CFLR Ecological Indicator Progress Report

Project Name: Northeast Washington Forest Vision 2020 **State: WA**

Accepted in 2012

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

Assumptions

- Landscape Area includes all NFS managed lands which amounts to 497,583 acres.
- Scoring for outcomes: Good = 70 – 100%, Fair = 30 – 69%, Poor = 0 – 29%.
- Scoring refers to active treatment only and does not infer benefit onto adjacent non-treated areas.
- The monitoring plan will provide rationale to infer our benefits and assess effectiveness for reporting in year 10.

*Desired Conditions Target for **Fire Regime Restoration**: **100**% change (relative to the desired condition) occurs across **5**% of the landscape area by **FY 2015**.*

The desire is to:

1. Reduce the potential for crown fire potential near values at risk.
2. Reduce fire suppression costs and to reduce risk through restoration treatments.
3. Move the CFLRP Landscape towards a more sustainable condition.
4. Implement forest treatments to substantially open the forest crown and reduce understory fuels on 13,892 acres by year 5.
5. Implement forest fuels treatments to reduce fire spread rates on 25,000 acres by year 5.

Expected Progress toward Desired Condition in 5 years:

- Good = Expected progress is being made towards Desired Conditions across 3.5% or more of the CFLR landscape area (>17,500 acres).
- Fair = Expected progress is being made towards Desired Conditions across 1.6%-3.4% of the CFLR landscape area (7,501 – 17,499 acres).
- Poor = Expected progress is being made towards Desired Conditions across less than 1.5% of the CFLR landscape area (<7,500 acres).

*Desired Conditions Target for **Fish and Wildlife Habitat Condition**: **100**% change (relative to the desired condition) occurs across **5**% of the landscape area by **FY 2015**.*

The desire is to:

1. Improve fish habitat by restoring 20 miles of stream by 2015.
2. Improve fish habitat and passage restrictions by removing a dam by 2015.
3. Increase browse for wildlife habitat on 81,000 acres by 2019 with 25,000 acres accomplished by FY15.

*Desired Conditions Target for **Watershed Condition**: **100**% change (relative to the desired condition) occurs across **1**% of the landscape area by **FY2015**.*

The desire is to:

1. Reduce sediment generation by decommissioning 10 miles of roads by 2015 and 50 miles by 2019.
2. Reduce sediment delivery from poorly constructed roads by maintaining and reconstructing 1,250 road miles by 2019.
3. Reduce sediment sources from undersized culverts by replacing 31 culverts by 2019.

*Desired Conditions Target for Landscape Scale **Invasive Species Severity**: **15%** of the CFLR landscape area was restored by reducing invasive species severity (preventing, controlling, or eradicating targeted invasive species) to meet desired conditions by **FY2015.***

1. The desire is to control, contain and eradicate invasive species along all the FS roads with spot and broadcast spraying since roads are the greatest vector for invasive species onto adjacent natural forest lands. The desired outcome is to treat 151,225 acres by 2019 with a five year target of 75,613 acres (15% of the landscape). Based on experience in writing effects analyses in EIS documents for treating invasives, the outcome assumes a 500 acre buffer on either side of the road for the affected area. Roadside treatment would effectively treat weeds within

this buffer since weed seeds have the highest concentration on the disturbed road prism and decrease in abundance proportionally with distance from roads.

Scoring for National Reporting

Current Landscape-scale Evaluation

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	Y	
Fish and Wildlife Habitat Condition	FACTS	Good	Y	
Watershed Condition	FACTS	Good	Y	
Invasive Species	FACTS and Program Reporting	Good	Y	

Narrative:

Fire Regime Restoration: The overall treatment would reduce fire hazard on 125,000 acres by 2022 through the reduction in forest canopy and fuels (25 percent of landscape). Initially, the project has conservative expectations for the 5 year treatment outcome with only 25,000 acres treated for fuels (5 percent of the landscape). The project has met this outcome with fuel reduction treatments across 26,637 acres by the end of FY14 (5.4 percent of the landscape). Fuels acres were used to measure progress since harvest only accounts for partial completion of the work.

In addition to reducing fuels hazard and thus reducing future wildfire effects, the project also has the goal of improving sustainability and resiliency of landscapes. Fire Regime Condition Class (FRCC) is a commonly used interagency metris of ecological departure from a natural (and presumed sustainable) range of variation. To assess progress in moving towards this sustainable range we used recent work in the Region refining the FRCC concept. An assessment was conducted using recently published data from a forest structural condition assessment for fire-prone forests in Washington and Oregon (Haugo et al. 2015) The data provide a refined look at Fire Regime Condition Class (FRCC) by identifying the estimated acres in each 5th field watershed needing treatment, by potential vegetation type and seral stage. Forest departure was evaluated for existing condition prior to the start of the CFLR Project and compared to our condition by the end of the fiscal year 2014. This evaluation found that our larger landscape, including non-FS lands, had 41 percent in a departed condition in terms of forest structure by potential vegetation type and seral stage. When considering the treatment priorities and ability to manipulate forests on FS lands, the analysis showed the following expected progress toward desired condition in 5 years:

- Good = Expected progress is being made towards Desired Conditions across 0.2% or more of the CFLR landscape area. 0.2% is the area by BPS (RaSAWD) with >75% of desired conditions met.
- Fair = Expected progress is being made towards Desired Conditions across 9% of the CFLR landscape area. 9% is the area by BPS (1010471) with >25% of desired conditions met.

- Poor = Expected progress is being made towards Desired Conditions across 90% of the CFLR landscape area. 90% is the area by BPS (RaMCONdy, RaMCONms, RaPIPOm, & RaSPFI) with <25% of desired conditions met.

