Description of the Proposed Action
for the

Huckleberry Landscape Restoration Project

Council Ranger District
Payette National Forest

Adams County, Idaho

September, 2016

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Introduction

The proposed Huckleberry Landscape Restoration Project is located 15 miles west of New Meadows, Idaho in the Management Area (MA) 2 (Snake River) portion of Adams County. Proposed treatments include timber harvest, thinning, prescribed fire, road treatments and road decommissioning, and recreation improvements. The Huckleberry project area is approximately 67,076 acres within the Council Ranger District on the Payette National Forest (PNF). The project area falls within the Brownlee Reservoir Subbasin, and the Indian, Lick, and Bear Creek subwatersheds. The project area includes parts of the Indian Creek and Rapid River Inventoried Roadless Areas (IRAs) as well as the Bear Creek Research Natural Area (RNA).

This project is based in part on recommendations provided by the Payette Forest Coalition (PFC) to the Forest Supervisor on August 18, 2016. The Payette Forest Coalition is a collaborative group formed under the *Omnibus Public Land Management Act of 2009* (PL 111-11) and whose recommendations are structured to meet the intent of the *Collaborative Forest Landscape Restoration Act* (CFLRA). The PFC members represent stakeholders from a broad range of interests including; conservation groups, timber industry, recreational groups, and state and county government. The purpose of the Collaborative Forest Landscape Restoration Program (CFLRP) is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes.

Purpose and Need

The ***purpose*** of the Huckleberry Landscape Restoration Project is to:

- Move vegetation toward the desired conditions defined in the Forest Plan and the most recent science addressing restoration and management of wildlife habitat, with an emphasis on:
  - Improving habitat for specific wildlife species of concern such as the Endangered Species Act (ESA)-listed northern Idaho ground squirrel (NIDGS) and species dependent on dry coniferous forests (*e.g*. white-headed woodpecker), while maintaining habitat for other Forest sensitive and ESA-listed species;
  - Maintaining and promoting large tree forest structure, early seral species composition (*e.g.* example aspen, western larch, ponderosa pine, and Douglas-fir) and forest resiliency;
  - Reducing the risk of uncharacteristic and undesirable wildland fire, with an emphasis on restoring and maintaining desirable plant community attributes including fuel levels, fire regimes, and other ecological processes.
  - Moving forest stands toward desired conditions as described in the Forest Plan by returning fire to the ecosystem; promoting the development of large tree forest structures mixed with a mosaic of size classes; and improving growth, species composition, and resiliency to insects, disease, and fire.

- Support the development of fire-adapted rural communities.
  - Creating conditions that provide firefighters a higher probability of successfully suppressing fire in the wildland urban interface by reducing potential fire behavior near values at risk (*e.g*., homes, communication towers, and power lines) and primary ingress/egress routes, essential to

firefighter access and the public.

  - Creating conditions where rural communities are less reliant on suppression forces.

- Move all subwatersheds within the project area toward the desired conditions for soil, water, riparian, and aquatic resources (SWRA) as described in the Forest Plan and the Watershed Condition Framework (WCF) (USDA 2011) by:
  - Reducing overall road density, road-related accelerated sediment, and other road related impacts across the project area; restoring riparian vegetation and floodplain function.
  - Restoring fish habitat connectivity across the project area, especially in streams occupied by ESA Listed bull trout, (*Salvelinus confluentus*) and in or adjacent to bull trout Critical Habitat.
- Manage recreation use with an emphasis on hardening (where needed) dispersed recreation sites for resource improvement, and improving existing trail opportunities.
- Contribute to the economic vitality of the communities adjacent to the Payette National Forest.

The ***need*** for the project is based on the difference between the existing and desired conditions. These differences include:

- Less large tree size class than desired and higher canopy cover;
- Fewer early seral species (*i.e.* ponderosa pine and western larch);
- Fewer fire resilient species than desired;
- Increase in ground, surface, and canopy fuels;
- Less than desired watershed function and integrity.

The desired conditions for this project are based upon the Payette National Forest Plan (USDA Forest Service 2003), and the Watershed Condition Framework (USDA Forest Service 2011).

Proposed Action

Vegetative Treatments

Vegetative treatments include: *Mechanical Vegetative Treatments*, *Prescribed Fire*, and *Associated Actions*.

