CFLR Ecological Indicator Progress Report

Project Name: Ozark Highlands Ecosystem Restoration Project (CFLR22) State: Arkansas

Initial Landscape-scale Desired Conditions for the life of the project as defined by the Collaborative[1]

The "landscape" should be the landscape identified in project proposals or subsequently approved proposal edits. See page three of the original guidance for further information.

Desired Conditions Target for Fire Regime Restoration: 50% change (relative to the desired condition) occurs across 98 % of the landscape area by 2019.

1. Vegetation is treated to enhance community protection and reduce the risk of loss of human life, structures, improvements, and natural resources from wildland fire and subsequent floods. Firefighters have improved opportunities for tactical operations and safety near structures, improvements, and high resource values. By providing for defensible space, public and firefighter safety is enhanced. Local jurisdictional authorities, citizen groups, and the Forest Service act together to mitigate hazardous fuel conditions in areas surrounding urban interface, urban intermix, and/or outlying improvements.
2. Implement a fire return interval of two to seven year rotation, with every third burn, on average, occurring during the growing season (April 1 through October 15).
3. Reduce the midstory in order that the understory may be characterized by a well-developed grass and herbaceous component.
4. Enhance conditions for fire dependent and tolerant species, while reducing competition from fire intolerant species that have become established on the landscape.

Desired Conditions Target for Fish and Wildlife Habitat Condition: 75 % change (relative to the desired condition) occurs across 20 % of the landscape area by 2019.

1. Fish and wildlife habitats are diverse and of high quality, supporting well-distributed and viable populations of all native and desired non-native plants and animals, including those currently listed as sensitive or of local viability concern. Abundance and quality of habitats for federally-listed threatened and endangered species are stable or improved, supporting recovery of these species. Many species of migratory birds find high quality habitats for migration stopover; others find optimal breeding habitats.
2. Disturbance regimes within terrestrial habitats provide a relatively stable and sustained flow of both early- and late-successional habitats over time. Fire dependent communities, such as oak and pine woodlands, are common on appropriate sites and maintained by recurring fire at appropriate intervals. Rare communities, such as glades, seeps, caves, and wetlands exhibit high levels of ecological integrity, supporting healthy populations of characteristic species, including rare species tied closely to these habitats. Riparian forests are especially rich in wildlife and are primarily dominated by mature forests, but also support areas of openings and dense understories. Snags, downed wood, and den trees are abundant and well distributed across the forest.
3. Stream flow and water quality is sufficient to support all components of native aquatic communities. Fish communities include fish species, species groups and guilds, and trophic structures characteristic of healthy streams. Aquatic habitat types are diverse. Large woody debris is abundant, at 75 to 200 pieces per stream mile including 7 to 20 pieces per stream mile (10% of total) in size classes greater than 5 meters long and 55 centimeters in diameter.
4. Aquatic organism passage at road/stream crossings is open to all species at all life stages. Crossings that are inventoried and found to be a barrier are replaced.
5. Provide for an optimal, sustained yield of sport fish populations in lakes through structural and nonstructural habitat improvements. Improve the amount of fish structure in lakes.

[1] Desired condition targets should be written in the above format. Desired conditions that feed each "desired condition target" may vary widely and may not apply to every project in the landscape. Keep in mind the above "desired conditions targets" and desired conditions are outcomes, not out puts. Each desired condition target should be over the same landscape. For example, if the Fire Regime Restoration desired condition target is over all of the National Forest System lands within the landscape, the other three desired conditions target should be as well. If the Fire Regime Restoration desired condition target is over all ownerships in the landscape, the others should be as well.

Desired Conditions Target for Watershed Condition: 60 % change (relative to the desired condition) occurs across 3 % of the landscape area by 2019.

