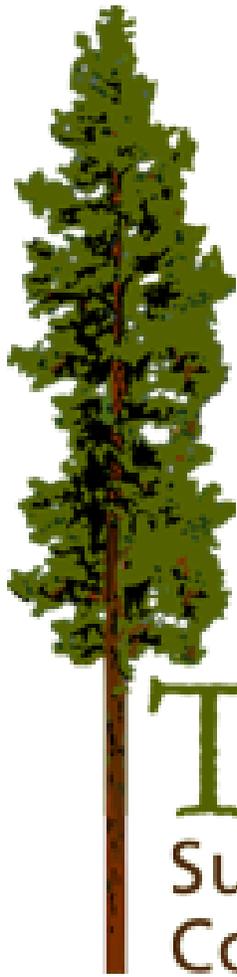


Collaborative Forest Landscape Restoration Program

Proposal



TAPASH

Sustainable Forest
Collaborative

To improve the ecosystem health and natural functions of the landscape through active restoration projects backed by best science, community input and adaptive management.

—Tapash Mission Statement

May 2010



1. Proposed Treatment:

The Tapash Sustainable Forest Collaborative (hereafter referred to as Tapash) proposal considers a 1,629,959 acre landscape that encompasses 834,812 acres (51%) of the Okanogan-Wenatchee National Forest, the Yakama Nation (386,485 acres), the Washington State Department of Natural Resources (171,938 acres), the Washington State Department of Fish and Wildlife (59,618 acres), and private (162,214 acres). Initially, in fiscal year 2010 and 2011, 38,311 acres of treatment (11,680 and 26,631 acres, respectively) is proposed in the southern most portion of the area where site-specific NEPA analysis has been completed and restoration treatments are already being implemented. Currently, signed NEPA decisions exist which authorize restoration on 58,405 acres within the proposal area. The proposal anticipates 75,209 acres of restoration-related treatments being implemented between FY2012-2015; with 168,617 total acres treated over the next decade. The initial treatment areas establish a core/central location from which restoration activities would continue to expand to include the central and northern portions of the Okanogan-Wenatchee N.F., Yakama Nation, State (Washington Department of Fish and Wildlife, Department of Natural Resources), and private (TNC) lands.

Table 1: Treatment by type by year

Treatment Type (units)	FY10	FY11	FY12	FY13	FY14	FY15	FY16 - 20
Timber Harvest (ac)	0	5,614	3,150	3,950	3,700	3,150	32,700
Non-Harvest Mechanical (ac)	7,980	18,743	9,607	6,072	4,136	2,436	7,000
Prescribed fire, Natural Fuels (ac)	3,700	2,274	8,850	14,070	10,438	5,650	15,397
Roads & Structures (mi/#)	5.5/10	51/2	82.5/0	55/4	73/0	55/1	268/0
Layout and Administration (ac)	11,556	3,750	3,000	4,000	5,500	0	0

The Tapash proposal finds its' basis in the Okanogan-Wenatchee Forest Restoration Strategy (USFS 2010). The Forest strategy has been developed through a joint effort between the Wenatchee Forestry Sciences Laboratory, the Okanogan-Wenatchee Supervisor's Office, the Naches Ranger District, and the Provincial Advisory Committee¹ (PAC). The strategy has received a science review, a forest level review assessing implementation feasibility, and a review by the Provincial Advisory Committee. The strategy is also being prototyped on the Naches Ranger District through application on 2 restoration projects. The restoration strategy is science-to-field implementation based. The methodologies and protocols utilized in the strategy are being co-developed by forest scientists, forest resource specialists, and implementation specialists (e.g., marking crews). The overall goal of the Okanogan-Wenatchee Forest Restoration Strategy is to 1) address new science and management direction including the incorporation of climate change and the final spotted owl recovery plan; 2) provide a consistent definition and approach to forest vegetation and aquatic restoration; 3) increase the restoration footprint through a process that identifies high priority strategic treatment areas; 4) improve planning and implementation efficiency through improved integration, and 5) improve monitoring and adaptive management.

¹These committees were chartered as authorized advisory committees in support of the Northwest Forest Plan implementation in 1995. PAC membership includes representatives of Federal, State, local and Tribal governments, a variety of other interests, and other local citizens that provide a forum for information exchange, provide advice on provincial level analysis and monitoring, and encourage complementary ecosystem management among Federal and non-Federal land managers.



The Tapash landscape restoration proposal considers multiple nested scales from the landscape to the stand-level. Information from the Central Washington Landscape Analysis (2010, in prep) (2,300,000 acres), the Mid-Naches Conservation Action Plan (ongoing) (375,000 acres), and the Dry-Orr Landscape Analysis (2010) (70,000 acres) form the scientific basis and establishes a need for active ecosystem restoration. As with the Okanogan-Wenatchee Forest Restoration Strategy, the proposed Tapash restoration strategy has been developed through a science-based landscape-level integration and analysis of vegetation departure, landscape fire flow, wildlife habitat needs, and aquatic resource concerns. Specific project areas were selected from the larger landscape and prioritized for restoration based on consideration of: dry and mesic forests thought to have the greatest departure in density and structure, landscape and stand level fire behavior modeling, priority watersheds for wildlife and fish habitat restoration, internal draft focused watershed action plans, five-year vegetation management plans, and consideration of high risk roads and the minimum roads analysis process. Site-specific treatment areas were further prioritized by considering the juxtaposition and connectivity of individual areas. The cumulative effect of the combined treatments on the larger Tapash landscape, over time, was also considered in the prioritization process.

The ultimate goal of the Tapash proposal is to increase our combined restoration footprint on the landscape by applying restoration treatments to 184,700 acres with a corresponding increase in overall forest resiliency and aquatic health. The desired outcome is a landscape that is more resilient to changing climates and disturbances and that responds in a manner that maintains and restores natural processes, patterns, and functions. As well, there is an additional focus to reduce adverse effects on stream flows, sediment regime and flood plain function caused by increased road densities and/or road location. This proposal is founded first in ecological principle but also recognizes individual ownerships and missions. The proposal strives to develop and implement common objectives across ownership boundaries.

Development of treatment prescriptions considers two spatial scales: landscape considerations (the amount, juxtaposition, and interaction of patches), and the patch-scale (spatial variability within a forest stand). At the landscape-scale, this proposal addresses the restoration of landscape pattern (vegetative composition and structure in dry and mesic eastern Cascade forests), processes (disturbances such as fire, insects and diseases), and functions (such as habitat for key wildlife focal species). At the patch or stand-scale, treatments emphasize restoration of spatial patterning (i.e., clumps, gaps, and complex patches); the retention of large and very large old trees; snag management; the management of young and understory tree density; reduced fire severity; and restoration of stream function where it has been altered by roads. Modeling scenarios that informed the treatment proposals took into account the current and future range of variability in consideration of the potential effects of climate change on local landscapes. The combination of landscape and stand level treatments are designed to restore landscape conditions to make them more resilient to climate change, while providing a sustainable source for ecosystem services.

