2019 CFLRP Ecological Indicator Progress Report

OVERVIEW

Introduction

In 2011, the National Forest Foundation convened CFLRP participants to develop a set of national indicators. The resulting five indicators are economic impacts, fire risk and costs, collaboration, leveraged funds, and ecological condition. Data to support these five indicators comes from a number of sources, including the Treatment for Restoration Economic Analysis Toolkit, collaboration surveys conducted by NFF, and the Annual Reports.

Projects first reported on ecological indicators in 2014. Since then, the CFLRP staff in the US Forest Service Washington Office have worked with colleagues and partners to review and update to template to make improvements while maintaining a consistent protocol to 2014. The intent of the 2019 CFLRP Ecological Indicator Progress Report is to better understand your progress in advancing ecological outcomes. It is not intended to capture everything about your monitoring activities.

To aid you in filling out this report, we recommend that you read the new 2019 Guidance Document. We also recommend that you reference your past Annual Reports and your 2014 Ecological Indicator Progress Reports. For additional help, please email CFLRP@fs.fed.us.

We appreciate the time and energy you dedicate to completing this progress report. This information is critical for understanding the ecological outcomes of your work, telling the national story, supporting communication and transparency, and sharing successful approaches and practices across the nation.

Thank you!

2019 CFLRP Ecological Indicator Progress Report

Project Name: Tapash Sustainable Forest Collaborative | State: Washington

FIRE REGIME

Narrative - *Note: All boxes in this template will scroll, so you have as much space as you need.*

1. Did you make any changes to your desired condition(s) for fire regime as compared to the 2014 Ecological Indicator Report?
Please briefly describe:

Yes ☑ **No** ☐

Fuels related treatments occurred on 18,100 acres in the proposal area to push the landscape towards the desired Fire Regime Condition Class .

2. Did you make any changes to your monitoring methodologies for fire regime as compared to the 2014 Ecological Indicator Report? Please briefly describe:

Yes ☑ **No** ☐

The original Tapash Monitoring Proposal called for use of third party monitoring. Because the scale of the work implemented was reduced, monitoring was completed by Tapash participants, at a reduced level of intensity. USFS continued reporting accomplishments in FACTS and updating the NFPORS assessment based on field monitoring.

3. Did you use any new or updated baseline data for evaluating your fire regime progress for the purposes of this report?
Please briefly describe:

Yes ☐ **No** ☑

Continued with field monitoring of projects.

4. Did your projects experience any unanticipated developments that positively or negatively affected expected progress towards your desired conditions for fire regime? (e.g. wildfire in the project area, litigation outcome, change in collaborative participation, etc.)

We experienced some wildfire activity in project areas, but the end result was in line with desired fire regime.

5. What were the most difficult barriers or challenges you experienced in progressing towards your desired conditions for fire regime? If you adapted to address these challenges please provide a brief description of how.

Internal (Forest Service) review processes required for NEPA compliance continue to extend landscape restoration assessment timelines. The habitat protection standards and guidelines in the Northwest Forest Plan necessitate Forest and Regional level review of projects requiring a Forest Plan amendment to implement project-specific restoration activities. The standard to not harvest in stands greater than 80 years, or in areas of Late Successional Reserve (LSR), triggers a thorough review by the Regional Ecosystem Office's LSR Working Group, which, in turn, provides a recommendation to the Regional Interagency Environmental Committee, from whom the final approval for the amendment is granted. Consultation with US Fish and Wildlife and NOAA's National Marine Fisheries Service, a requirement for all large-scale restoration projects, has also been a source of delay. Though the biological assessments submitted by the Forest Service for each project are squarely based in scientific literature, the interpretation of that body of knowledge still flows through the prism of personality. When personalities disagree on

6. Did you include the effects of treatments on areas adjacent to the active treatment area? Yes ☑ No ☐

If yes, please briefly describe your methodology for including these adjacent acres, and describe any work conducted across land ownership in support of desired conditions for fire regime.

The intent of fuels treatments is to alter fire severity and increase resilience across the landscape. State partners (WDFW, WDNR), The Nature Conservancy, and Yakama Nation have been completing fuels projects on adjacent lands to support cross boundary fuels reduction, moving the landscape toward desired conditions.

Desired Conditions

*In this report, the term "**desired conditions**" refers to landscape and resource conditions (as defined collaboratively by stakeholders and land managers) that you are seeking to achieve and maintain for your CFLRP landscape over the next 10+ years. Desired conditions are outcome-driven not output-driven, and should link to your project's CFLRP proposal while being measurable. (Note: The term "desired condition" is used somewhat differently in the Forest Service's Land Management Planning Process. In that context, it is not time bound, and often represents long-term social, economic and ecological goals, while the term "objective" is used to represent specific, measurable and time-bound benchmarks to be achieved while working toward desired conditions in a forest plan area.) In this report, the term "**landscape**" refers to the landscape identified in your CFRLP project proposal or in subsequently-approved proposal edits. See cover page for links to guidance.*

7. Project-scale Desired Conditions Target for Fire Regime:

75	% change (relative to the desired condition) occurs across	100	% of the project areas by	09/30/2019
	% change (relative to the desired condition) occurs across		% of the project areas by	

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

80% of our prescribed burn units reduced fuel loading moving towards the desired condition. (Goal was to treat 40,000 acres for this five year time frame and we accomplished 18,100 acres of fuels treatments)

Example: Treatments in the project area result in a 23% reduction in potential flame length.
Example: 75% of all prescribed burn projects meet prescription objectives as quantified in burn plan.

8. Landscape-scale Desired Conditions Target for Fire Regime:

75	% change (relative to the desired condition) occurs across	5	% of the landscape area by	09/30/2019
75	% change (relative to the desired condition) occurs across	10	% of the landscape area by	09/30/2029

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

Reduced fuel loading by 80% in 1 - 3 inch class material. Recruited snags for wildlife habitat over 50% of treatment areas. Maintained 40-60% canopy closure over 75% of treatment areas to reduce future insect and disease infestations. Maintained 70% canopy closure within riparian areas. (Goal was to treat 40,000 acres for this five year time frame and we accomplished 18,100 acres of fuels treatments)

Examples: Modeled ecological departure indicates that forest vegetation is restored to Vegetation Condition Class 1 with low fire hazard across 51% (105,183 acres) of the CFLR landscape; Fuel models indicate reduced likelihood of supporting a stand replacing fire across 8.5% of the CFLR landscape (73,000 acres); Fire-adapted landscapes transition from shrub-dominant understory fuel model to a grass/forb dominant understory fuel model across 50% of the CFLR landscape.

9. Please select the broader goals that are central to your desired condition(s) for fire regime for the Project-scale (P) and Landscape-scale (L) :

P	L	
☑	☑	Reduced risk/likelihood of uncharacteristic wildfires (high severity, widespread, high mortality, active crown fire/crown fire initiation)
☑	☑	Re-establish natural fire regimes and move landscape to historical range of variability and/or natural range of variability
☑	☐	Restore/maintain fire dependent and tolerant species
☑	☐	Restore/maintain native species
☑	☐	Restore/maintain heterogeneity (species, size classes)
☐	☐	Increase use of prescribed fires
☐	☐	Other. Please describe:

10. Please select the key outcomes you are hoping to achieve on the landscape through attainment of the broader goals you selected above:

- ☑ Increase options/opportunities for managers to control/manage wildfires
- ☑ Protect communities and high valued resources/reduce risk of loss
- ☑ Protection of water quality/supply
- ☑ Public and firefighter safety
- ☑ Reduced fire supression costs and avoided costs
- ☐ Other. Please describe:

11. Given these goals, please state the evaluation metric(s) you are using to monitor progress towards your desired conditions for fire regime for this report. Note: This evaluation metric is something you are measuring or counting to monitor fire regime change. It has a unit of measurement attached to it.