1. The landscapes are capable of responding to natural and human caused disturbances while maintaining the integrity of their biological and physical processes as evident in the production of high quality water.
2. Streams, groundwater recharge areas, springs, wetlands, aquifers, and entire landscapes are managed to assure the sustainability of high quantity and quality water. Where water extraction or diversion is allowed, those facilities are located as close to the boundary of the Forests as possible in order to avoid long-term adverse impacts to forest water and riparian resources. The Forest Service protects water rights when necessary to support resource management and healthy forest conditions. Ecosystems are protected from hazardous materials.
3. User created roads and roads identified during the TAPS process for decommissioning are obliterated and removed from the landscape. Roads that were identified in the TAPS process as being either level 1 or level 2 administratively closed are closed effectively for watershed protection.
4. Conduct maintenance and/or reroute trails that are causing erosion control issues.

Desired Conditions Target for Landscape Scale Invasive Species Severity: 62 % of the CFLR landscape area was restored by reducing invasive species severity (preventing, controlling, or eradicating targeted invasive species) to meet desired conditions by 2019.

1. Reduction of non-native invasive species in pastures and large wildlife openings.
2. Non-native invasive species are rare or absent and do not substantially affect community composition, structure, or function of rare communities.
3. Concentrate feral hog trapping in areas of high activity.
4. As non-native invasive species are eradicated encourage the reestablishment of native species within these project areas.

Scoring for National Reporting

Landscape-scale scoring

Few (if any) CFLR-funded Landscapes propose to meet every proposed desired condition on every acre or achieve landscape scale objectives through the mechanical treatment of every acre within their landscape boundary. Rather, multiple projects with multiple objectives (fire risk reduction, wildlife habitat improvement, stream restoration, etc) should facilitate meeting these broader objectives. Scoring at this level reflects the degree to which individual Landscapes are moving towards Desired Conditions at broader spatial extent. Landscape-scale scoring is conducted by the multi -party monitoring group at each Landscape.

- Good = Expected progress is being made towards Desired Conditions across >15% of the CFLR landscape area.
- Fair = Expected progress is being made towards Desired Conditions across 10% – 15% of the CFLR landscape area
- Poor = Expected progress is being made towards Desired Conditions across <10% of the CFLR landscape area

"Expected progress" will be defined using 5 year benchmarks for FY2010 projects and 3 benchmarks for FY2012 for each Desired Conditions based on a percentage of the lifetime outcome specified in each Landscape's proposal.

Current Project-scale Evaluation (Based on the Collaborative's landscape scale monitoring)

Ecological Indicators	Datasets and/or databases of records used	Good, Fair, Poor and (%) landscape across which progress is being made towards desired conditions	Are you achieving your CFLRP objectives? (Y/N)	If NO, briefly explain…
Fire Regime Restoration	FACTS	Good (33%)	Y	
Fish and Wildlife Habitat Condition	WFRP-WIT	Good (26%)	Y	
Watershed Condition	WIT	Fair (14%)	Y	
Invasive Species	NRIS TESP/IS	Good (62%)	Y	

Narrative (optional):

Fire Restoration:

Individual activities such as timber sales and timber and wildlife stand improvements, in addition to the prescribed burning are having a cumulative effect to improve conditions and make the landscape more resilient. Combined management activities have a longer lasting positive effect on the landscape than a single prescribed burn.

Fish and Wildlife Condition:

Greater partnership participation and integration with other resource areas has led to more acres within the CFLR area being impacted. This has improved the effectiveness of the management strategies and lead to more acres being moved toward the desired conditions that we originally anticipated.

Watershed Condition:

The project is making fair progress in watershed condition. As soil and water projects are implemented in the future we expect to make more progress in reaching desired watershed conditions.

Invasive Species:

One outcome of the project is the opportunity to increase the conservation footprint by collaborating with the Natural Resources Conservation Service (NRCS) and implementing conservation practices on private lands. This initiative started in fiscal year 2014 and will receive funding for a total of three years. The objective of the Western Arkansas Woodland Restoration Project (WAWRP) is to implement conservation strategies on private land adjacent to CFLR landscape. The outcome of this project is the expansion of the conservation footprint by implementing conservation practices beyond federal lands. These practices include non-native invasive species control, wildlife habitat improvement, timber stand improvement, prescribed burns, construction of fire-lines, plantings with native species, and watershed improvement activities. The WAWRP provides the collaborative with the opportunity to impact all four areas identified in the ecological indicator report.