The proposal implements a diverse array of treatment methods including mechanical treatments through pre-commercial and commercial activities (including biomass removal), prescribed fire of natural and activity fuels, road restoration and trail management activities and riparian treatments. Mechanical treatments include: commercial and pre-commercial thinning, hand piling, and machine piling of activity fuels, mastication of activity fuels, and biomass removal. These treatments would occur



alone or in combination with prescribed burning of natural and activity fuels. The timing of the treatments would vary over the project area but would encompass all or part of a cycle of commercial thinning, pre-commercial thinning and prescribed fire activities beginning in FY10 and continuing over the next decade. Objectives of the mechanical and prescribed fire treatments are to: 1) restore natural fire regimes and reduce the risk of uncharacteristic wildfire 2) restore pattern and function of key landscape and stand elements that are outside of the natural and future range of variability such as old and large tree structures, old forest habitats, and patch sizes, 3) strategically locate restoration treatments so that future wildfires will behave in a more characteristic fashion and, 4) provide ecosystem services such as biomass for energy production and wood products.

The goal of the road restoration treatments is to improve the natural flow of water off forested landscapes. These treatments restore natural stream function by reducing human caused fine sediment delivery to streams, reconnecting floodplain and stream channel migration zones where possible, and minimizing harmful road/stream interactions. Road and trail management restoration treatments include: road closure, road decommissioning, road relocation, road stabilization, road surfacing, conversion of system roads to trails, bridging of motorized fords, fish passage barrier removal and replacement, trail relocation, and trail maintenance (drainage, hardening stream crossings) Road and trail related restoration treatments would begin in FY10, with implementation of new and on-going treatments continuing annually over the next decade. As well, proposed aquatic-related restoration treatments include: stream channel stabilization, LWD augmentation, and riparian planting to further contribute to the reduction of adverse impacts on sediment regimes, stream flow, and flood plain function.

Within the Tapash landscape, restoration treatments have, or are currently being applied on a combination of lands administered by the Forest Service, the Yakama Nation, Washington State (Department of Natural Resources and Department of Fish and Wildlife), and private lands (TNC). Previously implemented and on-going treatments include: commercial and pre-commercial thinning; under-burning of natural fuels; hand piling/machine piling and burning of activity fuels; mastication of activity fuels; biomass removal; road and trail-related treatments, and aquatic/fisheries restoration treatments. Aquatic/fisheries restoration treatments include: channel relocation, riparian revegetation, removing fish barriers, adding large woody debris and installing fish screens. Further, the Washington Department of Transportation and Federal Highways have invested significantly in the I-90 Corridor project with respect to restoration of fisheries and aquatic resources, and maintaining connectivity. Previously implemented treatments within this larger landscape compliment the treatments proposed on National Forest System lands. Vegetation treatments have been implemented which reduce canopy cover, remove small and medium size trees, reduce insect and disease risk, and reduce the potential for uncharacteristic wildfire across the landscape. The integration and juxtaposition of existing, on-going, and planned vegetation and aquatic treatments across ownerships moves the landscape toward a more restored and resilient condition, more typical of conditions found within the natural range of variability for these landscapes.

This proposal would utilize a diverse array of implementation mechanisms including standard contracts and/or stewardship contracts (IRTC and IRSC), Conservation Corps work crews, and agency force account work crews. At the present time, the Okanogan-Wenatchee National Forest (OWF) has the capability to quickly issue task orders on an existing Woody Biomass Service Contract. Additionally,



authority is pending for a current restoration project to be awarded as an IRTC- stewardship contract during the 4th quarter of FY10. We would also utilize force account crews to accomplish presale and project layout activities and to complete road related restoration work (“stormproofing”). The entire Naches RD pre-sale staff has been completely engaged in the development and implementation of the restoration strategy and proposed treatment prescriptions. This level of involvement increases the likelihood of successful project implementation; as the transition between planning and implementation is integrated and more likely to achieve the desired project goals and objectives.

Monitoring will be implemented as part of an adaptive management approach as summarized in the Okanogan-Wenatchee Forest Restoration Strategy. Information gained through monitoring will be used to validate the appropriateness of restoration prescriptions and provide insight into necessary adjustments should they be indicated. Objectives and performance measures for success have been derived from “SMART” (Specific, Measurable, Attainable, Reasonable, and Time Related) objectives developed as part of the on-going Mid-Naches Conservation Action Planning effort (Table 2). In each case, monitoring will address the question whether the strategy was fully implemented and did implementation of the prescribed treatment result in the intended outcome. Implementation monitoring will occur immediately following treatment implementation. Effectiveness and validation monitoring will occur as described below. Monitoring will occur and be reported annually. Annual reporting will consist of formal presentations made to the Forest Leadership Team and members of the Tapash Collaborative and the Provincial Advisory Committee.

Table 2: Key Monitoring Items for the Tapash Collaborative CFLR Proposal

Objective	Timing	Performance Measure
Increase proportion of dry and mesic forested landscape that is in FRCC 1 by 30% within 10 years.	-FY 20 FY30 -compared to baseline	-Number of acres of targeted forest treated -30% increase in FRCC 1.
Reduce the potential for uncharacteristic wildfire effects & fire suppression costs across the in 10 years.	-FY 20 -FY30 compared to baseline	-Number of acres of low severity wildfire (actual or modeled) and suppression costs compared to average
Development of desired species composition, structure, and spatial pattern; including the retention/restoration of old & large trees	From project completion to FY 20	-Species diversity and composition, number of clumps and gaps, numbers of old trees compared to pre-treatment condition
Restoration of habitat for key focal wildlife species to within the natural and future range of variability to contribute to the viability and recovery of these species.	FY 2015, 2020, 2025, 2030	-Acres of habitat restored
Reduce adverse effects on stream flows, sediment regime and flood plain attributed to increased road densities and/or road location function in priority HUC10/12 watersheds.	Strategically resurvey stream reaches associated with upcoming projects	-In-stream sediment monitoring -Hankin and Reeves stream surveys (i.e., substrate, instream width, riparian composition, large woody debris, pool/riffle ratios, and bank erosion
Supply existing, & attract new forest product processing infrastructure that facilitates ecologically based restoration & creates sustainable local employment.	Annually	-Tons of biomass sold, volume of saw logs relative to pre-restoration treatments



