

# CFLR Ecological Indicator Progress Report

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**Project Name: Lakeview Collaborative Forest Landscape Restoration**

**State: OR**

## **Initial Landscape-scale Desired Conditions for the life of the project as defined by the Collaborative**

The Lakeview Collaborative Forest Landscape Restoration (CFLR) project was selected for funding in 2012 to begin restoration treatments that would benefit the 662,289 acre Lakeview Stewardship Unit (CFLR Landscape). Approximately 487,637 acres are National Forest System lands (NFS) where 150,000 acres (Project Level) were originally identified to receive treatment over 9 years. The 2013 revision of the proposal reduced the treatment area to 107,000 acres over 9 years following the Barry Point Fire. The desired condition for the Lakeview CFLR Landscape is a healthy, diverse, and resilient forest ecosystem that can accommodate human and natural disturbances.

## **Desired Conditions Target for Fire Regime Restoration: 100% change (relative to the desired condition) occurs across 7.3% of the landscape area by 2014.**

The goal of the Lakeview CFLR Landscape is to return fire to the role it historically filled and thus return sustainability to the forested lands. The desired result is an ecosystem within its natural range of variability. Moving the landscape towards a sustainable range of variation should lead to reduced potential for fire growth and behavior, reduced fire suppression costs and risk. Treatments moving the Lakeview CFLR Landscape towards a more sustainable condition are designed to consider the scale and intensity of historic disturbances. Since the CFLR project inception, treatments have resolved the extreme threat of severe fire over a broad area, allowing the opportunity for fire to take a more natural role on 17,986 acres. Multiple entry and single entry treatments total approximately 36,042 acres at the Project Level, which has contributed to reducing the potential for fire growth and behavior, reducing fire suppression costs and risk, and contributed to moving the Lakeview CFLR Landscape towards a more sustainable condition based on individual unit specifications.

- 1. Reducing potential for fire growth and behavior.** The cumulative “footprint” of acres that show improved fire behavior: Data are not yet available to compare total acres with modeled Crown Fire at the end of FY11 (‘Crown-A’) with total acres with Crown Fire at the end of FY14 (‘Crown B’) using Landfire and/or GNN data. Therefore, best available information/data was used, where appropriate. Specifically, the FACTS database was used to determine treatment type. Professional judgment was used to assess the treatments ability to reduce the threat of stand-replacing fire. When data becomes available, we will use the following steps/data to determine % change: “Crown-A’ minus ‘Crown-B’ will equal acres of reduced Crown fire ‘Crown-Reduced Footprint’. Cumulative footprint = area covered by ‘Flame-Reduced Footprint’ and/or ‘Crown-Reduced Footprint’ and/or ‘Ground-Increased Footprint’. FlamMap/FARSITE will be used in conjunction with Landfire, GNN and FFI data to input fuel variables as prescribed in NEPA to show success of treatments. **Assumptions:** Treatments will reduce fuel loading and break-up vertical and horizontal fuel continuity within stands and across CFLR Landscape producing conditions where wildfires will have less damaging effects and can be more readily managed. It is assumed that treatments were designed and strategically placed during the NEPA process to contribute to desired CFLR Landscape conditions.

2. **Moving landscapes towards a sustainable range (Fire Regime Condition Class (FRCC) rating).** The cumulative “footprint” of acres that validate whether the Lakeview CFLR Landscape is moving towards a more sustainable condition: Data are not yet available to compare FRCC rating end of FY11 (‘FRCC-A’) with FRCC rating end of FY14 (‘FRCC-B). ‘FRCC-A’ condition class departure minus ‘FRCC-B’ condition class departure equals = acres of improved rating ‘FRCC-Improved Footprint’. Cumulative footprint = area of improved condition class ‘FRCC-improved Footprint’ validating whether the Lakeview CFLR Landscape is moving towards a more sustainable condition. **Assumptions:** All current determinations are based on photo points and Fire Regime Condition Class definitions combined with local fire history records, determination by Fire Management Officer, and personal inquiry. FACTS database was used to determine treatment type, ability to reduce the threat of stand-replacing fire, and categorized by level of progress towards moving to desired conditions. It is assumed that treatments improve FRCC rating and were designed and strategically placed during the NEPA process to contribute to desired CFLR Landscape conditions.

