto RDs have met twice (July & September) with stakeholder representatives from federal, state, and local partners, congress and senator field representatives, NGO's, adjacent landowners, and forest visitors alike to discuss Ecological Conditional Model Map, the HFRA proposal, and solicit input areas of interest and/or to develop a strong and well-planned product.

For a current listing of local LIT members and additional information, you may also visit the following link: http://www.americaslongleaf.org/local-implementation/local-implementation-team-contacts/

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.

In addition to hazardous fuels reduction, another objective for prescribed burns is to improve threatened and endangered species habitat (i.e. frog ponds) which is a great benefit the endangered Dusty Gopher Frog. Here's a link to

an on-site interview with WLOX: https://www.wlox.com/2019/10/24/harrison-county-prescribed-burn-helps-keep-habitat-intact-endangered-species/

Signatures:

Recommended by (Project Coordinator(s)):_/s/Antoine L. Bonner_____

Approved by (Forest Supervisor): ___/s/ Rosie Thomas (Acting) 12/18/2020_____

Draft reviewed by (collaborative chair or representative): _____