2. Ecological Context

The Tapash landscape restoration proposal is informed and driven by the Okanogan-Wenatchee National Forest Restoration Strategy (<http://fsweb.ow.ewz.r6.fs.fed.us/documents/20100312-for-restor-strat-intranet.pdf>). Restoration aims to enhance the resilience and sustainability of forests through treatment that incrementally return the ecosystem to a state that is within a historical range of conditions. Of the 1,629,959 acres included in the landscape proposal boundary, approximately 401,202 acres (25%) is comprised of dry and mesic forest vegetation. Eighty-six percent of the area is in need of aggressive restorative treatment. Historically, these landscapes were composed of low and mixed severity fire regimes, dominated by large, fire resistant tree species such as ponderosa pine, Douglas-fir, and western larch, distributed in a patchy mosaic across the landscape (Agee 1993, Hessburg and Agee 2003). Individual patches showed variation with respect to age and successional class distribution. Frequent fire maintained the species composition and structure of these communities. Over the past century, fire exclusion and forestry practices intended to maximize timber yield have altered the vegetation within this landscape dramatically, leading to increases in the abundance of grand fir, epidemic levels of insects and diseases, high tree densities, and high fuel accumulations. The increased biomass of mid-successional species and canopy layers has increased forest susceptibility to outbreaks of insects such as the western spruce budworm; mistletoes; bark beetles; and root and butt rot. Fire exclusion and past timber harvest have contributed to an increase in forest crown closure with a corresponding reduction in understory productivity and species diversity. Long-term grazing has further contributed to a reduction in the abundance and distribution of grasses and forbs associated with these communities. Changes in species composition have also resulted from establishment and spread of invasive and undesirable species. Wildlife habitats have been dramatically altered; they are more fragmented and less sustainable. Changes in species composition have been accompanied by changes in forest structure. The current landscape supports fewer old and large trees and smaller patch sizes of late-successional and old growth forest.

The restored landscape is one in which forest composition, structure, function, and pattern are within the inherent range of variability for the dry and mesic forest types. A restored landscape would be indicated by forest over- and understory composition consistent with that which would be characteristic of the specific plant association group. The landscape would include a mosaic of variable size patches and gaps with large diameter and old trees dominant over much of the landscape. Open canopy structure would compose the vast majority of the landscape with the occurrence of endemic levels of pathogens. Fuel loadings would be such that fire could function as a natural process on the landscape at intensities that are typical of that fire regime and condition class. The dry-mesic transition zone would be one in which characteristics of both forest types blend. Forest structure would include larger patches (including openings) than found in the dry forest type. Closed canopy stands would be more frequent, and large and old western larch and western white pine more dominant. The restored landscape would provide for the habitat needs of mesic forest dependent wildlife, such as the northern spotted owl. The canopy would be largely continuous with varying structure at the stand level but heavily favoring old forest, single and multistory structure. Fire would occur less frequently than in dry forests, with a mixture of fire severities.



The proposal specifically addresses insect and disease concerns through treatments that are prescribed based on the vulnerability of the current landscape, and its component stands, to the propagation of specific insects and diseases when compared with the reference condition (Hessburg et al. 1999). Vulnerability factors such as: site quality, host abundance, canopy structure, stand density, host age, patch vigor, and host patch connectivity are evaluated and site-specific prescriptions applied. In general, the objective of these prescriptions is to reduce tree density, particularly of susceptible species, and canopy closure; subsequently reducing the risk of insect and disease occurrences to endemic levels. Proposed treatments will facilitate stand structure, species composition and landscape distribution that will favor disease resistant species.

There are multiple mechanisms that facilitate the management of exotic invasive plant species across the Tapash landscape. The OWF is preparing a Forest-wide Invasive Species Management EIS which proposes implementation of an integrated weed management scenario (i.e., manual, mechanical, cultural, and chemical treatment methods) and incorporates an early detection/rapid response strategy to address new infestations. In addition, there will be continued implementation of the OWF Weed Management and Prevention Strategy and Best Management Practices (2002), and the Pacific Northwest Region Invasive Plant Program Record of Decision (2005). Treatment within the Tapash landscape will continue via appropriated, Title II, Joint Venture, and other funding mechanisms; as will implementation of cross ownership opportunities (Highway 12/State Route 410 CWMA, WDFW). Invasive species management will also continue to be consistent with state and county regulations and with the existing MOU with the noxious weed boards.

Initial development of this proposal was significantly informed by wildlife and aquatic resource needs. Wildlife habitat needs are established by determining the location and amount of habitat for focal wildlife species currently present within the landscape area and comparing that current amount and configuration to natural and future range of variability. Focal wildlife species were selected because they are either federally listed or identified as a Region 6 focal species. Further, the selected focal species are closely associated with forested habitats and their populations are influenced by changes to forest structure (USFS 2006, Gaines et al. in prep). From this comparison, habitat restoration priorities were determined and integrated with vegetation and fire flow departure priorities and incorporated into the restoration prescription.

Consistent with the final spotted owl recovery plan's (USFWS 2008) east-side strategy, the Tapash proposal identifies and maintains the highest-quality spotted owl habitat patches while actively managing the associated dry forest landscape to reduce the risk of habitat loss by uncharacteristic wildfire, diseases, and insects; ultimately increasing the resiliency and sustainability of spotted owl habitat supported in the local landscape. This proposal emphasizes the strategic placement of restoration treatments such as mechanical thinning and burning to decrease surface fuel loading and consequently, disrupt large fire growth and reduce fire behavior and severity. Further emphasis is placed on the development and retention of large snags and fire tolerant tree species; important components of spotted owl habitat. Incorporation of these elements into the treatment prescription is intended to improve habitat conditions and sustainability for spotted owls and other species including the northern goshawk.



The Tapash proposal also incorporates prescription elements found to be consistent with habitat restoration for other focal avian species such as: thinning from below followed by prescribed fire (Gaines et al. 2007, Lyons et al. 2008, Gaines et al. 2010); the retention of large-diameter trees and snags, particularly ponderosa pine, Douglas-fir, and western larch, which meet the requirements of multiple species of cavity excavators and have the longest residence times (Haggard and Gaines 2001, Lyons et al. 2008, Saab et al. 2007, Everett et al. 1999); and the arrangement of leave snags in patches and clumps (Saab and Dudley 1998, Haggard and Gaines 2001). Habitat improvement for deer and elk would also occur as a result of thinning and burning by way of stimulation of understory and a subsequent increase in the quality and quantity of forage available.

Proposed aquatic-related restoration treatments to maintain and improve water quality and watershed function include two treatment categories: channel stabilization and road related treatments. Initially, the proposal identifies and eliminates the most offending features by addressing that portion of the existing road and trail network that disproportionately negatively influences aquatic function. Secondly, the proposal addresses channel stabilization through riparian plantings and large woody debris augmentation. Prioritization was based on highest ecological priority for fish habitat, the most damaging roads within the priority habitat, and how best to mitigate the impacts. Proposed road and trail treatments include: road closure, decommissioning, relocation, stabilization, and surfacing; conversion of system roads to trails; bridging of motorized fords; fish passage barrier removal and replacement; and trail relocation and maintenance.