Proposed activities were developed utilizing a combination of aerial photo interpretation and field reconnaissance. Layout of exact boundaries and treatment types would be determined based upon on-the-ground surveys and vegetative conditions within each stand. Based on project design features and the intent of the proposed treatments, it is anticipated that ground verification may result in a reduction of commercial treatments and a resultant increase in non-commercial treatments. The reduction in acreage from proposed to the expected implementation acreages are based on the fact that ground verification of RCAs, existing conditions, and other factors will preclude us from treating some of the proposed areas.

Vegetative Treatments

The Forest Service proposes approximately 42,600 acres of vegetative treatments in the project area. This acreage includes the treatments designed to benefit Northern Idaho Ground Squirrels (NIDGS) and treatments within Riparian Conservation Areas (RCAs). Of the acres proposed for vegetative treatment, 1,400 acres are within RCAs. Approximately 9,000 acres are in areas designed to mitigate fire risk to values at risk.

Commercial Treatments

Commercial Vegetative Treatments – approximately 23,800 acres.

The Forest Service proposes to treat up to 23,800 acres with commercial harvests (a combination of Free Thin, Free Thin–Patch Cut-Selection Harvest, Aspen Restoration, and Mature Plantation Harvest). Combined commercial and non-commercial vegetation treatments include up to 11,800 acres of meadow restoration, 1,500 acres Restoration of Low Density Timber Stands and 600 acres of Whitebark pine restoration. These acreages includes treatments designed for and within RCAs. Approximately, 1,400 acres are commercial treatments (as described below) within RCAs.

Stands would be thinned through commercial logging. Harvested trees would generally be removed with the limbs and tops attached. The limbs and tops would be utilized as biomass, or other products, where practical and/or could be redistributed in the unit to promote forest stand nutrition Where appropriate and needed, sapling sized trees would be cut to reduce ladder fuels and promote desired advanced regeneration where necessary. Following harvest, these stands could be underburned as described in the prescribed fire section below.

Commercial thin-free thin (CT-FT) - 14,600 acres. Free thinning would allow flexibility to use different thinning methods for varying stand conditions and objectives. For this project, free thinning would be accomplished primarily by low thinning (removing trees from the lower crown classes) with some crown thinning (removing trees from the dominant and co-dominant crown classes) and occasionally sanitation cutting to improve stand health by reducing the anticipated spread of insects or disease.

These treatments would generally be completed in forested areas dominated by mature, vigorous ponderosa pine, Douglas-fir and/or western larch (*i.e*. - PVG 1, 2, 5 and portions of PVG 6 dominated by early seral species) with canopy closures greater than 35 percent.

The purpose of Commercial thin-free thin treatments would be to:

- Maintain and promote large tree forest structure while restoring the desired species composition, and stand densities;
- Promote forest health, reduce competition and improve growth rates for remaining trees;
- Improve habitat for wildlife species that require large tree and old forest stands with low to moderate canopy cover;
- Enhance NIDGS habitat in priority areas;
- Promote regeneration of desired tree species in areas that are conducive to uneven-aged silviculture systems;
- Reduce potential for crown fire spread given a wildland fire.

Following treatment, these stands would be a mosaic of thinned areas, clumps of trees, and small openings. The average canopy closure in these stands after harvest and underburn operations would be between 25 and 45 percent. Portions of stands with natural openings and heavily thinned areas would have less canopy closure, perhaps as low as 10 percent. These openings would eventually develop more canopy closure where seedlings establish and grow.

Regeneration Treatments (REGEN) – up to 6,700 acres. This treatment would be implemented primarily in relatively cool, moist grand fir, subalpine fir and lodgepole forest types (*i.e.* - PVGs 5, 6, 7, 9, 10, and 11) that have evidence (*i.e*., - relic early seral trees, stumps, snags, etc.) of previously having had an aspen, ponderosa pine, western larch and/or Douglas-fir component. In some cases PVG 1, 2, and 5 may be treated with REGEN. This treatment would occur in stands that still have a component of early seral species (*i.e.,* – 25 to 75 percent of the desired amounts) but not enough to free thin throughout and still leave the desired species composition.

Treatment Intent:

- Re-establish early seral species in areas where they have departed from the desired conditions.
- Establish varying patch sizes consistent with spatial patterns created by historic fire regimes. Retaining portions of stands that historically would not have been dominated by early seral species as skips. Skips are defined as portions of units not treated mechanically (Franklin *et. al.* 2013). Skips would not generally exceed 30 percent of a stand.