There was no evaluation metric identified in the proposal, but we use field observations of fuel loading and photo series, post treatment, to assess progress towards desired conditions.

Examples of fire regime evaluation metrics: basal area in square feet per acre (for tree density), quadratic mean diameter in inches (for tree sizes), litter and duff depths in centimeters (for fire hazard), percent canopy cover (for openness), fuels treatment effectiveness, tons of fuel loads removed (for fire hazard), avoided costs

Data and Methodology

12. Select the type(s) of monitoring you used to assess Project-scale (P) and Landscape-scale (L) progress towards fire regime desired conditions for this report. Select all that apply:

P	L	
☑	☐	**Baseline Data Collection** (i.e. was data collected prior to treatment to be used for later comparison?)
☑	☐	**Accomplishment Reporting** (i.e. was progress tracked using acres and miles reported?)
☑	☐	**Implementation Monitoring** (i.e. were the treatments implemented as prescribed?)
☑	☑	**Effectiveness Monitoring** (i.e. were treatments effective at meeting the stated objectives?)
☐	☐	**Effectiveness Monitoring Pilot Study** (i.e. was a trial run conducted to assess considerations of crafting an effectiveness monitoring plan?)
☐	☐	**Ecological Impacts Monitoring** (i.e. were there any unforeseen ecological consequences that could compromise treatment success?
☐	☑	**Other.** Please describe: Use EMDS restoration model to test drive treatment alternatives, model treatments on the landscape, and

13. Select the methodologies used to assess Project-scale (P) and Landscape-scale (L) progress towards fire regime desired conditions for this report. Select all that apply and provide a brief description for each:

P	L	
☑	☐	Field-based sampling/plots: Brown transects
☐	☐	Remote sensing:
		☐LiDAR ☐Aerial photography ☐ NAIP ☐ Landsat ☐Other:
☑	☑	Treatments implemented (e.g. acres or miles accomplished): FACTS
☐	☑	Modeling (include type and indicators used):
☐	☑	Measuring a reduction in the fire risk index:
☑	☑	Observation/expert opinion: Photo series
☐	☐	Fuels treatment effectiveness:
☑	☑	GIS analysis: FlamMap, fire analysis desktop application
☐	☑	Other: Wildfires have burned into treatment areas and were successfully managed.

14. Where is the data that is being used for monitoring Project-scale (P) and Landscape-scale (L) progress toward fire regime desired conditions being stored? Select the databases categories that apply and provide a description of the specific datasets being used. Include links if available:

P	L	
☐	☑	FSVeg:
☐	☑	Forest Inventory and Analysis (FIA):
☐	☑	Fuels Treatment Effectiveness Report Database:
☐	☑	GNN:
☐	☐	VMap:
☐	☐	Feat-Firemon Integrated Database:
☑	☑	FACTS (please select performance measure):
		☑ FP-FUELS-NON-WUI ☑ FP-FUELS-WUI ☑ FOR-VEG-EST ☐ FOR-VEG-IMP ☐OTHER:
☐	☐	Local database:
☐	☐	Inspection reports/contract record:
☐	☐	Other:

Project-scale scoring

From the beginning, CFLRP intended to shift towards desired conditions at the landscape-scale. As the disturbances and processes of interest occur at a landscape-scale, we need a landscape-scale assessment. It's a challenge to look at the impacts at that scale, given the scale itself as well as time delays (e.g. it takes more time to shift outcomes at landscape-scale than project-scale). While landscape-scale is the focus, project-scale assessments allow projects to bring in their monitoring data and look at treatment outcomes.

Each management action funded through CFLRP 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 by the multi-party monitoring group following completed management activities.

An individual activity might not need to lead to a fully restored acre, 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 "Green" rating. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across 75% or more of our CFLRP project areas.
- **Yellow** = Expected progress is being made towards desired conditions across 26% - 74% of our CFLRP project areas.
- **Red** = Expected progress is being made towards desired conditions across 25% or less of our CFLRP project areas.

Ecological Indicator	Green, Yellow, or Red score and % of the CFLRP project areas resulting in measurable progress as defined above	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Fire Regime	Yellow - 45%	No. Timing and weather impacted our ability to treat enough acres.

Please briefly describe how you calculated your score.

Fuel treatments conducted in the proposal area met desired conditions for 75-80% of the projects on 18,100 acres. The goal was 40,000 acres for the second five year period.

Scoring for National Reporting

Landscape-scale scoring

Few (if any) CFLRP-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 the landscape-scale 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.

"Expected progress" will be defined using 10-year benchmarks for FY 2010 projects and 8-year benchmarks for FY 2012 projects for each desired condition based on a percentage of the lifetime outcome specified for the landscape in each proposal. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.
- **Yellow** = Expected progress is being made towards desired conditions across [45] % of our CFLRP landscape area.
- **Red** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.

Ecological Indicator	Green, Yellow, or Red score and % of the landscape across which progress is being made towards desired conditions	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Fire Regime	Yellow - 45%	No. Did not treat the 10% of proposal area goal of 40,000 acres.

Please briefly describe how you decided on the percentage thresholds used above for the scoring categories and how you calculated your score.

Based on the 2014 report metrics, the goal was to treat 40,000 acres. We accomplished 18,100 acres, 45% of the goal.

2019 CFLRP Ecological Indicator Progress Report

Project Name: Tapash Sustainable Forest Collaborative | State: Washington

WATERSHED CONDITION

Narrative - *Note: All boxes in this template will scroll, so you have as much space as you need.*

☐ If watershed condition is not part of your CFLRP proposal and landscape restoration strategy, please let us know by checking this box.

1. Did you make any changes to your desired condition(s) for watershed condition as compared to the 2014 Ecological Indicator Report? Please briefly describe: **Yes** ☑ **No** ☐

On National Forest within the Tapash Landscape approximately 20 miles of system road were decommissioned, 2.8 miles of system road were closed, 12 miles of system road had drainage improvement, 0.5 miles of non-system road was decommissioned, and 488 miles had blading/ditching maintenance. Other restoration work included barrier culvert upgrades/removal which opened 17.8 stream miles to fish passage, large wood placement in 10.3 stream miles, channel reconstruction, road re-alignment, and streambank stabilization. Combined, these projects enhanced/restored approximately 60 miles of stream habitat.

2. Did you make any changes to your monitoring methodologies for watershed condition as compared to the 2014 Ecological Indicator Report? Please briefly describe: **Yes** ☐ **No** ☑

3. Did you use any new or updated baseline data for evaluating your watershed condition progress for the purposes of this report? Please briefly describe: **Yes** ☐ **No** ☑

4. Did your projects experience any unanticipated developments that positively or negatively affected expected progress towards your desired conditions for watershed condition? (e.g. wildfire in the project area, litigation outcome, change in collaborative participation, etc.)