Climate change has been referred to as one of the more urgent matters facing natural resource managers (Kimbell 2008) and was ranked as one of the highest order threats in the Mid-Naches Conservation Action Planning process. The Tapash proposal incorporates several management adaptations from a recent Climate Change Case-Study conducted on the OWF (Gaines et al. in prep) and in doing so, addresses ecological adaptation at several scales. Ecological adaptations include: the use landscape level planning to identify the most effective restoration treatment areas that reduce fire flow, restore patch sizes, and sustain wildlife habitats (Finney 2004, Ager et al. 2007, Franklin et al. 2008); the use of landscape level planning to evaluate the interaction between hydrologic regimes and roads; the use of the historic and future range of variation to determine where treatments are needed to restore landscape pattern, functions, and processes (Hessburg et al. 2005, Gärtner et al. 2008); and matching treatment unit sizes with desired patch sizes determined from landscape level planning (Hessburg et al. 2005). At the project-scale adaptations include: the use of the range of historic and future variation to guide stand-level prescriptions of species composition, structure, and spatial pattern (Harrod et al. 1999, Franklin et al. 2008); the use of thinning to reduce biomass, provide more vigorous growing conditions and reduce vulnerability to uncharacteristic wildfire and epidemic insect outbreaks (Hessburg et al. 2005, Franklin et al. 2008); retention of the most fire tolerant tree species and size classes commensurate with the forest type (Harrod et al. 1999, Franklin et al. 2008); and the retention of old and large tree structure because they are the most difficult to replace and most resilient to disturbances (Harrod et al. 1999, Hessburg et al. 2005, Franklin et al. 2008). This proposal also incorporates adaptations specific to roads including: reducing the impacts of roads on water quality, quantity, and flow regimes (Binder et al. 2009); decoupling or removing roads to keep water on the landscape (Binder et al. 2009); and relocating roads at risk from increased peak flows (Woodsmith 2008).



3. Collaboration

The Tapash formed around a coalition of public, non-profit and tribal land managers organized under a Memorandum of Understanding between five cooperating agencies and NGO's. Established in 2006, The Nature Conservancy, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, the Okanogan-Wenatchee National Forest, and the Yakama Nation, have been working cooperatively to overcome the challenges created by intermixed land ownership and limited resources in central Washington. The organizational structure includes an Executive Board, steering, science, and technical committees, and implementation teams. The members of the collaborative have recognized the need to work together, across ownership boundaries, to ensure that lands are managed sustainably across the larger landscape. Using a process developed by The Nature Conservancy (Conservation Action Planning- CAP), scientists, managers and implementation staff from these groups and other interested parties have structured the scope and overall project vision to define desired ecological outcomes and clear strategies to identify and implement shared goals.

These goals include:

- The use of the best available science to actively manage for restoration of forest health.
- Natural plant community restoration and control of invasive weeds.
- Management of recreation use and access.
- Attracting new investments that demand forest restoration products.
- Ongoing land acquisition to mitigate increasing wildland urban interface (WUI) development and the associated increase cost of firefighting.

Four of our most successful collaborative efforts include: the Central Washington Landscape Analysis project, the Bald Mountain acquisition (10,240 acres); and the Tieton Canyon acquisition (200,000 acres) and associated Elderberry North cross-ownership (WDFW, WDNR, and USFS) prescribed burn (1,600 acres). We anticipate continuing implementation of these projects and other projects in FY11 and beyond.

Beginning in 2007, Tapash has held semi-annual summit meetings bringing in additional stakeholders to review and comment on Tapash current and proposed activities. These stakeholders include but are not limited to County Commissioners, Legislators, Congressional Staffers, area conservation groups, i.e. Audubon and Conservation NW, and local land owners. This summer Tapash is planning two tours including members of the groups to review Tapash restoration work, biomass utilization, infrastructure development and land acquisitions.

The Tapash has expanded its sphere of work from the forested lands in Yakima County to also include lands within Kittitas County. Over time, there will be an opportunity to move north to the forested lands in Chelan County. Refined methodologies and protocols will be shared between Tapash members, other stakeholders, and interested working groups as the restoration landscape increases and new partners come onboard.

The planning and monitoring of the landscape restoration will be done by cross disciplinary and cross stakeholder representatives which has been and is being established by cross stakeholder groups which were established in the Central Washington Landscape Analysis.



Other collaborative partners working with Tapash on the CFLR proposal and future work include the Yakima Basin Fish and Wildlife Recovery Board. The Board consists of representatives of the Yakama Nation and local governments in the Yakima River basin.

Additionally, the Forest is working with the Yakima Basin Fish and Wildlife recovery board with long-term instream sediment monitoring on the Little Naches, Rattlesnake, South Fork Tieton, Swauk Creek, and Teanaway River. The data set goes back to the 1980s and monitoring will continue to allow for adaptive management of the restoration activities effecting stream and riparian areas. Extensive Hankin and Reeves stream surveys have completed on USFS lands with the intent that we will, at a minimum, strategically resurvey those stream reaches associated with upcoming projects. Specific monitoring items would include data on substrate, instream width, riparian composition, large woody debris, pool/riffle ratios, and bank erosion. Both Ranger Districts also maintain a network of season long temperature recorders in key streams.

The proposed CFLR landscape lies in Washington's Kittitas and Yakima counties. Both counties have Community Wildfire Protection plans that have identified and prioritized wildland/urban interface areas where access, egress and adjacent forested lands are of concern. Working with the county plans, the Forest has incorporated high priority areas as part of the landscape restoration strategy. www.dnr.wa.gov/Publications/rp_burn_cwppyakima.pdf
www.dnr.wa.gov/Publications/rp_burn_cwppkittitas.pdf

The Tapash will continue collaborative efforts with the Forest and other partners established during the Tieton-Oak Creek and Mid-Naches Conservation Action planning efforts in monitoring both implementation and environmental outcomes of restoration projects on the landscape. Washington Departments of Natural Resources and Fish and Wildlife will continue to work with Okanogan-Wenatchee National Forest to monitor State Forest Health, Fire Protection and Water Quality Implementation plans. Third party monitoring by Tapash members will provide public assurance and trust.



4. Wildfire

On the Tapash landscape 401,202 acres are in the dry forest type, making up 25% of the total landscape. Our proposal plans on returning 50% of these acres back into ecological balance where fire plays its natural role. The estimated cost of all proposed treatments is \$50 million. Compare this to a 10 year average of 226,000 acres burned, at a cost of \$206 million to suppress. When these projects are completed the estimated suppression costs will be 50% of current expenditures, based on the ability of line officers to take advantage of fire playing a more natural role in the ecosystem.

Several major fuel types exist within the Tapash landscape, including mixed conifer forests, shrublands, grasslands, and oak woodlands. Because of this diversity, the Tapash Landscape can experience virtually any type of wildfire that can occur on the East Cascade slopes, from fast-spreading grass and brush fires to stand maintaining underburns, to stand destroying crown fire. Over the majority of the dry mixed conifer type, changes in species composition have been accompanied by structural changes in the amount and distribution of foliage and of dead or dying trees because of above-endemic levels of insects and disease. High tree density, particularly grand fir, and development of multiple canopy layers have lead to increased forest susceptibility to outbreaks of insects such as the western spruce budworm. The presence of western spruce budworm and other pathogens in epidemic levels is indicative of the conditions that can promote uncharacteristic stand replacement fire.