Implementation of these treatments would allow for regeneration (*e.g*., patch cut with reserves or selection harvest) in patches ranging from three to ten acres in size, generally on less than 50 percent of a stand. In regenerated areas (patches), approximately four to twelve trees per acre would be retained as reserve trees. The stand would be either naturally regenerated or planted after treatment. Lodgepole pine stands will only be naturally regenerated.

Reserve tree preference would be legacy trees, replacement legacy trees, high value wildlife trees (*i.e.* cavities, broken tops with structure for nesting), dominant non-serals and vigorous serals in any crown class. Artificial regeneration (planting trees) would be utilized in areas (excluding lodgepole pine areas intended for lodgepole regeneration) where the desired species composition would not be expected to be met with natural regeneration.

In portions of stands with an early seral component still remaining, free thinning or modified shelterwood would be implemented. Portions of each stand not meeting the criteria for patch cuts, modified shelterwood, selection or free thinning would not receive commercial treatment during this entry.

Aspen Conifer Removal Treatment – up to 500 acres. This treatment would be implemented in relatively cool, moist grand fir, subalpine fir and lodgepole forest types (*i.e*. - PVGs 6, 7, 9, 10, and 11) that have evidence (*i.e*., - relic early seral trees, stumps, snags, *etc*.) of previously having a dominant aspen overstory. The treatment would occur in stands that still have a dominant component of aspen present with canopy cover greater than 35 percent.

Treatment Intent:

Re-establish Aspen where they have departed from desired conditions. Aspen restoration conifer overstory removal would remove all conifers except legacy ponderosa pine/western larch and legacy like Douglas-fir. Conifers within 100 feet of the south and west edges of the aspen stands and within 50 feet on the north and east edges of the aspen stands would be removed. Whole tree yarding would be used to

limit slash concentrations within the aspen stands. Excessive slash would be hand piled and burned. To initiate suckering of the root system, units would be burned; additionally, aspen may, in limited cases, be girdled or felled when other treatment options have failed.

In areas adjacent to aspen clones, establish varying patch sizes and densities (using FT-PC-SH treatments) consistent with spatial patterns created by historic fire regimes., retaining portions of stands that historically would not have been dominated by early seral species as skips.

- To ensure that aspen are restored in riparian areas both mechanical (including harvesting, and skidding) and hand treatments (including girdling, non-commercial thinning, and felling conifer trees) would occur within the RCA boundaries. Machine or hand piling would occur outside of the RCA. In some locations near seeps and springs fencing may be needed and would be determined on a site by site basis.
- To initiate suckering prescribed burning would be used following mechanical or hand treatments.

Commercial Thin / Mature Plantations (CT-MP) – 2,000 acres. This treatment would be applied to stands that were artificially regenerated (plantations). These stands are typically greater than 30 years in age and were planted predominately with ponderosa pine, Douglas-fir, and/or western larch. These mature plantations contain commercial trees with an average diameter at breast height (DBH) greater than eight inches and would average approximately 70 to 80 trees per acre (20-30 foot spacing) after thinning. Thinning would be completed to create stands with variable densities and to promote a mix of desired species. Thinned material (slash) would be lopped and scattered, mechanically removed, hand piled, machine piled, and/or broadcast burned to reduce fuel loading.

Restoration treatments in stands with Low Densities – up to 1,500 acres. These stands typically have stocking rates not conducive to commercial harvest; however, in many cases there are restoration needs in overstocked forested pockets. In these stands there is in an early seral species component that is being affected by increased ladder fuels and insect/disease issues. Both thinning (commercial and non-commercial treatments) and prescribed fire treatments are proposed in timber stands with lower densities.

Treatment Intent:

- Maintain legacy and legacy-like trees while reducing stand densities and ladder fuels;
- Restore natural fire disturbance regime to improve understory plant diversity and vigor, and provide habitat for native species;
- Move the project area toward a pre-fire suppression vegetative condition related to stand density, tree size class, and species composition to enable the reintroduction of fire into a fire adapted ecosystem and;
- Promote resiliency and reduce competition for remaining trees.