5. What were the most difficult barriers or challenges you experienced in progressing towards your desired conditions for watershed condition? If you adapted to address these challenges please provide a brief description of how.

Landscape restoration planning with a collaborative and NW Forest Plan amendments have lengthened the planning process for Little Crow Restoration project which has delayed implementation of additional watershed improvement actions.

6. Are you using the Priority Watershed(s) identified through the Watershed Condition Framework to focus CFLRP watershed restoration work and monitoring for this report? Yes ☑ No ☑ Our CFLRP does not have Priority Watersheds ☐

If no, please briefly describe why you are not using the Priority Watersheds: Restoration not focused exclusively within Priority Watersh

If yes, is there a Watershed Restoration Action Plan (WRAP) developed for the Priority Watershed(s)? Yes ☑ No ☐

7. Our Priority Watershed(s)of focus for this report cover 10 % of the CFLRP landscape

8. Please select up to three conditions in each category for why it was chosen as a Priority (these are available in the WCATT entry):

Category 1: Resource Values
- ☐ Wilderness
- ☐ Wild and Scenic River
- ☐ Experimental Watershed
- ☐ Municipal Watershed
- ☐ Outstanding Resource Water
- ☑ Species protection area
- ☐ Class 1 Air Shed
- ☐ Other:

Category 2: Concerns and Threats
- ☑ Water Quality
- ☑ Water Quantity
- ☑ Riparian Structure and Function
- ☐ Species Habitat
- ☐ Wildfire Risk
- ☐ Invasive Species
- ☐ Other:

Category 3: Opportunities
- ☑ Improve Condition
- ☐ Maintain Condition
- ☑ Potential Partnership
- ☑ Non-NFS Land Collaboration
- ☐ Larger Scale Restoration
- ☐ Leverage FS funds
- ☐ Socio-economic
- ☐ Other:

Desired Conditions

*In this report, the term "**desired conditions**" refers to landscape and resource conditions (as defined collaboratively by stakeholders and land managers) that you are seeking to achieve and maintain for your CFLRP landscape over the next 10+ years. Desired conditions are outcome-driven not output-driven, and should link to your project's CFLRP proposal while being measurable. (Note: The term "desired condition" is used somewhat differently in the Forest Service's Land Management Planning Process. In that context, it is not time bound, and often represents long-term social, economic and ecological goals, while the term "objective" is used to represent specific, measurable and time-bound benchmarks to be achieved while working toward desired conditions in a forest plan area.) In this report, the term "**landscape**" refers to the landscape identified in your CFRLP project proposal or in subsequently-approved proposal edits. See cover page for links to guidance.*

9. Project-scale Desired Conditions Target for Watershed Condition:

100	% change (relative to the desired condition) occurs across	100	% of the project areas by	11/30/2024
	% change (relative to the desired condition) occurs across		% of the project areas by	

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

Number of barrier culverts upgraded or removed to restore fish passage.
Number of stream miles with wood placement.
Number of road miles decommissioned.

Examples: Over 50% of roads that will be used for activities in project areas have received or are planned for BMPs; Over 170 acres of riparian area are improved and floodplain reconnected, 2 miles of stream are restored, and dam removal results in 13 miles of fish passage.

10. Landscape-scale Desired Conditions Target for Watershed Condition:

10	% change (relative to the desired condition) occurs across	100	% of the landscape area by	11/30/2024
	% change (relative to the desired condition) occurs across		% of the landscape area by	

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

Number of barrier culverts upgraded or removed to restore fish passage. Miles of stream with wood stock replenishment. Number of road miles decommissioned.

Examples: 50% of the essential projects identified in the watershed WRAP are implemented; Watershed Condition Classification indicates that 14 of the 17 subwatersheds (82% of the CFLRP Landscape Area) are in Condition Class 1 (Properly Functioning); The Watershed Condition Classification for the fire regime and wildfire indicators are improved for 17% of the landscape (30% of the expected treatment area).

11. Please select the indicator(s) below related to watershed condition that you are trying to affect to achieve your quantifiable desired condition(s):

- ☑ Water quality
- ☐ Water quantity
- ☑ Aquatic habitat (fragmentation, woody debris, channel shape and function)
- ☐ Aquatic biota (life-form presence, native species, exotic/invasive species)
- ☑ Improve riparian/wetland vegetation condition
- ☑ Roads and trails (road density, road maintenance, proximity to water, mass wasting)
- ☐ Soils (erosion, productivity, contamination)
- ☐ Fire regime and wildfire (fire condition class, wildfire effects)
- ☐ Forest cover
- ☐ Rangeland vegetation
- ☐ Terrestrial invasive species (extent and rate of spread)
- ☐ Forest health (insects and disease, ozone)
- ☐ Other. Please describe:

12. **Please select the actions you are implementing to work towards your desired condition(s):**

- ☑ Road decommissioning
- ☑ Road maintenance and/or improvement
- ☑ Trail maintenance and/or improvement
- ☐ Mechanical thinning
- ☐ Prescribed fire/controlled burn
- ☑ Culvert replacement
- ☐ Reintroduction of native species
- ☐ Removal of exotic/invasive species
- ☑ Other. Please describe:
  Instream large wood placement

13. Please state the evaluation metric(s) you are using to monitor progress towards your desired conditions for watershed condition.
Note: This evaluation metric is something you are measuring or counting to monitor watershed condition. It has a unit of measurement attached to it.

Road miles decommissioned/stored within 300 feet of streams, fine sediment in spawning gravels (Yakama Nation), fish habitat access restored (miles), Bull trout Redds observed (WDFW)

Examples of evaluation metrics: Fine sediment volume (mL), fine sediment weight (g), basal area in square feet per acre (for tree density), number of woody debris pieces in a specific size class per stream mile (for fish habitat), stream flow rate (liters/sec), miles of road decommissioned (miles), fish population (number of fish per sweep).

Data and Methodology

14. Select the methodologies used to assess Project-scale (P) and Landscape-scale (L) progress towards watershed condition desired conditions in this report. Select all that apply and provide a brief description for each:

P	L	
☑	☐	National BMP monitoring (protect water quality): Soil scientist or hydrologist conducts for selected projects
☐	☐	Streambed coring:
☐	☐	Float method (water flow):
☐	☐	Current meter (water flow):
☑	☑	Fish occupancy/use surveys: State coordinates fish monitoring throughout the basin
☐	☐	Ground-based photo points or photo plots:
☐	☐	Aerial surveys, aerial photography, or remote sensing:
☐	☐	GIS analysis:
☑	☐	Treatments implemented (e.g. acres or miles accomplished) used as proxy for monitoring outcomes: As reported to CFLRP
☐	☐	Modelling used as proxy for monitoring outcomes:
☐	☐	Other:

15. Where is the the data that is being used for monitoring Project-scale (P) and Landscape-scale (L) progress toward watershed condition being stored? Select the database categories that apply and provide a description of the specific datasets being used. Include links if available:

P	L	
☑	☑	GIS database: Forest data layers are periodically updated
☐	☐	County database:
☐	☑	State database: WA Department of Fish and WIldlife
☐	☐	Tribal database:
☐	☐	Citizen Science database:
☐	☐	Watershed Classification and Assessment Tracking Tool (WCATT):
☑	☑	USFS database of record (e.g. FACTS, WIT, WorkPlan, etc.): *please select performance measure from the table below*
☐	☐	Other:

Performance Measure Shorthand	Description	Database	P	L
BIO-NRG	Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production	TIM	☐	☐
FOR-VEG-EST	Acres of forest vegetation established	FACTS	☐	☐
FOR-VEG-IMP	Acres of forestland vegetation improved	FACTS	☐	☐
FP-FUELS-NON-WUI	Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildand fire	FACTS	☐	☐
FP-FUELS-WUI	Acres wildland/urban interface (WUI) high-priority hazardous fuels treated to reduce the risk of catastrophic wildland fire	FACTS	☐	☐
HBT-ENH-LAK	Acres of lake habitat restored or enhanced	WIT	☐	☐
HBT-ENH-STRM	Miles of stream habitat restored or enhanced	WIT	☑	☑
HBT-ENH-TERR	Acres of terrestrial habitat restored or enhanced	WIT	☐	☐
INVPLT-NXWD-FED-AC	Highest priority acres treated annually for noxious weeds and invasive plants on NFS lands	FACTS	☐	☐
INVSPE-TERR-FED-AC	Highest priority acres treated for invasive terrestrial & aquatic species on NFS lands	FACTS	☐	☐
RD-DECOM-NON-SYS	Miles of road decommissioned (non-system)	WIT	☐	☐
RD-DECOM-SYS	Miles of road decommissioned (system)	ROADS	☑	☑
RD-HC-IMP	Miles of high clearance system roads improved	ROADS	☐	☐

Performance Measure Shorthand	Description	Database	P	L
RD-HC-MAIN	Miles of high clearance system roads receiving maintenance	ROADS	☐	☐
RD-PC-IMP	Miles of road reconstruction and capital improvement	ROADS	☐	☐
RD-PC-MAIN	Miles of system roads receiving maintenance	ROADS	☐	☐
RG-VEG-IMP	Acres of rangeland vegetation improved	FACTS	☐	☐
S&W-RSRC-IMP	Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions	WIT	☐	☐
SP-NATIVE-FED-AC	Number of priority acres treated annually for native pests on Federal lands	FAD	☐	☐
STRM-CROS-MITG-STD	Number of stream crossings constructed or reconstructed to provide for aquatic organism passage	WIT	☑	☑
TL-IMP-STD	Miles of system trail improved	TRAILS	☐	☐
TL-MAINT-STD	Miles of system trail maintained	TRAILS	☐	☐
TMBR-SALES-TRT-AC	Acres of forestlands treated using timber sales	FACTS	☐	☐
TMBR-TRT	Acres of forestlands treated to achieve healthier conditions	FACTS	☐	☐
WTRSHD-CLS-IMP-NUM	# of watersheds moved to an improved condition class or sustained in properly functioning condition (Class 1)	WCATT	☐	☐

16. Please describe why the datasets or performance measures you selected in Question 15 above are <u>appropriate for assessing progress</u> towards your watershed desired conditions.

Permanent temporal records linked to GIS.

Project-scale scoring

From the beginning, CFLRP intended to shift towards desired conditions at the landscape-scale. As the disturbances and processes of interest occur at a landscape-scale, we need a landscape-scale assessment. It's a challenge to look at the impacts at that scale, given the scale itself as well as time delays (e.g. it takes more time to shift outcomes at landscape-scale than project-scale). While landscape-scale is the focus, project-scale assessments allow projects to bring in their monitoring data and look at treatment outcomes.

Each management action funded through CFLRP 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 by the multi-party monitoring group following completed management activities.

An individual activity might not need to lead to a fully restored acre, 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 "Green" rating. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across 75% or more of our CFLRP project areas.
- **Yellow** = Expected progress is being made towards desired conditions across 26% - 74% of our CFLRP project areas.
- **Red** = Expected progress is being made towards desired conditions across 25% or less of our CFLRP project areas.

Ecological Indicator	Green, Yellow, or Red score and % of the CFLRP project areas resulting in measurable progress as defined above	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Watershed Condition	Yellow - 50%	Yes

Please briefly describe how you calculated your score.

Early projects implemented in the CFLR landscape had limited watershed restoration elements. Little Crow, which is yet to be implemented, has a much more robust suite of watershed restoration actions.

Scoring for National Reporting

Landscape-scale scoring

Few (if any) CFLRP-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 the landscape-scale 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.

"Expected progress" will be defined using 10-year benchmarks for FY 2010 projects and 8-year benchmarks for FY 2012 projects for each desired condition based on a percentage of the lifetime outcome specified for the landscape in each proposal. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.
- **Yellow** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.
- **Red** = Expected progress is being made towards desired conditions across [10] % of our CFLRP landscape area.

Ecological Indicator	Green, Yellow, or Red score and % of the landscape across which progress is being made towards desired conditions	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Watershed Condition	Red - 10%	Yes

Please briefly describe how you decided on the percentage thresholds used above for the scoring categories and how you calculated your score.

Early projects implemented in the CFLR landscape had limited watershed restoration project elements. Little Crow and Swauk Restoration projects, which are yet to be implemented, have a much more robust suite of proposed watershed restoration actions.

2019 CFLRP Ecological Indicator Progress Report

Project Name: Tapash Sustainable Forest Collaborative | State: Washington

FISH & WILDLIFE HABITAT

Narrative - *Note: All boxes in this template will scroll, so you have as much space as you need.*

☐ If wildlife habitat is not part of your CFLRP proposal and landscape restoration strategy, please let us know by checking this box.
☐ If fish habitat is not part of your CFLRP proposal and landscape restoration strategy, please let us know by checking this box.

1. Did you make any changes to your desired condition(s) for fish & wildlife habitat as compared to the 2014 Ecological Indicator Report? Please briefly describe: **Yes** ☑ **No** ☐

Increased security habitat for wolves/wolverine/large ungulates etc. by approximately 1,225 acres
Improved forage habitat for deer and elk on approximately 1,335 ac
Improved white-headed woodpecker, black-backed woodpecker habitat and deer/elk forage on approximately 9,000 ac
Improved unique meadow habitat for mardon skippers and elk forage on approximately 215 ac
Improved bear habitat on approximately 975 ac

2. Did you make any changes to your monitoring methodologies for fish & wildlife habitat as compared to the 2014 Ecological Indicator Report? Please briefly describe: **Yes** ☑ **No** ☐

Monitoring baseline data for carnivores (specifically Cascade red fox and wolverine); used monitoring method of Cascade Carnivore Group.
Monitoring baseline data for northern spotted owl prey (flying squirrel); collaborated on monitoring method with USFS PNW Research Station.
Monitoring baseline data for breeding songbird occupancy; collaborated on monitoring method with USFS PNW Research Station.
Monitoring baseline data for barred owl occupancy; USGS barred owl removal study.