Treated areas have the potential to make significant impacts on wildfire behavior and overall fire patterns. However, it is unrealistic to consider treated areas as fire barriers as wildfires are expected to burn with low intensity and severity. In the short-term, wildfires may burn through, spot over, and/or burn around treatments, but as treatments accumulate over the Tapash Landscape, they have the potential to make a significant impact on wildfire behavior and patterns. Over time, reducing excessive fuel loads and structural complexity may allow the possibility for natural regimes of frequent, low-severity fire to once again prevail in some areas, thereby maintaining sustainable forest structures and further reducing the likelihood that stand-replacing wildfires will occur in the future.

As with the Okanogan-Wenatchee Forest Restoration strategy, use of the Ecosystem Management Decision Support (EMDS; Gärtner et al. 2008) model can help assess where treatments should be concentrated in order to disrupt fire flow (as modeled by FlamMap (Finney et al. 2007)) in order to achieve the greatest degree of fire risk reduction and other corollary benefits. The EMDS model is currently being utilized on the Naches Ranger District to not only plan and place restoration treatments in the context of the natural range of variability, but also preparing the landscape for a future range of variability adapted for climate change.

Restoration activities in the Tapash Landscape seek to reduce detrimental effects of uncharacteristic fire by reducing surface fuels, increasing the height to the live crown, decreasing crown density, and retaining or restoring large, fire tolerant trees. All of these principles would be realized to varying degrees on all land receiving treatment. The acres receiving full silvicultural treatment (commercial harvest, precommercial thinning, underburning) would gain the greatest benefit to all principles. The acres receiving fuels treatment (underburning) only, or precommercial thinning with fuels treatment would result in reduced surface fuel, increased height to live crown, and maintenance of large, fire resistant trees, which would promote largely surface fires. However, underburning and precommercial



thinning do not decrease crown density, which can promote crown fire under extreme weather conditions. In general, all treated areas will move the landscape its natural, and projected future range of variability. Restoration treatments that combine thinning with prescribed fire and that focus on a wide range of post-treatment conditions (including herbaceous vegetation, wildlife habitat, watershed benefits, and recreation) do the best job of reducing fire danger and improving forest health in the long-term. In addition, restoration treatments allow the use of low severity fire as an inexpensive management tool to maintain desired conditions.

Post-treatment stands can increase the potential for faster moving surface fires particularly if surface activity fuels are not treated. Thinning will likely increase understory vegetation cover and diversity providing more continuous surface fuels. In addition, tree thinning results in increases in surface wind, and increased heating and drying of surface fuels, which may promote higher rates of surface fire spread. However, combined thinning and burning treatments would reduce fire intensity and severity (fireline intensity and heat/unit area being two common measures) within stands and across landscapes. Potential for sustained crown fire would be drastically reduced in treated stands, by promoting predominantly surface and ground fire, with passive (single tree) torching and less frequent active (group or patch) torching. This more open structure, composed of fire dependant and resilient species, would offer suppression efforts a higher probability of success even if surface fire spread rates are increased. Fireline intensity would be in a range receptive to control by ground forces, fire fighting chemicals (retardants, suppressants, and surfactants) could be applied in lighter concentrations and/or would cover more surface area per unit applied, and constructed fireline would be lessened. The decrease in fire intensity (heat/unit area and residence time) would reduce or eliminate the need for burn area rehabilitation. The desired post-restoration dry forest condition would be one in which overstory mortality would be not significantly greater than 20 percent of a dry forest landscape.

Ecosystem processes and their frequency, distribution, and intensity must be retained or restored to allow ecosystems to self regulate. A goal of restoration treatments in the Tapash Landscape would be to allow fire to function as a natural process, within a historical and predicted future range of variability, and within its natural season (mid-summer through mid-fall). Prescribed fire will continue to be applied to the landscape as a tool to initiate, advance, or maintain restored landscapes. The need for restoration treatments coupled with community protection has been identified and incorporated into community wildfire protection plans whose boundaries fall within the Tapash Landscape. These include the Highways 410 and 12, Liberty, Swauk Basin, and Yakima County CWPP's.

Strategically focused and integrated restoration approaches are being planned that will get maximum benefits for a given fixed cost while minimizing unintended adverse effects. Tapash partners are focusing treatments in high priority landscapes while integrating aquatic, terrestrial, and socio-economic considerations to increase the probability of success of restoration while reducing wildfire cost. Fire suppression will always be a component of forest and range land management, especially where human life, private property, or unique resource values are threatened. A restored landscape alone may not lower suppression costs but gives line officers and fire managers the decision space to make these choices. As fire is allowed to function in its natural role as an ecosystem process, land managers will have the latitude to take a less aggressive suppression response over the majority of the landscape. This is the key to lowering suppression costs, and allows wildfire ignition to self-regulate the ecosystem and reduces maintenance cost.



5. Utilization

Stakeholders, partners, and industry are demanding more of the goods, services, and amenities provided by the forests of the Pacific Northwest, but the finiteness of the supply has become clear. Keystone to the Tapash proposal is the creation of a restoration derived supply of small logs and biomass that will attract local forest industry and energy infrastructure that will reduce haul costs, increase product value, and attract new capacity. Complex questions of biology, economics, social values, community life, and federal intervention must be considered. Improving forest restoration activities by using and creating markets for low-valued material and woody biomass removed from forest restoration activities on both public and private forestlands has long been an objective of the Tapash. The Forest Service and Yakama Nation are the largest producers of timber volume and woody biomass in Central Washington.

Over a ten year period, the Naches and Cle Elum Ranger Districts anticipate the harvest of 287 million board feet (mmbf) of small, medium, and a limited number of large diameter stems within the Tapash proposal boundary. Harvest is being applied as a tool to meet the purpose and need of restoring forest composition, structure, function, and pattern appropriate to the forest type, and within the natural and future range of variability (refer to the discussion on future range of variability in consideration of climate change in the **Wildfire** section). Timber harvest would generate >250,000 tons of woody biomass, excluding sawlogs. Biomass volume was determined using historic fuels inventories and Photo Series for Quantifying Forest Residues (PNW-52).

The Naches Ranger District has prototyped restoration oriented harvest prescriptions in the dry mixed conifer type with the objective of re-establishing patch size and reducing crown bulk density. These prescriptions are yielding up to 9,000 board feet per acre on highly departed stands, to 2,700 board feet per acre in stands that have been recently (within the past 15 years) treated with a traditional basal area type thinning that was not oriented to restoration of patch size. The quadratic mean diameter of harvested stems in these prescriptions tended slightly over 12 inches diameter breast height. Woody biomass produced on these sites is averaging over 8 tons per acre, utilizing the slash estimating techniques described in the paragraph above.

Much of any given project area in need of treatment is not accessible to ground-based or cable systems. These areas are often treated through prescribed fire only for economic reasons and/or because the construction of roads is not an environmentally acceptable consequence. The exclusive use of prescribed fire results in a less than optimal treatment (see discussion in the **Wildfire** section). A prescribed fire conducted at the intensity needed to reduce crown bulk density and establish patches results in the loss of forest product value. Helicopter logging is expensive, and the low product value versus operating cost most often disqualifies this tool. Members of the Tapash have identified the opportunity to supplement or subsidize helicopter logging to reach this otherwise inaccessible forest product. Since these stands are largely untouched in recent years (with the exception of fire suppression) we would expect the volume to tend toward the higher end as described in the paragraph above, but the mean quadratic diameter to drop to 10" dbh or less. Woody biomass would increase to a minimum of 15 tons per acre, and average near 25 tons per acre.