Meadow Treatments (wet and dry) – up to 11,800 acres. Both thinning (commercial and non-commercial treatments) and prescribed fire treatments are proposed in wet and dry meadows. This treatment addresses Objective 0234 in the Snake River Management Area section of the Forest Plan, which provides direction to, “Maintain and promote native grasses and aspen where they occur…”. Approximately, 10,000 acres are considered non-commercial treatments and 1,800 acres, approximately 10% of the area is forested and would be considered commercial treatment.

Wet Meadow Treatment – Wet meadows within the project area have higher tree densities, reduced riparian vegetation, and reduced water tables, which is primarily due to conifer encroachment. The preferred approach is to treat wet meadows in one entry using a combination of mechanical treatment or hand treatment followed by prescribed fire. In some locations near seeps and springs fencing may be needed and would be determined on a site by site basis.

Treatment Intent:

- Restore physical (hydrological) and biological (terrestrial and aquatic diversity and abundance), and ecological meadow processes (evapotranspiration) and functions (flow dispersal, ground water recharge, and sediment retention) that are appropriate for the current climate regime and comparable to reference conditions.
- Restore natural fire disturbance regime in wet meadows to enhance riparian habitat for native riparian-dependent species, increase meadow acreage, improve plant diversity and vigor, provide habitat for native species, increase water availability for wetland species, and provide wetter conditions for a longer duration each year.
- Provide diverse wildlife habitat for native riparian-dependent species, which is currently limited within the Huckleberry project area due to past land management activities.

Dry Meadow Treatment – Within the dry meadow complexes there is an encroachment of young conifers primarily along the edges as well as a decadency of upland shrubs. Treatment of encroaching conifers include a combination of mechanical treatment, hand felling, lop and scatter or hand piling followed by burning; while the remaining meadow complex would be treated with prescribed fire.

Treatment Intent:

- Restore natural fire disturbance regime in dry meadows to enhance upland meadow species, increase meadow acreage, improve plant diversity and vigor, and provide habitat for native species.
- Move the project area toward a pre-fire suppression vegetative condition related to stand density, tree size class, and species composition to enable the reintroduction of fire into a fire adapted ecosystem.

Non-Commercial Treatments

Non-Commercial Thinning (NCT) – approximately 42,500 acres. Non-commercial thinning would be completed in areas of commercial harvest as well as outside of commercial harvest. This would consist of trees generally less than ten inches DBH and include plantations. NCT would be completed to improve wildlife habitat, increase growth rates and tree vigor, improve stand resiliency to natural disturbance, reduce density-related competition, reduce potential fire behavior and fire effects given a wildland fire.

Plantations targeted (6,100 acres) for NCT are generally less than 30 years old. Post treatment, these stands would retain approximately 80 to 120 trees per acre. Thinning would favor early seral species but would retain a mixture of species and variable densities depending upon site specific objectives. Where reserve trees within plantations receiving this treatment are causing forest health problems (primarily due to mistletoe) trees may be killed by girdling.

Non-commercial thinning treatments within the outer portion of RCAs are proposed with specific project design features to ensure that activities do not degrade or retard soil, water, riparian, or aquatic conditions.

Associated Actions

A number of activities associated with implementing these vegetative and fuel treatments are necessary. These include:

Road Maintenance and Use - Road maintenance may include blading, installation of drainage features (*i.e*. – rolling dips), hardening soft spots (*i.e.* using pit run), improving water passage (*i.e*. – culverts), realignment of small segments of roads to minimize impacts to resources, brushing out roads to improve visibility/safety, *etc*.

Temporary roads - Both planned and incidental temporary roads would be used and decommissioned after project implementation. Planned temporary roads are defined as routes identified during the planning process and depicted on project maps as such. Incidental temporary roads are roads that are needed to complete vegetative treatments but cannot yet be identified due to the level of site specificity necessary. Incidental temporary roads would require approval by a hydrologist, fisheries biologist, wildlife biologist, or archaeologist prior to construction.

Rock Pits – Existing and proposed new rock pits would be utilized within the project area in order to provide road resurfacing gravel, pit-run, and/or riprap . Use and development of these rock sources will be analyzed through this NEPA process.

Harvest Systems - Merchantable trees would typically be cut with feller-bunchers on slopes less than 45 percent or by personnel with chainsaws on slopes greater than 45 percent. Harvest systems may include ground based, skyline, and helicopter. Generally, ground based systems (tractor, jammer, *etc*.) would be used on slopes less than 45 percent slope where road access is available, skyline systems would be used on slopes greater than 45 percent where road access is available, and helicopter systems would be used where ground based or skyline systems are not feasible. Existing skid trails would be reused when practical and new skid trails would be authorized where necessary. All skid trails would be fully obliterated and re-contoured after project completion.