Completed 17,986 acres/487,637 acres = 3.7%; Expected = 35,667 acres/487,637 acres = 7.3%

Expected Progress toward Desired Condition in 3 years:

- Good = Expected progress is being made towards Desired Conditions across 4.9% or more of the CFLR landscape area (>23,541 acres).
- Fair = Expected progress is being made towards Desired Conditions across 2.5%-4.8% of the CFLR landscape area (11,771 – 23,540 acres).
- Poor = Expected progress is being made towards Desired Conditions across less than 2.4% of the CFLR landscape area (<11,770 acres).

Fair = 100% of implemented treatments result in measurable progress towards Desired Condition across 3.7% of the CFLR Landscape area (17,986 acres/487,637 acres = 3.7%).

**Desired Conditions Target for Fish and Wildlife Habitat Condition: 100% change (relative to the desired condition) occurs across 4.6% of the landscape area by 2014.**

The desired condition is improved habitat for white-headed woodpeckers at the stand and landscape scale, reduction in overall road densities within the CFLR Project area and within riparian areas, and improved habitat for fish and wildlife species within aspen, stream, and riparian areas.

1. The white-headed woodpecker is a Regional Forester’s sensitive species in Region 6 (R6) of the USDA Forest Service (USFS). The white-headed woodpecker has also been identified as a focal species for mature dry forests based on its strong association with open, dry forest habitat, and its dependence on mature ponderosa pine. The desired condition is improved habitat for white-headed woodpeckers at the stand and landscape scale. Mahalanobis and Maxent habitat suitability models have been developed and validated for white-headed woodpeckers (Latif et al. 2012). This data provides the most accurate habitat mapping for white-headed woodpeckers in burned and unburned forests. The desired condition will be evaluated by re-running the habitat suitability models every time the GNN data is updated which will provide habitat trends over time in comparison to the current baseline data. It is expected that the GNN data will be updated every 5-10 years. Effectiveness monitoring for white-headed woodpeckers within the CFLR project area will validate whether restoration treatments are maintaining or improving habitat for this focal species.

**Assumptions/Metrics:** Mahalanobis and Maxent habitat suitability data have not been updated for 2014 to reflect changes in white-headed habitat. Therefore, acres treated will contribute to overall improved white-headed woodpecker habitat at stand and landscape level since individual treatment specifications are designed to restore ponderosa pine stands to an improved condition, which also improves open, dry forest habitat.  $17,986 \text{ acres} / 487,637 \text{ acres} = 3.7\%$  of the landscape. Weighted as 50% of total score.

2. Aspen, stream, and riparian areas are important habitats for many fish and wildlife species. Some of these areas are in degraded condition due to poor in-stream conditions and/or conifer encroachment. The desired condition is improved habitat for fish and wildlife species within aspen, stream, and riparian areas. The desired condition will be measured by determining the total acres of aspen or riparian habitat in which conifer reduction occurred and the total number of miles of stream enhanced due to in-stream improvements (e.g. headcut repairs, culvert replacements, additions of large wood). **Assumptions/Metrics:** CFLR Proposal stated 65 miles of stream habitat restored or enhanced and 26,000 acres of terrestrial habitat restored or enhanced by 2020. To date, approximately 1,348 acres of Aspen improvements and 2,634 acres of meadow restoration have occurred within landscape. In addition, 7 miles of in-stream restoration work to improve fish habitat has been completed in the Chewaucan River. Two head-cut repair projects were also completed in Wooley Creek (1/4 mile) and Dog Creek (1/4 mile) to improve water quality and habitat for aquatics, which also totals another 10 acres of meadow/riparian restoration  $(1,348 + 2,634 + 10) = 3,992 \text{ acres} / 8,667 \text{ acres} = 1\%$ .