3. Did you use any new or updated baseline data for evaluating your fish & wildlife habitat progress for the purposes of this report? Please briefly describe: **Yes** ☑ **No** ☐

White-headed woodpecker baseline habitat data for Nelli/Dry (Naches Mainstem Watershed)
White-headed woodpecker baseline habitat data for Crow Creek (Little Naches sub-watershed)
White-headed woodpecker baseline occupancy data for Swauk Pine
Northern flying squirrel baseline occupancy data for Taneum and Swauk Pine
Baseline data for snags using DecAID analysis for Little Crow, Swauk Pine, and Taneum

4. Did your projects experience any unanticipated developments that positively or negatively affected expected progress towards your desired conditions for fish and wildlife habitat? (e.g. wildfire in the project area, litigation outcome, change in collaborative participation, etc.)

Wildfire (Total Acres) - 2019 Left Hand (3,000), 2018 Miriam (4,578), East Iron (150), 2017 American (3,855), Norse Peak (52,068) Jolly Mountain (36,817), 2016 Rock Creek (1,383) 2015 Meeks Table (1,182).

Fires improved conditions for several woodpecker species (produced numerous snags) and improved forage for elk and deer at a landscape scale. Fires resulted in long-term unfavorable conditions for northern spotted owl and other closed-canopy species over a wide area.

5. What were the most difficult barriers or challenges you experienced in progressing towards your desired conditions for fish and wildlife habitat? If you adapted to address these challenges please provide a brief description of how.

Obtaining funds to treat a large enough area to make a difference (treating wildlife habitat at a landscape scale). We can complete commercial thinning, but hard to get the funds to complete the needed noncommercial thinning, resulting in isolated pockets of improved habitat within a large contiguous area, instead of widespread improvement at a landscape scale. Wood markets are very low which makes commercial restoration thinning in dry forest very difficult.

Obtaining consistency review from the Late Successional Reserve workgroup and/or the Regional Ecosystem Office proved to be onerous for Swauk Pine, Taneum, and Little Crow projects. Please see 'Spies 2019 Twenty five years of the Northwest Forest Plan: What have we learned?' page 5, paragraph 2. Also please see 'Franklin 2012 A Restoration Framework for Federal Forests in the Pacific Northwest' and 'Thomas 2006 The

6. Did you include the effects of treatments on areas adjacent to the active treatment area? Yes ☑ No ☐

If yes, please briefly describe your methodology for including these adjacent acres, and describe any work conducted across land ownership in support of fish & wildlife habitat.

Snag habitat (used DecAID and added the Milk Creek subwatershed and American watershed to the Little Naches subwatershed) in order to look at snags at a landscape scale.

Desired Conditions

*In this report, the term "**desired conditions**" refers to landscape and resource conditions (as defined collaboratively by stakeholders and land managers) that you are seeking to achieve and maintain for your CFLRP landscape over the next 10+ years. Desired conditions are outcome-driven not output-driven, and should link to your project's CFLRP proposal while being measurable. (Note: The term "desired condition" is used somewhat differently in the Forest Service's Land Management Planning Process. In that context, it is not time bound, and often represents long-term social, economic and ecological goals, while the term "objective" is used to represent specific, measurable and time-bound benchmarks to be achieved while working toward desired conditions in a forest plan area.) In this report, the term "**landscape**" refers to the landscape identified in your CFRLP project proposal or in subsequently-approved proposal edits. See cover page for links to guidance.*

7. Project-scale Desired Conditions Target for Fish & Wildlife Habitat:

70 % change (relative to the desired condition) occurs across 80 % of the project areas by 09/30/2019

100 % change (relative to the desired condition) occurs across 100 % of the project areas by 11/30/2024 *(OPTIONAL. Use if separate, additional target is needed for aquatic habitat)*

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

Recruited snags for wildlife habitat over 50% of treatment areas. Haven't signed NEPA for Little Crow (no treatment has occurred) so without this treatment, have treated 70% of the targeted Dry Forest habitat there. Signed NEPA for Swauk Pine, has not sold, about to Sign NEPA for Walter Springs and Taneum.

Example: 50 miles of inaccessible salmon spawning habitat is made accessible by removing one dam.
Example: Stands have a basal area of 50-80 square feet/acre, which is ideal for red-cockaded woodpecker.
Example: Stands between 5,000-8,000 ft elevation are dominated by ponderosa pine, with 5-10 trees per group, and openings 0.25- 1 acre.

8. Landscape-scale Desired Conditions Target for Fish & Wildlife Habitat:

90 % change (relative to the desired condition) occurs across 50 % of the landscape area by 09/30/2019

10 % change (relative to the desired condition) occurs across 100 % of the landscape area by *(OPTIONAL. Use if separate, additional target is needed for aquatic habitat)*

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

Maintained 70% canopy closure within riparian areas. Treated or will have treated/completed NEPA (with Little Crow) on approximately 90% of the Dry Forest vegetation on the District. Resulting in improved habitat for dry forest species (WHWO, flammulated owl, white-breasted nuthatch, etc)

Example: Slash pine is replaced by longleaf pine ecosystem across 5,000 acres of our CFLRP landscape.
Example: Coniferous forests across the CFLRP landscape have an average canopy cover at or above 50%.
Example: All identified inventoried aquatic organism passages at road/stream crossings that were found to be a barrier (10) are accessible for identified aquatic species at all life stages.

Habitat

9. Please select the categories of the broader goals related to fish & wildlife habitat that you are trying to achieve through your quantifiable desired condition(s):

- ☑ Open forest habitat (e.g. wider tree spacing, less mid-story vegetation)
- ☑ Grass/forb/shrub abundance and/or diversity (e.g. native or desired)
- ☑ Wildlife security (e.g. reduced disturbance and/or mortality to fish or wildlife)
- ☑ Rare or sensitive ecosystem protection and/or restoration (e.g. longleaf, bluestem, riparian, meadow, aspen or wetland habitat)
- ☑ Horizontal Complexity (e.g. "mosaic"/diversity of habitat types, patch sizes, and/or patterns)
- ☑ Vertical complexity (e.g. number of canopy layers)
- ☑ Forest structures (e.g. snags, downed wood, den trees)
- ☐ Mast-producing plant abundance and/or diversity (e.g. acorns, nuts, fruits, or berries eaten by wildlife)
- ☑ Sustainable flow of habitat age-classes through time (e.g. planning the proportion of early-, mid-, and late-seral stands)
- ☑ Habitat connectivity/availability (e.g. increased access to or availability of desired habitat)
- ☑ Aquatic habitat connectivity (e.g. culverts are passable to all aquatic organisms, no dams, stream diversions)
- ☑ Aquatic habitat complexity (e.g. downed wood, pools, riffles, etc)
- ☑ Aquatic sedimentation levels (e.g. suspended sediment or fine sediment in spawning gravels)
- ☐ Other. Please describe:

10. Please state the evaluation metric(s) you are using to monitor progress towards your desired conditions for fish & wildlife habitat for this report. Note: This evaluation metric is something you are measuring or counting to monitor habitat change. It has a unit of measurement attached to it.

Used snag and down wood within the white-headed woodpecker created habitat (baseline and post-treatment) using the Regional monitoring protocol method. Conducted white-headed woodpecker responses baseline and post-treatment using the Regional protocol.
Collected forage from ten 1-meter screened area baseline (prior to PCT) and 5 years after PCT & burning to determine if forage increased.
Check use of the flammulated owl boxes yearly.
Monitor bat use (hibernation counts) in January at Boulder Cave (compare numbers yearly).
Northern flying squirrel density.
Breeding songbird, dry forest indicator species occupancy.