Brush Disposal - After thinning, slash reduction would include machine piling and burning, hand piling and burning, lop and scatter, mastication, broadcast/underburning, and removal. This applies within and outside of areas designated for prescribed fire treatments. Opportunities would be sought for removing and utilizing the biomass for energy production or other uses where practicable.

Site Preparation – After the harvest activities are completed and prior to planting in proposed areas, site preparation may be completed either by prescribed burning, hand scalping or mechanical scalping (exposing mineral soil) with heavy equipment. This would be completed to reduce competition to seedlings from brush and grass. All site preparation activities would be consistent with SWRA requirements, specifically detrimental disturbance and coarse woody debris.

Planting – Planting of ponderosa pine, western larch, Douglas-fir and/or Engelmann spruce seedlings on all proposed regeneration treatments would be completed as necessary to meet desired stocking levels. The species mix would depend on elevation and site conditions.

Prescribed Fire Treatments

The entire project area, (approximately 67,000 acres, excluding the Bear Creek RNA), would be treated with prescribed fire over the next 20 years (see Prescribed Fire and Community Wildfire Mitigation Map). Commercial activities would generally be completed prior to the application of fire, except where the application of fire prior to thinning do not impact commercial activities. Re-introducing 500 to 10,000 acres

of fire annually would move forested and non- forested vegetation towards conditions that more closely represent historic distribution, structure, and function as well as limit potential fire behavior.

A mosaic-like application of fire would re-introduce fire to approximately 75 percent of primary target acres, and 50 percent of secondary target acres. These percentages recognize the variability in the spread of fire across a landscape due to various environmental influences. All acres targeted for the application of fire would be available for noncommercial thinning in order to minimize mortality from prescribed fire and aid in moving towards restored conditions.

- Primary target acres for treatment consist of stands with historically high fire frequencies and lower severities (grasslands under 6,500 feet elevation and stands dominated by seral species such as ponderosa pine, Douglas-fir, and western larch (PVGs 1-6))
- Secondary target acres include stands with historically moderate to longer fire frequency and mixed to high severities stands comprised of both seral and non-seral species (PVGs 7-11)

Existing barriers to fire spread (natural and man-caused, from streams and barren ridgelines to roads and trails) would be utilized where possible to contain prescribed burns within specified boundaries. In areas where existing barriers are insufficient to control fire spread, a fireline would be constructed. Hand or machine-constructed fireline would be limited only to areas where necessary. The integrity of existing trails and roads would be considered in the application of fire and damage caused by these actions would be repaired. Constructed fireline would be rehabilitated after use.

Ignitions would be by hand or helicopter. Prescribed burning operations would occur when conditions permit, typically early spring and late fall. Prescription parameters (wind speed, fuel moisture, smoke dispersion, and other resource area objectives) influence burn opportunities. Maintenance burning (burning after initial application of fire) would occur every 5-10 years to maintain suitable NIDGS habitat and areas representative of high frequency fire regimes. Ignitions within some RCAs would be permitted, with some restrictions.

Watershed Improvement and Restoration Treatments

Watershed Condition Framework

In 2011, the Watershed Condition Framework (WCF) defined a classification categorization process that was completed on the PNF as part of a national effort (Potyondy and Geir 2010). The intent of the National direction is to, first and foremost, protect high-value watersheds already in good condition, maintain the condition of watersheds to keep them from becoming threatened and, then, improve those in an impaired condition. Three watershed condition classes were recognized directly related to the degree or level of watershed functionality or integrity: Class 1 = Functioning Properly; Class 2 = Functioning at Risk; and Class 3 = Impaired Function. A Class 1 watershed in properly functioning condition has minimal undesirable human impact on natural, physical, or biological processes and is resilient and able to recover to the desired condition when disturbed by large natural disturbances or land management activities (Potyondy and Geir 2010). Conversely, a Class 3 watershed has impaired function because some physical, hydrological, or biological threshold has been exceeded. Substantial changes to the factors that caused the degraded state are commonly needed to set them on a trend or trajectory of improving conditions that sustains physical, hydrological, and biological integrity. Within the project area, the Indian and Lick Creek subwatersheds have been classified as Class 2=Functioning at Risk. The Bear Creek subwatershed is classified as Class=3 Impaired Function.