Despite concerns that timber harvest would not be attractive to purchasers when using a restoration prescription, these sales have been bid up when offered, even though the Naches community has no processing infrastructure in the immediate area. Prices have shown to be \$59 - \$60 per thousand board feet, even with haul distances exceeding 225 miles (Naches Ranger District boundary to La Grande, Oregon). Sixty-five dollars per thousand board feet was utilized to calculate forest product value in the tables in Criteria 7 to account for what most economists agree is a slowly recovering timber market.

Use of material is market dependent. When dimension prices are down, purchasers may deliver to pulp buyers, when dimension lumber prices are up, purchasers may deliver to a dimension lumber mill. A recent anomaly is the high value of clean chips. Value is high enough to warrant chipping of sawlog sized material (Orion Sale, Cle Elum Ranger District). Milling and chipping facilities are remote to the majority of the Tapash collaborative area tributary forest; if a local facility were constructed, a reduction of haul costs would substantially increase the bid premium on sales, allowing more stumpage receipts to trust fund collections, stewardship accounts, or returned to the federal treasury. Stewardship requires value on the sale or use of appropriated funding to cover the service contract work.



6. Investments

While difficult to guess at federal budget levels throughout the ten year analysis period of this proposal, estimates were made based on current budget per unit of measure, projected program of work, a sustainable delivery level of forest product, and non-federal funding in those areas where that funding seems reasonably secure. The Cle Elum and Naches Ranger Districts anticipate committing >\$9,800,000 to restoration efforts over the ten year period. An additional >\$3,000,000 is expected in partnership and in-kind services value. This commitment has the potential to produce >\$24,000,000 of forest product (both sawlog and biomass), for a rate of return of 188%. If IRTC or IRSC Stewardship Authorities are exercised, these receipts may be retained and returned for contract service work, resulting in more acres, roads, and in-stream structures restored and increasing employment opportunities.

Investments on the landscape associated with the proposal include funds acquired through a variety of non-federal organizations and cooperatives. Cooperators which continue to share cost with the Forest Service including the Upper Yakima Watershed Restoration Group, and the Resource Advisory Committee. Other groups which are contributing funding or in-kind services include local off highway vehicle organizations, Rocky Mountain Elk Foundation, the Mule Deer Foundation, the Wild Turkey Federation, and Kittitas County Department of Correction work crews. Non-federal capital investments include mills at White Swan WA, and the Bullfrog log clean chip facility in Roslyn, WA. The Roslyn chip facility is operating at 30% of capacity due to a shortage of supply. There is also interest from Vaugen Bros., Inc., a small log manufacturer, to establish a Hew Saw portable mill near Roslyn, WA, this facility is also in early stages of feasibility study which will require a 60 mmbf of 4.5" - 14" diameter material per year. Without a guaranteed supply of material, this investment is speculative. Construction of a biomass gasification facility is anticipated in Ellensburg, WA. This facility will supplement electric power to Central Washington University. The facility would have a dry biomass need of 20,000 tons per year to remain operational.

Other non-federal investors within the proposal landscape include the Yakama Nation who will implement approximately 20,000 acres of mechanical, 50,000 acres of prescribed fire, and 170,000 acres of harvest treatments over the decade for a total anticipated investment of \$105 million. There is also an anticipated public funding investment from Washington State Department of Natural Resources, Washington State Department of Fish and Wildlife, and Yakima Basin Fish and Wildlife Recovery Board of over \$5.5 million on state and private lands to remove fish passage barriers on over 100 miles of stream and forest treatments on over 61,000 acres. An additional \$6 million of investment is anticipated by these entities for lands outside the proposal landscape. Nearly \$1 million of investment are anticipated to be leveraged by Tapash and Nature Conservancy private fund raising for treatments and monitoring.

The Nature Conservancy is the recipient of a National Fire Plan grant for treatment of lands owned by them and the Washington State Department of Fish and Wildlife. Elderberry North applies treatments to a checkerboard Township, with the USFS managing every-other section. This 1,600 acre cross-boundary underburn was implemented as phase 1 of this project, with phase 2 in the planning phase. Phase 2 could include thinning projects on state and private land, possibly resulting in woody biomass availability. This will be followed by an approximately 6,000 acre cross boundary underburn. Land exchanges on the Naches Ranger District will make an additional Township available for similar projects.



Collaborative development by land management agencies (USFS, DNR, Yakama Nation) of forest resources, combined with a local processing facility, and short haul distances, will lead to an economy of scale, diversity of products, and higher product value. A synergistic affect is expected when resources are combined with an economic incentive for local processing. The ability to process forest products locally will lead to increased restoration capability. As returned receipts from forest products increase, stewardship authority will allow a greater number of acres to be treated with less reliance on appropriated or granted dollars. More acres will be treated at a lower cost per unit. Over time, with more forest products available, a specialization and trade economy is likely to develop, where a more efficient processing, trading, and manufacture will develop, leading to niche marketing, higher profit and more product value to offset restoration costs.

A collaborative management approach will assist in jobs being developed at all scales, these range from low capital investment, low skill restoration labor jobs; to high skill jobs requiring science, management, and engineering skills. There will be opportunities of use local knowledge and skills at Central Washington University to study new efficiencies in developing forest residue biomass for clean energy. A total of 40 jobs per \$1M of investment is expected from watershed and forest restoration investment, 12 jobs per mmbf of forest product extracted, and 1 job per 1,000 tons of biomass is anticipated.

Analysis of restoration activities on economics and job market was done using the Treatments for Restoration Economic Analysis Tool (TREAT). The outputs from TREAT show that on the average, Forest Service treatments within the Tapash landscape would result in 376 part and full-time jobs; harvest and processing of commercial forest products will produce 282 jobs; 53 jobs would be in other project activities and; 41 jobs would be involved in Forest Service implementation and monitoring. The \$4.9 million annual project investment would result in \$16.5 million (2009 dollars) contributed to labor, as modeled by TREAT.

Employment and training opportunities for non-profits are likely. Examples of employment opportunities may include monitoring vegetation response, weed populations, wildlife habitat use, and range condition/trend. Non-profit collaborators may include the Audubon Society, Conservation Districts, Central Washington University Natural Resource students, Rocky Mountain Elk Foundation, The Nature Conservancy, and Conservation Northwest.

Youth employment/forest worker opportunities are expected through programs such as Job Corps or Northwest Youth Corps, focusing on thinning, handpiling, watershed restoration, and other manual labor positions. Programs such as this can spark early interest in careers in forestry, biology, and private (contract) business.