Examples of habitat evaluation metrcs: basal area in square feet per acre (for tree density), number of trees per acre (for tree density), quadratic mean diameter in inches (for tree sizes), litter and duff depths in centimeters (for fire hazard), percent canopy cover (for opennesss), percent ground cover (for forage), seedling survival per acre per year (for reforestation), number of woody debris pieces in a specific size class per stream mile (for fish habitat), grass dry weight clippings used to calculate grass pounds per acre (for forage abundance)

Populations

11. Please select the categories of broader goals related to fish & wildlife populations that you are trying to achieve through your quantifiable desired condition(s). Then list the specific species of interest related to each category you select.

- ☑ Maintain abundance/density: Mardon skippers, wide-ranging carnivores, northern flying squirrel
- ☑ Increase abundance/density: Townsend's big-eared bat, northern spotted owl, white-headed woodpecker, dry forest songbird
- ☐ Decrease abundance/density:
- ☐ Maintain native species diversity:
- ☑ Increase native species diversity: woodpecker species
- ☐ Translocation/reintroduction:
- ☑ Optimal sustained yield of game species: elk
- ☐ Ecosystem function/food webs:
- ☐ Spatial extent of population:
- ☐ Other. Please describe:

12. If relevant for your CFLRP project, please state the evaluation metric(s) you are using to monitor progress towards your desired conditions for fish & wildlife populations. Note: This evaluation metric is something you are measuring or counting to monitor population change. It has a unit of measurement attached to it.

Mardon skipper population at Conrad Meadows (using Distance Sampling tech; Xerces evaluates).
Numbers of Townsend's big-eared bat counted in the hibernaculum and exit counts from the known maternity roost.
Cascade red fox, wolverine, northern flying squirrel, white-headed woodpecker, and breeding songbird dry forest indicator species occupancy.
Bull trout Redds observed (WDFW)

Examples of population evaluation metrics: number of wildlife encounter events per unit area via point counts or remote cameras (for wildlife usage), number of pellet groups along transects used to calculate animal density per unit area (for mammal usage), presence/absence of a plant community-associated wildlife species in the project area, presence of aquatic species as indicated by eDNA

☐ Please check this box if you are not evaluating fish & wildlife populations.

Data and Methodology

13. Select the type(s) of monitoring you used to assess Project-scale (P) and Landscape-scale (L) progress towards fish & wildlife habitat desired conditions for this report. Select all that apply.

P	L	
☑	☐	**Baseline Data Collection** (i.e. was data collected prior to treatment to be used for later comparison?)
☐	☐	**Accomplishment Reporting** (i.e. was progress tracked using acres and miles reported?)
☑	☐	**Implementation Monitoring** (i.e. were the treatments implemented as prescribed?)
☐	☐	**Effectiveness Monitoring Pilot Study** (i.e. was a trial run conducted to assess considerations of crafting an effectiveness monitoring plan?)
☐	☐	**Effectiveness Monitoring** (i.e. were treatments effective at meeting the stated objectives?)
☐	☐	**Ecological Impacts Monitoring** (i.e. were there any unforeseen ecological consequences that could compromise treatment success?)
☐	☐	**Other.** Please describe:

14. Select the methodologies used to assess Project-scale (P) and Landscape-scale (L) progress towards fish & wildlife habitat desired conditions for this report. Select all that apply and provide a brief description for each:

P	L	
☐	☐	Common Stand Exams (USFS procedures):
☐	☐	Understory vegetation plots or transects:
☑	☑	Fish or Wildlife occupancy/use surveys:
☑	☐	Stream surveys:
☑	☑	Remote motion-capture cameras:
☑	☐	Ground-based photo points or photo plots:
☐	☐	Aerial surveys, aerial photography, or remote sensing:
☑	☐	Treatments implemented (e.g. acres or miles accomplished):
☐	☐	Modeling (include type and whether ground-truthed):
☐	☐	GIS analysis:
☐	☐	Other:

15. Where is the the data that is being used for monitoring Project-scale (P) and Landscape-scale (L) progress toward fish & wildlife habitat desired conditions being stored? Select the database categories that apply and provide a description of the specific datasets being used. Include links if available:

P	L	
☑	☑	GIS database: Forest data layers are periodically updated
☐	☐	County database:
☑	☑	State database: WA Department of Fish and WIldlife
☐	☐	Tribal database:
☐	☐	Citizen Science database:
☐	☐	FSVeg:
☑	☐	NRIS:
☑	☐	Other USFS database of record: *please select performance measure from the table below*
☐	☐	Other:

Performance Measure Shorthand	Description	Database	P	L
BIO-NRG	Green tons from small diameter and low value trees removed from NFS lands and made available for bio-energy production	TIM	☐	☐
FOR-VEG-EST	Acres of forest vegetation established	FACTS	☐	☐
FOR-VEG-IMP	Acres of forestland vegetation improved	FACTS	☐	☐
FP-FUELS-NON-WUI	Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildand fire	FACTS	☐	☐
FP-FUELS-WUI	Acres wildland/urban interface (WUI) high-priority hazardous fuels treated to reduce the risk of catastrophic wildland fire	FACTS	☐	☐
HBT-ENH-LAK	Acres of lake habitat restored or enhanced	WIT	☐	☐
HBT-ENH-STRM	Miles of stream habitat restored or enhanced	WIT	✔	✔
HBT-ENH-TERR	Acres of terrestrial habitat restored or enhanced	WIT	✔	☐
INVPLT-NXWD-FED-AC	Highest priority acres treated annually for noxious weeds and invasive plants on NFS lands	FACTS	☐	☐
INVSPE-TERR-FED-AC	Highest priority acres treated for invasive terrestrial & aquatic species on NFS lands	FACTS	☐	☐
RD-DECOM-NON-SYS	Miles of road decommissioned (non-system)	WIT	☐	☐
RD-DECOM-SYS	Miles of road decommissioned (system)	ROADS	✔	✔
RD-HC-IMP	Miles of high clearance system roads improved	ROADS	☐	☐

Performance Measure Shorthand	Description	Database	P	L
RD-HC-MAIN	Miles of high clearance system roads receiving maintenance	ROADS	☐	☐
RD-PC-IMP	Miles of road reconstruction and capital improvement	ROADS	☐	☐
RD-PC-MAIN	Miles of system roads receiving maintenance	ROADS	☐	☐
RG-VEG-IMP	Acres of rangeland vegetation improved	FACTS	☐	☐
S&W-RSRC-IMP	Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions	WIT	☐	☐
SP-NATIVE-FED-AC	Number of priority acres treated annually for native pests on Federal lands	FAD	☐	☐
STRM-CROS-MITG-STD	Number of stream crossings constructed or reconstructed to provide for aquatic organism passage	WIT	✔	✔
TL-IMP-STD	Miles of system trail improved	TRAILS	☐	☐
TL-MAINT-STD	Miles of system trail maintained	TRAILS	☐	☐
TMBR-SALES-TRT-AC	Acres of forestlands treated using timber sales	FACTS	☐	☐
TMBR-TRT	Acres of forestlands treated to achieve healthier conditions	FACTS	☐	☐
Other:			☐	☐
Other:			☐	☐

16. Please describe why the datasets or performance measures you selected in Question 15 above are <u>appropriate for assessing progress</u> towards your fish & wildlife habitat desired condition(s).