Aquatic Conservation Strategy

The Aquatic Conservation Strategy (ACS) provides direction to maintain and restore characteristics of healthy functioning watersheds, riparian areas, and associated fish habitats (Forest Plan Appendix B, pages B-49 through B-63). It is a refinement and furtherance of approaches outlined in the Inner Columbia Basin Ecosystem Management Project (ICBEMP) implementation strategy and USFWS and NMFS (NOAA Fisheries) 1998 Biological Opinions. The ACS is a long-term strategy to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within lands administered by this National Forest. Watershed names and boundaries have been updated since initial development in 2003, but restoration priorities have been estimated for this project area based on the old boundaries. Within the project area, the upper portions of the Indian Creek and Bear Creek 6th level subwatersheds are identified as priorities for restoration.

System Road Treatments

Road treatments proposed for this project were developed using the Travel Analysis Process (TAP) across the Council District in 2014. Changes to the Forest System Road network are proposed to establish a Minimum Road System (MRS) that would reduce overall road density and road-related impacts to water quality and fish habitat, improve habitat for terrestrial and aquatic species, and improve long-term soil productivity. Other benefits included enhancing the road and trail network to more efficiently support access for resource management, recreation, and public safety.

Roads that are recommended to remain on the landscape as part of the (MRS) would be maintained and improved to reduce sediment production (guided by recommendations from site-specific sediment modeling). Forest system roads not needed for future management or access are identified for decommissioning. Fish Passage would be improved at crossings throughout the project area. Fish habitat connectivity would be improved by replacement of fish passage barriers on open system roads and removal on closed system roads or roads identified for decommissioning.

System road treatments proposed throughout the project area include maintenance and/or improvement of Forest system roads where needed. Approximately 57.7 miles of system roads would be decommissioned. All roads closed to the public would receive implementation of effective closure to motorized use. All unauthorized routes not needed for future management would also be evaluated for some level of restoration treatments.

Unauthorized Route Treatments

Restoration treatments are proposed for unauthorized routes, although the exact mileage of unauthorized route treatments have not been determined at this time. It is anticipated that between 60 and 80 miles would be treated. The following would be used to determine which routes would receive treatments.

- Decommission of all unauthorized routes that are collectors to system roads identified for decommissioning or long term closure;
- Decommission all unauthorized routes where there is evidence of unauthorized motorized use;
- Decommission all unauthorized routes categorized as High Priority. High Priority indicates adverse soil, water, aquatic, and/or terrestrial resource impacts;
- Decommission all unauthorized routes where stream crossing culverts or fills have not been removed from past actions;

- Decommission all unauthorized routes where a large percentage of the route is within a riparian or landslide prone area;

The Forest service proposes to decommission approximately 57.7 miles of Forest system road and restore from 60 to 80 miles of unauthorized routes within Upper Bear Creek and Upper Indian Creeks (Aquatic Conservation Strategy (ACS) priority watersheds). These treatments are designed to improve these ACS priority subwatersheds towards the desired conditions. Road densities in the Lick Creek subwatershed would be also be reduced toward the desired condition, but would likely remain in the "Impaired" category. The following table describes the proposed watershed restoration treatments for each of the subwatersheds in the project area.

Table 1. *Existing Road Mileage within the Project area by Subwatershed and Proposed Road Treatments**

	Subwatershed			
	Indian Creek	**Bear Creek**	**Lick Creek**	**Project Area Total**
Existing Conditions (miles)				
Existing unauthorized routes	40.6	28.0	66.7	135.3
Existing National Forest System Roads	71.8	70.0	130.9	272.7
Local, County, and Private Roads	42.0	16.4	0.4	58.8
Total Existing Roads	154.4	114.4	198.0	466.8
Proposed Road Treatments (miles)				
System Road Decommissioning	12.6	15.5	29.6	57.7
Fish Passage Improvements	6	1	6	13
Restoration of Unauthorized Routes	TBD	TBD	TBD	TBD
Reroute/Relocation of existing routes	-	1.1	3.7	4.8
New planned routes**	0.3	-	0.4	0.7

*Estimated values from existing data sources.