Local employment or training opportunities are likely to be provided for small businesses. These include watershed restoration projects, in-stream wood projects, special forest products, heavy equipment suppliers and operators, and service contractors. There will be opportunities to expand the work tours of seasonal Forest Service crews, providing skilled labor where needed and reducing Forest Service unemployment costs



7. Funding Estimate

Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2010 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2010 Funding Type	Dollars/Value Planned
FY 2010 Funding for Implementation	\$1,550,213
FY 2010 Funding for Monitoring	\$81,590
1. USFS Appropriated Funds	\$392,803
2. USFS Permanent & Trust Funds	\$0
3. Partnership Funds	\$1,212,000
4. Partnership In-Kind Services Value	\$5,000
5. Estimated Forest Product Value	\$22,000
6. Other (specify)	\$0
FY 2010 Total (total of 1-6 above for matching CFLRP request)	\$1,631,803
FY 2010 CFLRP request (must be equal to or less than above total)	\$1,631,803
Funding off NFS lands associated with proposal in FY 2010 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2010 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$773,428
Private Funding	\$67,500

11,680 acres treated

5.5 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail
 10 barriers to fish passage removed and/or replaced



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2011 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2011 Funding Type	Dollars/Value Planned
FY 2011 Funding for Implementation	\$2,344,148
FY 2011 Funding for Monitoring	\$123,376
1. USFS Appropriated Funds	\$398,670
2. USFS Permanent & Trust Funds	\$454,131
3. Partnership Funds	\$15,000
4. Partnership In-Kind Services Value	\$56,000
5. Estimated Forest Product Value	\$1,543,723
6. Other (specify)	\$0
FY 2011 Total (total of 1-6 above for matching CFLRP request)	\$2,467,524
FY 2011 CFLRP request (must be equal to or less than above total)	\$2,467,524
Funding off NFS lands associated with proposal in FY 2011 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2011 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$833,406
Private Funding	\$209,000

26,631 acres treated

33.1 mmbf harvested

13,463 tons of biomass available

51 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail

2 barrier to fish passage removed and/or replaced



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2012 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2012 Funding Type	Dollars/Value Planned
FY 2012 Funding for Implementation	\$2,323,696
FY 2012 Funding for Monitoring	\$122,300
1. USFS Appropriated Funds	\$158,621
2. USFS Permanent & Trust Funds	\$192,379
3. Partnership Funds	\$40,000
4. Partnership In-Kind Services Value	\$60,000
5. Estimated Forest Product Value	\$1,994,996
6. Other (specify)	\$0
FY 2012 Total (total of 1-6 above for matching CFLRP request)	\$2,445,996
FY 2012 CFLRP request (must be equal to or less than above total)	\$2,445,525
Funding off NFS lands associated with proposal in FY 2012 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2012 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$1,328,332
Private Funding	\$350,000

21,607 acres treated

24.4 mmbf harvested

19,476 tons of biomass available

82.5 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2013 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2013 Funding Type	Dollars/Value Planned
FY 2013 Funding for Implementation	\$1,813,121
FY 2013 Funding for Monitoring	\$95,427
1. USFS Appropriated Funds	\$619,000
2. USFS Permanent & Trust Funds	\$284,524
3. Partnership Funds	\$40,000
4. Partnership In-Kind Services Value	\$33,000
5. Estimated Forest Product Value	\$932,024
6. Other (specify)	\$0
FY 2013 Total (total of 1-6 above for matching CFLRP request)	\$1,908,548
FY 2013 CFLRP request (must be equal to or less than above total)	\$1,908,548
Funding off NFS lands associated with proposal in FY 2013 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2013 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$575,770
Private Funding	\$80,000

24,092 acres treated

34.0 mmbf harvested

4,144 tons of biomass available

55 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail

4 barrier to fish passage removed and/or replaced



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2014 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2014 Funding Type	Dollars/Value Planned
FY 2014 Funding for Implementation	\$4,322,356
FY 2014 Funding for Monitoring	\$227,492
1. USFS Appropriated Funds	\$1,136,600
2. USFS Permanent & Trust Funds	\$72,924
3. Partnership Funds	\$1,040,000
4. Partnership In-Kind Services Value	\$35,000
5. Estimated Forest Product Value	\$2,265,324
6. Other (specify)	\$0
FY 2014 Total (total of 1-6 above for matching CFLRP request)	\$4,492,396
FY 2014 CFLRP request (must be equal to or less than above total)	\$2,299,708
Funding off NFS lands associated with proposal in FY 2014 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2014 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$528,554
Private Funding	\$70,000

18,274 acres treated

27.6 mmbf harvested

22,444 tons of biomass available

73 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2015 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2015 Funding Type	Dollars/Value Planned
FY 2015 Funding for Implementation	\$3,113,812
FY 2015 Funding for Monitoring	\$163,884
1. USFS Appropriated Funds	\$800,000
2. USFS Permanent & Trust Funds	\$72,924
3. Partnership Funds	\$90,000
4. Partnership In-Kind Services Value	\$30,000
5. Estimated Forest Product Value	\$2,284,773
6. Other (specify)	\$0
FY 2015 Total (total of 1-6 above for matching CFLRP request)	\$3,277,697
FY 2015 CFLRP request (must be equal to or less than above total)	\$414,187 ²
Funding off NFS lands associated with proposal in FY 2015 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2015 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$592,424
Private Funding	\$60,000

11,236³ acres treated

28.2 mmbf harvested

21,513 tons of biomass available

55 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail

1 barrier to fish passage removed and/or replaced

² As return receipts from Stewardship IRTC/IRSC are collected and accumulated, restoration treatments will pay their own way, reducing reliance on CFLRP grants. Note this as an overall trend in years 2015 through 2020.

³ Accomplished acres will decline as more complex landscapes are treated, requiring more intense management. Larger volumes and higher tonnages of biomass will be removed, and treatment cost per acre will increase.



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2016 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2016 Funding Type	Dollars/Value Planned
FY 2016 Funding for Implementation	\$3,624,155
FY 2016 Funding for Monitoring	\$190,745
1. USFS Appropriated Funds	\$800,000
2. USFS Permanent & Trust Funds	\$49,827
3. Partnership Funds	\$65,000
4. Partnership In-Kind Services Value	\$26,000
5. Estimated Forest Product Value	\$2,874,073
6. Other (specify)	\$0
FY 2016 Total (total of 1-6 above for matching CFLRP request)	\$3,814,900
FY 2016 CFLRP request (must be equal to or less than above total)	\$0
Funding off NFS lands associated with proposal in FY 2016 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2016 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$263,364
Private Funding	\$25,000

10,097 acres treated

34.1 mmbf harvested

31,313 tons of biomass available

95 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2017 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2017 Funding Type	Dollars/Value Planned
FY 2017 Funding for Implementation	\$3,973,368
FY 2017 Funding for Monitoring	\$209,125
1. USFS Appropriated Funds	\$800,000
2. USFS Permanent & Trust Funds	\$300,000
3. Partnership Funds	\$40,000
4. Partnership In-Kind Services Value	\$26,000
5. Estimated Forest Product Value	\$3,016,493
6. Other (specify)	\$0
FY 2017 Total (total of 1-6 above for matching CFLRP request)	\$4,182,493
FY 2017 CFLRP request (must be equal to or less than above total)	\$0
Funding off NFS lands associated with proposal in FY 2017 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2017 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$163,562
Private Funding	\$25,000