The analysis findings contrast with our progress tracking outlined in the initial CFLR proposal. The regional analysis indicates less progress towards improving forest conditions on the landscape scale despite meeting acreage targets set forth in the proposal. This indicates the difference between reducing fuel hazard and improving sustainability (FRCC); the former generally requires fewer acres across a landscape to meet goals of reducing fire behavior than does moving the landscape toward a sustainable range of variation. The mixed findings underscore the need for the robust monitoring we have installed. As results become available we'll be better able to assess our restoration success using local field data and finer resolution data for evaluating progress at the landscape level, because new LiDAR data are expected during the project.

Fish and Wildlife Habitat: The project has met the desired outcomes for this 5 year term.

- Fish - The project desires to restore fish habitat by restoring 20 miles of river and removing one dam within the 10 year CFLR project term. The forest has already achieved both of these tasks.
- Wildlife - The project desires to improve wildlife habitat through treatment of fuels that increases browse in these dry and mixed severity fire regime forests. The desire is to increase browse on 25,000 acres by year 5 and 81,000 acres by year 10. The low 5 year estimate is based on time needed to complete NEPA review. The 5 year current total is 26,637 acres treated, thereby meeting our desired outcome for improving browse.

Watershed Condition: The project initially set a conservative target for watershed improvements. The plan was to decommission 10 miles road, reconstruct 625 miles of road, and replace 4 culverts maintain and in the first five years. Over half of the culverts scheduled for replacement are scheduled for the last 2 years of the project. The project has met and exceeded these expectations by decommissioning 10 miles of road, maintaining in excess of 625 miles of road, and replacing 5 culverts. The effective area that these actions will improve is 1 percent of the landscape, half the total amount of aquatic influence area. The CFLRP monitoring aims to quantify the effectiveness of our road management since we acknowledge road treatment effectiveness depends on the road location; however, results are still pending.

Invasive plants: We are achieving our desired condition with herbicide application along major roads where traffic poses high risk for bringing in invasive plant propagules. The total treatment encompasses only 30% of the landscape area, but represents the location where invasive species spread risk is most severe. We have met our desired outcome by treating 94% of the 15% landscape area slated for the 5 year mark. The five hundred foot buffer accounts for reported declines in invasive plants with distance from roads. For this upper latitude cold environment, invasive plant seeds were found to decrease substantially within seventy feet of roads in forest(Buonopane et al. 2013), while extending out to five hundred feet in grasslands (Hansen and Clevenger 2005).

Project-scale scoring

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 = 70% or more of implemented treatments result in measurable progress towards individual ***project-level*** objectives.
- Fair = 30% - 70% of implemented treatments result in measurable progress towards individual ***project-level*** objectives.
- Poor = 30% 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	FACTS	Good	Y	
Fish and Wildlife Habitat Condition	FACTS	Good	Y	
Watershed Condition	FACTS	Good	Y	
Invasive Species	NA	NA	NA	

Narrative:

Fire Regime: The desire is to both restore ecological conditions and reduce the risk of high severity wildfire by focusing treatment within the dry forest environment adjacent to communities. The desire is that this targeted treatment will indirectly reduce fire suppression costs. Within the project area, only one fire has escaped initial attack since the beginning of the CFLRP project, due to firefighter safety concerns in steep, rocky terrain. Fuel Treatment Effectiveness Monitoring was completed on two fires within the project area that occurred within previously treated areas. Neither fire escaped initial attack and the fuel treatment reduced fire behavior to levels that ground resources were able to contain the fires at 4 acres and 0.2 acres, respectively. This monitoring coupled with the extensive fuels and ecological monitoring now installed will give us a more precise evaluation of fire regime restoration effectiveness later in the project .

Fish and Wildlife:

- Fish: Restoration activities have restored 20 miles of stream and removed a dam, thereby improving fish habitat and passage. These restoration activities directly lead to positive improvements, although vegetation regrowth over time will further increase shading and bank stability over time.
- Wildlife: The desire is to increase browse for at least 25,000 acres within our project area in the first five years. We have opened up the canopy and performed treatments that will increase shrub and understory growth on 26,637 acres. Forest treatments are a two-step process where forest harvest opens the canopy and improves light for browse. However, the treatment of forest residual material that further increases browse growth occurs within the following three years. Thus, more effective wildlife habitat improvement will be realized later in the CFLR project term. Monitoring on the effectiveness of fuel treatments to improve wildlife habitat is currently taking place but with no results at this time.

Watershed: For project scale, we evaluated our project road treatments within the aquatic influence areas. Our 10 year projects would reduce sediment contributions from 207 miles of road that exist within 9,337 acres of aquatic influence area. The treatments include improving drainage, improving and replacing culverts and decommissioning. To date, we've treated 635 miles of road that includes improving road drainage along 625 miles and

decommissioning 10 miles. Assuming that roughly 14 percent of this mileage exists within the aquatic influence area, we have reduced sediment inputs to streams along 87 miles of road. Thus we have improved 41 percent of the potential road area within the aquatic influence area (87 miles/ 207 total miles* 100) by this five year period despite lower expectations for the CFLR project initial years.

References

Buonopane, M., G. Snider, B.K. Kerns, and P.S. Doescher. 2013. Complex restoration challenges: weeds, seeds, and roads in a forested Wildland Urban Interface. Forest Ecology and Management. 295: 87-96

Hansen, M.J., and A.P. Clevenger. 2005. The influence of disturbance and habitat on the presence of non-native plant species along transport corridors. Biological Conservation. 125: 249-259

Haugo, R., C. Zanger, T. DeMeo, C. Ringo, A. Shlisky, K. Blankenship, M. Simpson, K. Mellen-McLean, J. Kertis, and M. Stern. 2015 A new approach to evaluate forest structure restoration needs across Oregon and Washington, USA. Forest Ecology and Management 335:37-50.