WIT is the database designated by the Forest as the appropriate storage database. Permanent temporal records linked to GIS.

Project-scale scoring

From the beginning, CFLRP intended to shift towards desired conditions at the landscape-scale. As the disturbances and processes of interest occur at a landscape-scale, we need a landscape-scale assessment. It's a challenge to look at the impacts at that scale, given the scale itself as well as time delays (e.g. it takes more time to shift outcomes at landscape-scale than project-scale). While landscape-scale is the focus, project-scale assessments allow projects to bring in their monitoring data and look at treatment outcomes.

Each management action funded through CFLRP 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 by the multi-party monitoring group following completed management activities.

An individual activity might not need to lead to a fully restored acre, 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 "Green" rating. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across 75% or more of our CFLRP project areas.
- **Yellow** = Expected progress is being made towards desired conditions across 26% - 74% of our CFLRP project areas.
- **Red** = Expected progress is being made towards desired conditions across 25% or less of our CFLRP project areas.

Ecological Indicator	Green, Yellow, or Red score and % of the CFLRP project areas resulting in measurable progress as defined above	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Fish and Wildlife Habitat	Yellow - 50%	Yes

Please briefly describe how you calculated your score.

Early projects implemented in the CFLR landscape had limited watershed restoration elements. Little Crow, Swauk Pine, and Taneum which are yet to be implemented, have much more robust suites of watershed restoration actions.

Scoring for National Reporting

Landscape-scale scoring

Few (if any) CFLRP-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 the landscape-scale 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.

"Expected progress" will be defined using 10-year benchmarks for FY 2010 projects and 8-year benchmarks for FY 2012 projects for each desired condition based on a percentage of the lifetime outcome specified for the landscape in each proposal. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.
- **Yellow** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.
- **Red** = Expected progress is being made towards desired conditions across [10] % of our CFLRP landscape area.

Ecological Indicator	Green, Yellow, or Red score and % of the landscape across which progress is being made towards desired conditions	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Fish and Wildlife Habitat	Red - 10%	YES

Please briefly describe how you decided on the percentage thresholds used above for the scoring categories and how you calculated your score.

Early projects implemented in the CFLR landscape had limited watershed restoration project elements. Little Crow, Swauk Pine, and Taneum Restoration projects, which are yet to be implemented, have a much more robust suite of proposed watershed restoration actions.

Wildfire has been the main agent of forest change in the last 5 years in the Tapash USFS area. Burn Severity 2015-17: Low = 23,446 acres, Moderate = 17,625 acres, High = 18,672 acres. https://www.mtbs.gov/

2019 CFLRP Ecological Indicator Progress Report

Project Name: Tapash Sustainable Forest Collaborative | State: Washington

INVASIVE SPECIES

Narrative - *Note: All boxes in this template will scroll, so you have as much space as you need*

☑ If invasive species is not part of your CFLRP proposal and landscape restoration strategy, please let us know by checking this box.

1. Did you make any changes to your desired condition(s) for invasive species as compared to the 2014 Ecological Indicator Report? Please briefly describe: **Yes** ☐ **No** ☑

2. Did you make any changes to your monitoring methodologies for invasive species as compared to the 2014 Ecological Indicator Report? Please briefly describe: **Yes** ☐ **No** ☑

3. Did you use any new or updated baseline data for evaluating your invasive species progress for the purposes of this report? Please briefly describe: **Yes** ☑ **No** ☐

The baseline changes as we find expansions of existing populations and new occurrences of known invasive plant species and new populations of previously undiscovered invasive plant species such as Ventenata dubia.

4. Did your projects experience any unanticipated developments that positively or negatively affected expected progress towards your desired conditions for invasive species? (e.g. wildfire in the project area, litigation outcome, change in collaborative participation, etc.)

Wildfire has substantially increased the footprint of invasive plants off of roadside areas.

5. What were the most difficult barriers or challenges you experienced in progressing towards your desired conditions for invasive species? If you adapted to address these challenges please provide a brief description of how.

1. Inconsistent funding impedes progress. Our invasive programs are more successful when we have District spray crews, so we can target weeds and timing in a more meaningful method of treatment. Many of our dollars come from projects that are focused on specific areas of the landscape and may not include priority weed populations such as those in sensitive habitats or within rare plant populations.

2. Lack of understanding that invasive plant populations need management and require multiple treatments over multiple years.

3. Education/outreach. A volunteer coordinator/outreach specialist would be a great asset for TAPASH as there are many programs that could benefit from volunteer projects. Many of our worst invasive plant sites are in recreation areas. Appropriate and coordinated messaging and

Desired Conditions

*In this report, the term "**desired conditions**" refers to landscape and resource conditions (as defined collaboratively by stakeholders and land managers) that you are seeking to achieve and maintain for your CFLRP landscape over the next 10+ years. Desired conditions are outcome-driven not output-driven, and should link to your project's CFLRP proposal while being measurable. (Note: The term "desired condition" is used somewhat differently in the Forest Service's Land Management Planning Process. In that context, it is not time bound, and often represents long-term social, economic and ecological goals, while the term "objective" is used to represent specific, measurable and time-bound benchmarks to be achieved while working toward desired conditions in a forest plan area.) In this report, the term "**landscape**" refers to the landscape identified in your CFRLP project proposal or in subsequently-approved proposal edits. See cover page for links to guidance.*

6. Project-scale Desired Conditions Target for Invasive Species

[ ] % change (relative to the desired condition) occurs across [ ] % of the project areas by [ ]

[ ] % change (relative to the desired condition) occurs across [ ] % of the project areas by [ ]

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

Example: Cogongrass is reduced to less than 25% cover.
Example: Using the prevention protocols on all projects, no new invasive species infestations are established.

7. Landscape-scale Desired Conditions Target for Invasive Species:

[100] % change (relative to the desired condition) occurs across [10] % of the landscape area by [01/01/2040]

[ ] % change (relative to the desired condition) occurs across [ ] % of the landscape area by [ ]

Please include 1-5 *quantifiable* desired condition statements upon which the above target is based:

200 acres of orange hawkweed, scotch broom, and houndstongue populations reduced by 10%.
New EDRR sites identified and treated within 2 years.
All new projects contain an invasive prevention plan and post restoration treatment plan.

Example: The increase in coverage of Leafy Spurge and Rush Skeletonweed is prevented on 500 acres of sensitive botanical habitat within our CFLRP landscape.
Example: All known populations of Yellow Star Thistle are contained along 100 miles of FS roads and trails within our CFLRP landscape.
Example: The presence of feral swine is surveyed and mapped on 500 acres within our CFLRP landscape.

8. Please select the categories of the broader goals related to invasive species that you are trying to achieve through your quantifiable desired condition(s):

- ☑ Inventory and Mapping
- ☑ Risk Assessment
- ☑ Prevention
- ☑ Maintenance at current levels
- ☑ Containment below thresholds
- ☑ Reduction
- ☑ Eradication
- ☑ Increased resilience. Recognizing *invasive species are not constrained to disturbed areas*, please describe your definition of resilience in an invasive species context:
- ☐ Other. Please describe:

9. For each invasive species you have addressed within your CFRLP landscape, please list the action(s)[1] you have taken to work towards your invasive species desired conditions, the acres and/or miles you have accomplished, and the efficacy of each action*:*
(All of the following data is reported in FACTS.)