1. Completed  $17,986 \text{ acres} / 487,637 \text{ acres} = 3.7\%$ ; Expected =  $35,667 \text{ acres} / 487,637 \text{ acres} = 7.3\%$

2. Completed  $3,992 \text{ acres} / 487,637 \text{ acres} = 1\%$ ; Expected =  $8,667 \text{ acres} / 487,637 \text{ acres} = 1.8\%$

Expected Progress toward Desired Condition in 3 years:

- Good = Expected progress is being made towards Desired Conditions across 2.9% or more of the CFLR landscape area (Avg.  $>23,541 \text{ acres}$ ;  $>5,721 \text{ acres}$ ).
- Fair = Expected progress is being made towards Desired Conditions across 1.6%-2.9% of the CFLR landscape area (Avg.  $11,771 - 23,540 \text{ acres}$ ;  $2,861 - 5,720 \text{ acres}$ ).
- Poor = Expected progress is being made towards Desired Conditions across less than 1.5% of the CFLR landscape area (Avg.  $<11,770 \text{ acres}$ ;  $<2,860 \text{ acres}$ ).

Fair = 100% of implemented treatments result in measurable progress towards Desired Condition across 2.4% of the CFLR Landscape area.

\* Miles of in-stream improvements were not accounted for in this rating:  $(1/4 \text{ mile} + 1/4 \text{ mile} + 7 \text{ miles}) = 7.5 / 65 \text{ miles} = 11.5\%$ ; 2014 expected =  $7.5 \text{ miles} / 21 \text{ miles} = 35.7\%$ .

**Desired Conditions Target for Watershed Condition: 100% change (relative to the desired condition) occurs across 12.7% of the landscape area by 2014.**

1. In 2011, the Forest Service assessed watershed condition in all 6th field watersheds using the Watershed Condition Framework (USDA Forest Service, 2011a), which is a comprehensive approach to quantify biological and physical watershed conditions. Those 6th field watersheds within the CFLR project area received ratings of either “fair” or “good” for Forest Service lands. The desired condition is that watershed condition (at the 6th field watershed) would be maintained in those watersheds currently rated as “good” and improve to “good” in those watersheds currently rated as “fair.” To determine if watershed conditions are meeting the desired condition, all 6th field watersheds will be reassessed following updates to the WCF using the methodology of the Watershed Condition Classification Technical Guide (USDA Forest Service, 2011b), in which watershed condition is rated using 12 indicators and 24 attributes in four Process Categories: Aquatic Physical, Aquatic Biological, Terrestrial Physical, and Terrestrial Biological. Watershed condition will be evaluating riparian/upland treatments on level of impact to ground vegetation and soils, and how projects (road closures, upland/riparian treatment, etc.) are impacting water quality. The WCF has not been updated since 2011. Therefore, data are not available to determine whether the 6th field watersheds have been maintained with a rating of “good” and improved to “good” in those watersheds currently rated as “fair.”
2. Road densities are high within the Lakeview CFLR project area, which can result in negative impacts to wildlife and fish species and habitat. The desired condition is a reduction in overall road densities within the CFLR Project area and within riparian areas. The desired condition will be measured by quantifying miles of road decommissioned and changes in road density over time in the 6th field watersheds within the CFLR Project area and within riparian areas.

**Assumptions/Metrics:** Treated acres will improve or maintain Watershed Condition. Total acres treated adjusted to 9 years since CFLRP was not awarded until 2012. Treatments completed: 17,986 acres + 12,664 acres (80% effectiveness = 200 acres/mile) associated to road decommissioning (explained below) within landscape = 6.3% of 2020 progress (17,986+12,664 acres)/487,637 acres = 6.3%) based on a percentage of the lifetime outcome specified in CFLRP proposal. Road decommissioning as a stand-alone treatment is equivalent to 200 acres per mile of watershed improvement. The CFLR proposal states 394 miles of road decommissioning over 9 years. Road decommissioning started for the first year in 2014 within the Upper Thomas Creek Watershed (stand-alone treatment 6th field HUC), where road densities were 4.03 miles/sq. Mile. Approximately, 16.02 miles were decommissioned and an additional 46.3 miles of road were closed, which included road deconstruction activities, reducing total road density down to 2.1 mi. /sq. mile within the watershed.

1. Completed  $30,650/487,637 = 6.3\%$ ; Expected =  $61,927/487,637 = 12.7\%$

Expected Progress toward Desired Condition in 3 years:

- Good = Expected progress is being made towards Desired Conditions across 8.4% or more of the CFLR landscape area (Avg. >40,873 acres).
- Fair = Expected progress is being made towards Desired Conditions across 4.3%-8.3% of the CFLR landscape area (Avg. 20,436 – 40,872 acres).