13,000 acres treated

40.0 mmbf harvested

19,833 tons of biomass available

95 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2018 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2018 Funding Type	Dollars/Value Planned
FY 2018 Funding for Implementation	\$5,437,309
FY 2018 Funding for Monitoring	\$286,174
1. USFS Appropriated Funds	\$800,000
2. USFS Permanent & Trust Funds	\$300,000
3. Partnership Funds	\$40,000
4. Partnership In-Kind Services Value	\$23,000
5. Estimated Forest Product Value	\$4,560,483
6. Other (specify)	\$0
FY 2018 Total (total of 1-6 above for matching CFLRP request)	\$5,723,483
FY 2018 CFLRP request (must be equal to or less than above total)	\$0
Funding off NFS lands associated with proposal in FY 2018 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2018 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$154,196
Private Funding	\$25,000

12,000 acres treated

43.5 mmbf harvested

82,523 tons of biomass available

63 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2019 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2019 Funding Type	Dollars/Value Planned
FY 2019 Funding for Implementation	\$3,268,389
FY 2019 Funding for Monitoring	\$172,020
1. USFS Appropriated Funds	\$800,000
2. USFS Permanent & Trust Funds	\$300,000
3. Partnership Funds	\$40,000
4. Partnership In-Kind Services Value	\$23,000
5. Estimated Forest Product Value	\$2,277,409
6. Other (specify)	\$0
FY 2019 Total (total of 1-6 above for matching CFLRP request)	\$3,440,409
FY 2019 CFLRP request (must be equal to or less than above total)	\$676,942
Funding off NFS lands associated with proposal in FY 2019 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2019 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$254,032
Private Funding	\$25,000

10,500 acres treated

27.5 mmbf harvested

23,329 tons of biomass available

55 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2020 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2020 Funding Type	Dollars/Value Planned
FY 2020 Funding for Implementation	\$3,252,049
FY 2020 Funding for Monitoring	\$171,160
1. USFS Appropriated Funds	\$800,000
2. USFS Permanent & Trust Funds	\$300,000
3. Partnership Funds	\$40,000
4. Partnership In-Kind Services Value	\$23,000
5. Estimated Forest Product Value	\$2,260,209
6. Other (specify)	\$0
FY 2020 Total (total of 1-6 above for matching CFLRP request)	\$3,423,209
FY 2020 CFLRP request (must be equal to or less than above total)	\$166,791
Funding off NFS lands associated with proposal in FY 2020 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2020 Funding Type	Dollars Planned
Yakama Nation	\$9,527,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$86,154
Private Funding	\$25,000

9,500 acres treated
 29.4 mmbf harvested
 16,629 tons of biomass available



Funds to be used on NFS lands for ecological restoration treatments and monitoring that would be available in FY 2010-2020 to match funding from the Collaborative Forested Landscape Restoration Fund	
Fiscal Year 2010-2020 Funding Type	Dollars/Value Planned
FY 2010-2020 Funding for Implementation	\$35,022,616
FY 2010-2020 Funding for Monitoring	\$1,843,293
1. USFS Appropriated Funds	\$7,505,694
2. USFS Permanent & Trust Funds	\$2,326,709
3. Partnership Funds	\$2,662,000
4. Partnership In-Kind Services Value	\$340,000
5. Estimated Forest Product Value	\$24,009,507
6. Other (specify)	\$0
FY 2010-2020 Total (total of 1-6 above for matching CFLRP request)	\$36,844,312
FY 2010-2020 CFLRP request (must be equal to or less than above total)	\$12,011,028
Funding off NFS lands associated with proposal in FY 2010-2020 (does not count toward funding match from the Collaborative Forested Landscape Restoration Fund)	
Fiscal Year 2010-2020 Funding Type	Dollars Planned
Yakama Nation	\$104,802,500
USDI BLM Funds	\$0
USDI (other) Funds	\$0
Other Public Funding	\$5,553,218
Private Funding	\$961,500

168,617 acres treated

321.8 mmbf harvested

254,667 tons of biomass available

590 miles of road/trail closure, decommissioning, relocation, stabilization, surfacing, bridging, or conversion to trail

17 barriers to fish passage removed and/or replaced



8. Funding Plan

FY	Regional Funding ⁴	Other Funding ⁵	CFLRP Funding ⁶	Total
2010	\$1,699,000	\$1,217,000	\$2,266,000	\$5,182,000
2011	\$1,943,000	\$1,615,000	\$2,908,000	\$6,466,000
2012	\$1,918,000	\$2,095,000	\$3,363,000	\$7,376,000
2013	\$2,010,000	\$1,005,000	\$2,365,000	\$5,380,000
2014	\$1,798,000	\$3,340,000	\$4,488,000	\$9,626,000
2015	\$1,798,000	\$2,405,000	\$3,553,000	\$7,756,000
2016	\$1,775,000	\$2,965,000	\$4,090,000	\$8,830,000
2017	\$2,025,000	\$3,082,000	\$4,457,000	\$9,564,000
2018	\$2,025,000	\$4,623,000	\$5,998,000	\$12,646,000
2019	\$2,025,000	\$2,340,000	\$3,715,000	\$8,080,000
2020	\$2,025,000	\$2,323,000	\$3,698,000	\$8,046,000
Total	\$21,041,000	\$27,010,000	\$40,901,000	\$88,952,000

The Regional Forester has been using regional funds for planning, implementation, and monitoring of ecological restoration treatments on NFS lands in the Tapash area since 2006. The Regional Forester expects to continue funding at levels similar to those summarized above. In addition, the Regional Forester will be providing approximately \$650,000 per year for planning activities in support of these projects. The amount listed under the CFLRP funding is the maximum amount that would be requested in that fiscal year. The expectation is that Tapash landscape area will become self sustaining and the need for these funds would be reduced significantly.

A ten-year stewardship contract will be in place for the Tapash landscape starting in 2011. FY-2010 and FY-2011 CFLRP funds will be immediately obligated to an existing woody biomass contract via task orders, and work can begin at once.

Multiparty monitoring has been underway in the Tapash landscape since 2006 as described in Section 3. All parties are committed to the effort and have obtained needed funding from a variety of sources. It is expected that this monitoring will continue well beyond the next 15 years.

⁴ Planning cost \$650,000 per year

⁵ Other funding includes partnerships, product value, etc.

⁶ Maximum amount that would be matched



Other - 1

9. USDI Funding- N/A

10. Other Funding- N/A

11. Maps - attached



12. Landscape Restoration

The Okanogan-Wenatchee National Forest Restoration Strategy may be accessed at:

http://fsweb_ow.ewz.r6.fs.fed.us/documents/20100312-for-restor-strat-intranet.pdf