Project-scale scoring[2]

Each management action funded through CFLR will have its own project-level objectives that are designed to contribute to achieving Desired Conditions at larger scales. Project-scale scoring should reflect how well the results of an individual management activity met the objectives for that project. Individual projects may not meet every desired condition of the CFLRP project. Project-scale scoring is conducted following completed management activities by the multi -party monitoring group at each Landscape.

- Good = 75% or more of implemented treatments result in measurable progress towards individual ***project-level*** objectives.
- Fair = 26% - 74% of implemented treatments result in measurable progress towards individual ***project-level*** objectives.
- Poor = 25% or less of implemented treatments result in in measurable progress towards individual ***project-level*** objectives.

[2] An individual activity might not need to lead to a fully restored acre (for example), but if it sets the landscape up for the next treatment it may still get a good rating. For example if a successful thinning doesn't restore a fire regime, but it sets up landscape for subsequent burns that might, it could still receive a "good" rating.

Current Project-scale Evaluation (Based on and aggregation of the Collaborative's project level monitoring)

Ecological Indicators	Datasets and/or databases of records used	Project Level Good, Fair, Poor and (%) treatments resulting in measurable progress as defined above	Are you achieving your CFLRP objectives? (Y/N)	If NO, briefly explain…
Fire Regime Restoration	FACTS	Good (75%)	Y	
Fish and Wildlife Habitat Condition	WFRP-WIT	Fair (70%)	Y	
Watershed Condition	WIT	Fair (50%)	Y	
Invasive Species	NRIS TESP/IS	Fair (50%)	Y	

Narrative (optional):

Fire Restoration:

Prescribed burns in combination with stand improvement activities are having the intended outcome of reducing fuel loads and flame length. Another outcome is the restoration of the ground cover component. Reducing stem density and opening the canopy is increasing the number forb and grass species.

Fish and Wildlife Condition:

Most wildlife treatments are very effective at totally meeting the objectives and moving the landscape toward desired conditions but some issues have been observed that are being corrected.

- Feral hog removal is far greater than could have ever been done without the CFLR funding but feral hogs are still evading capture and are still left on the landscape to reproduce. New trapping techniques are improving trapping efficiency. This will lead to greater capture rates and less hogs left on the landscape.
- Native grass restoration is moving forward. As part of this native grass restoration non-native species are being eradicated like fescue and Johnson grass but in a few cases a new non-native species has populated the field after treatment of the existing non-native species (like thistle). This new infestation of non-native species is being treated before moving forward with the native grass restoration.
- Three fish passage projects have been completed as part of CFLR but some projects are still waiting on regional approval at the design phase. These projects can move forward as soon as regional engineering approval is received.
- Lake dredging on Shores Lake was first started using hydrologic dredging to try to keep from having to drain the lake and have a large effect on the recreational use of the lake. After the first year of hydrologic dredging it was determine that this method, though effective at removing sediment, was not economically effective considering the amount of sediment that needed to be removed. Because of this decision the lake has been drained and a new contract has been awarded to remove sediment manually. This method will be evaluated after the first round of sediment is removed from the lake.

Watershed Condition:

Although road and trail maintenance and improvement have improved watershed condition to some extent, the effects are anticipated to increase over time, resulting in a Good rating over the next few years. Areas treated for native cane restoration have, thus far, been ineffective but may result in additional spread of cane over time with the reduced canopy cover resulting from project activities.

Invasive Species:

Invasive species treatments are effective at meeting the objective of improving forest health condition.

- Some treatment areas had a second species infestation after initial treatment. This was an unexpected outcome. However, follow-up treatments have intended outcome of reducing the impact of non-native invasive plant species.
- Feral hog control continues to be challenging. New technology improves trapping efforts. The use of game cameras in combination with remote controlled cage gates has increased trapping efficacy. However, this technology is dependent on good cellphone reception. Some areas in the project landscape have poor cellphone reception.