- Poor = Expected progress is being made towards Desired Conditions across less than 4.2% of the CFLR landscape area (Avg. <20,435 acres).

Fair = 100% of implemented treatments result in measurable progress towards Desired Condition across 6.3% of the CFLR Landscape area.

**Desired Conditions Target for Landscape Scale Invasive Species Severity: 0.1% of the CFLR landscape area was restored by reducing invasive species severity (preventing, controlling, or eradicating targeted invasive species) to meet desired conditions by 2014.**

1. The desired condition is to maintain native or desirable plant communities in a condition that are resistant to undesirable non-native/invasive plant species invasion and establishment. Emphasis to achieving this is to: maintain existing weed free acres in that condition; eradicate new infestations according to forest priorities and provide treatment where appropriate through Early Detection Rapid Response; develop landscape and project level treatments to avoid expanding existing infested sites, non-native/invasive plant cover or total area infested. The NRIS Invasive Species Inventory GIS layer and Forest GIS layer will be updated annually with all treatment data. This information will be used to determine the percent of CFLR landscape that was restored.

**Assumptions/Metrics:** CFLRP Proposal stated management of noxious weeds and invasive plants on 1,303 acres to be treated over 9 years. To date, 704 acres have been treated with 80% efficiency.

Completed 704 acres/487,637 acres = 0.1%; Expected = 434/487,637 = 0.09%

Expected Progress toward Desired Condition in 3 years:

- Good = Expected progress is being made towards Desired Conditions across 0.07% or more of the CFLR landscape area (>287 acres).
- Fair = Expected progress is being made towards Desired Conditions across 0.04%-0.06% of the CFLR landscape area (143 – 286 acres).
- Poor = Expected progress is being made towards Desired Conditions across less than 0.03% of the CFLR landscape area (<143 acres).

Good = 100% of implemented treatments result in measurable progress towards Desired Condition across 0.1% of the CFLR Landscape area.

\*Additionally, at end of FY2011, 254 inactive sites were recorded for a total of 39.8 acres. Inactive sites increased to 401 by the end of FY2014 for a total reduction of 162.7 acres.

## 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 67-100% of the CFLR landscape area.
- Fair = Expected progress is being made towards Desired Conditions across 34-66% of the CFLR landscape area
- Poor = Expected progress is being made towards Desired Conditions across 0-33% of the CFLR landscape area

“Expected progress” is defined using 3 year benchmarks for FY2012 projects for each DC based on a percentage of the lifetime outcome specified in each Landscape’s proposal.

### Current Project-scale Evaluation

<b>Ecological Indicators</b>	<b>Datasets and/or databases of records used</b>	<b>Good, Fair, Poor and (%) landscape across which progress is being made towards desired conditions</b>	<b>Are you achieving your CFLRP objectives? (Y/N)</b>	<b>If NO, briefly explain...</b>
Fire Regime Restoration	Landfire, GNN, FFI,FACTS	Fair	Y	
Fish and Wildlife Habitat Condition	GNN, FACTS	Fair	Y	
Watershed Condition	WCF, INFRA, FACTS	Fair	Y	
Invasive Species	NRIS, GIS	Good	Y	

### Narrative (optional):

Assumptions: The Lakeview Collaborative Forest Landscape Restoration (CFLR) Project was selected for funding in 2012. Data is not yet available to analyze results based on scoring criteria as indicated in our CFLRP Monitoring Plan. Therefore, best available information/data was used, where appropriate.

## Project-scale scoring<sup>1</sup>

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.

### Current Project-scale Evaluation

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	Landfire, GNN, FACTS, FFI	Good	Y	
Fish and Wildlife Habitat Condition	GNN, FACTS	Good	Y	
Watershed Condition	WCF, INFRA, FACTS	Good	Y	
Invasive Species	NRIS, GIS	Good	Y	

### Narrative (optional):

Assumptions: The Lakeview Collaborative Forest Landscape Restoration (CFLR) Project was selected for funding in 2012. Data is not yet available to analyze results based on scoring criteria as indicated in our CFLRP Monitoring Plan. Therefore, best available information/data was used, where appropriate.

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<sup>1</sup> 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.