Target Invasive Species	Action Taken	Land Ownership	Acres	Efficacy (%)
Orange Hawkweed	Spring and Fall treatment, Continued efforts to bring multiple la	USFS	200	100
Scotch broom	Spring and Fall treatment, Continued efforts to bring multiple la	USFS	52	50
Houndstongue	Spring treatment, Continued efforts to bring multiple land owne	USFS, WDFW	200	75
Tansy Ragwort	Eradicate, mapping new populations	USFS	20	80
All other Class A/B and C invasiv	Spring and Fall treatment	USFS	1400	85
North Africa Grass	Spring and Fall treatments, mapping new populations	USFS	20	85

[1] Actions taken to address an invasive species might include inventory & mapping, hand removal, mechanical removal, release of a biological control agent (an organism that kills the target species), ground-based herbicide application, aerial herbicide application, tarping, grazing, preventative weed wash stations, trapping invasive animals, etc.

10. Please briefly describe the specific negative impacts each of your target invasive species causes that you are trying to avoid.
These impacts can be environmental, economic, cultural, or human/animal health-related.

All plants that are considered invasive have some kind of impact to both human and natural environments. Some of these are alleopathic and cause major soil pH changes. Some of these plants are capable of producing haustoria into other neighboring plants and steal nutrients. They all pose significant impacts to plant community changes and threaten native plant communities.

Data and Methodology

11. Select the methodologies used to assess Project-scale (P) and Landscape-scale (L) progress towards invasive species desired conditions for this report. Select all that apply and provide a brief description of each:

P	L	
☐	☐	Aerial surveys/inventories/mapping:
☐	☑	Ground surveys/inventories/mapping:
☐	☐	Environmental sampling (wood, soil, water, infected tissue, etc.):
☐	☑	Observations of individuals:
☐	☑	Observations of damage:
☐	☐	Observation of tracks, scat, nests, etc.:
☐	☐	Trap samples:
☐	☐	eDNA:
☐	☐	Other:

12. Where is the the data that is being used for monitoring Project-scale (P) and Landscape-scale (L) progress toward invasive species desired conditions being stored? Select the databases categories that apply and provide a description of the specific datasets being used. Include links if available:

P	L	
☐	☑	GIS database:
☐	☑	County database:
☐	☐	State database:
☐	☐	Tribal database:
☐	☑	Citizen Science database:
☐	☐	Forest Inventory and Analysis (FIA) database:
☐	☑	USFS database of record (FACTS - *select performance measures*):

☑ INVPLT-NXWD-FED-AC Highest priority acres treated for noxious weeds and invasive pests ☐ INVSPE-TERR-FED-AC Highest priority acres treated for invasive terrestrial & aquatic species

☐	☐	Other:

Project-scale scoring

From the beginning, CFLRP intended to shift towards desired conditions at the landscape-scale. As the disturbances and processes of interest occur at a landscape-scale, we need a landscape-scale assessment. It's a challenge to look at the impacts at that scale, given the scale itself as well as time delays (e.g. it takes more time to shift outcomes at landscape-scale than project-scale). While landscape-scale is the focus, project-scale assessments allow projects to bring in their monitoring data and look at treatment outcomes.

Each management action funded through CFLRP 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 by the multi-party monitoring group following completed management activities.

An individual activity might not need to lead to a fully restored acre, 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 "Green" rating. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across 75% or more of our CFLRP project areas.
- **Yellow** = Expected progress is being made towards desired conditions across 26% - 74% of our CFLRP project areas.
- **Red** = Expected progress is being made towards desired conditions across 25% or less of our CFLRP project areas.

Ecological Indicator	Green, Yellow, or Red score and % of the CFLRP project areas resulting in measurable progress as defined above	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Invasive Species		

Please briefly describe how you calculated your score.

Scoring for National Reporting

Landscape-scale scoring

Few (if any) CFLRP-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 the landscape-scale 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.

"Expected progress" will be defined using 10-year benchmarks for FY 2010 projects and 8-year benchmarks for FY 2012 projects for each desired condition based on a percentage of the lifetime outcome specified for the landscape in each proposal. There may be many reasons for not scoring a "Green," including ecological and sociological considerations beyond the scope of the CFLRP project as well as recognition of unanticipated barriers or challenges. Note that scoring a "Yellow" or "Red" does not necessarily mean that work was not accomplished.

If you need to summarize scores across different desired condition targets, please refer to Guidance Document for additional instruction.

- **Green** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.
- **Yellow** = Expected progress is being made towards desired conditions across [50] % of our CFLRP landscape area.
- **Red** = Expected progress is being made towards desired conditions across [ ] % of our CFLRP landscape area.

Ecological Indicator	Green, Yellow, or Red score and % of the landscape across which progress is being made towards desired conditions	Are you achieving your CFLRP objectives? Yes or No? If "no", briefly describe why in the box below and use the narrative section as needed.
Invasive Species	Yellow - 50%	Yes. All objectives are being met. Erradication of a very few small number of

Please briefly describe how you decided on the percentage thresholds used above for the scoring categories and how you calculated your score.

We have completed 20,000 acres of invasive plant treatment over the last 10 years. Larger crews would have been needed to double this work load. Some populations are not near roads and require intensive backpack spraying which is more time consuming. All species tend to flower at once and treatment in multiple locations is not possible with current personnel levels. There are discrete times when herbicide is most effective and those coincide with wetter and windier weather halting treatment due to conditions. In general, treatment of target populations and species was effective. Monitoring has shown species such as orange hawkweed are easily eradicated with spray contact, whereas other species with a larger seed and greater longevity, such as scotch broom, are more

Monitoring References and Resources

1. Briefly describe any key lessons learned about integration across these 4 ecological sub-indicators.
For example, if you planned fuels reduction treatments (Fire Regime) strategically around a Priority Watershed (Watershed Condition).

2. Briefly describe the roles of the parties involved in setting the desired conditions, and collecting, assessing, and sharing the data used in this report:

3. Please acknowledge the people who assisted with completing this 2019 CFLRP Ecological Indicator Report:

Fire and fuels personnel and resource specialists from the Naches and Cle Elum Ranger Disricts.

4. Please provide links to your past CFLRP monitoring reports developed by the USFS, partners, etc.:

https://usfs.box.com/s/jevxjmjqubzoikrr5e5o4aimrsww8aij

Examples: Uncompahgre CFLRP Monitoring of Forest Spatial Patterns; Four Forest Restoration Initiative Bird Survey Report 2015

5. Please provide links to your CFLRP monitoring plans and any approved revisions (or include as an attachment):

http://www.tapash.org/okawen/wp-content/uploads/2016/02/DRAFT-Tapash-CFLRP-Monitoring-Plan-JL-102913.pdf

Examples: Colorado Front Range Multi-Party Monitoring Plan; Dinkey Landscape Ecological Monitoring Plan

6. Please provide links to technical reports or other literature utilized in determining and assessing the desired conditions used in this report:

Examples: Historical Forest Attributes of the Western Blue Mountains of Oregon; Restoring Ponderosa Pine Forests of the Colorado Front Range