**These routes will be analyzed as part of the transportation system with this NEPA analysis HOWEVER they will be constructed with Non-CFLRP funding

Aquatic Organism Passage/Fish Habitat Connectivity

Improvements to Fish Passage are needed to address the purpose and need of the project. Thirteen road-crossings have been identified in the project area to improve fish passage and improve hydrologic connectivity (Figure 5). In the Indian Creek subwatershed, of which the upper portion is identified as a restoration priority under and ACS, 6 crossings would be improved (crossings would be replaced with appropriate structures or removed with the associated road restoration treatments. These proposed improvements would address all of the known man-made barriers on fish bearing streams in the subwatershed. In the Bear Creek subwatershed, (of which the upper portion is identified as an ACS priority) (Figure 5), one crossing is identified for improvement. This would address the only known man-made barrier on a fish-bearing stream in the portion of the Bear Creek subwatershed included in the project area. Past restoration activities have addressed many of the fish passage barriers in the Bear Creek subwatershed. In the Lick Creek subwatershed, 6 crossings are identified for improvement on tributaries of Lick Creek. These crossings would be replaced with appropriate structures or removed with other road restoration treatments. Crossings should be replaced as road work and project activities occur in these areas to improve fish habitat connectivity, and improve hydrologic connectivity.

Trail Bridges for Fish Habitat Improvement

In the Bear Creek subwatershed, 2 trail bridges are proposed on FS Trail 228 where the trail crosses Mickey Creek and Wesley Creek. Both of these streams are Bull Trout Critical Habitat. Bridges over these streams

would reduce impacts of trail use (from 2-wheeled motorized, non-motorized and stock) to bull trout and their critical habitat. A trail bridge currently is in place near the FS 228 Trailhead where the trail crosses Bear Creek, which is also critical habitat.

Recreation Improvements

The recreation proposal focuses on improving existing developed and dispersed recreation opportunities and facilities, trail maintenance and relocation to improve watershed conditions and the recreational user's experience. The Huckleberry Landscape Restoration Project would:

Developed and Dispersed Recreation:

- Improve the potable water well, increase the radius of the turnaround loop to accommodate larger trailers and RVs, and replace the entire fence with split rail/buck and rail at the Huckleberry Campground.
- Coordinate dispersed camping along roads open to motorized travel 300 feet off the road, with wildlife in areas where there is a conflict with the NIDGS.
- On Forest Road 143 (Lick Creek Road) where it enters the Forest, add a travel management sign that state the road is open to dispersed camping using a motorized vehicle in designated sites only.
- Harden dispersed camping sites identified with resource issues. Place rock barriers in sites identified with a need to restrict further growth.
- Decommission existing restroom facility and install a new single vault restroom at the Bear trailhead, along with three fire rings and two metal stock hitch rails.

Trails:

- Bring the 33 miles of trails consisting of two-wheel motorized and non-motorized trail up to defined trail class standard for each trail. This includes signing at all trail junctions, new signing at trailheads lacking proper signs, and trail reestablishment and potential relocation where the trail is undefinable.
- Improve the Hoo Hoo Gulch 50144 road accessing the #231 trail to accommodate the hauling of a stock trailer. This includes brushing both sides of the road, and performing major road maintenance on the road surface. At the trailhead (location of the closed gate) construct a turn-around large enough to accommodate and truck pulling a horse trailer. Add one metal stock hitch rail and an information trailhead kiosk sign to the trailhead. Relocate portions of the #231 trail above the current roadbed.
- Relocate and re-establish portions of the non-motorized #229 trail that accesses the Lick Creek Lookout. Establish a trailhead to accommodate two vehicles and one horse trailer at the place the 50129 road turns to seasonal use. Install an informational trailhead kiosk and trail sign. (Note: the seasonally open road beyond this gate could be closed year-round as it only goes an additional ½ mile and is not needed for recreational access. It only serves to bring unauthorized motorized use into the closed road system above).
- Establish a small pullout for parking for the non-motorized #226 trail. Install a trailhead sign.

Wildlife Habitat Improvements

Changes in forested conditions, fire regimes, and the presence of roads have altered wildlife habitats. Some modifications to habitat have led to the federal listing of terrestrial wildlife species such as northern Idaho ground squirrel (NIDGS). A primary need Forest-wide and in the project area is to maintain and promote dry, lower elevation, large tree, and old forest habitats for the associated wildlife species including reducing road densities and fragmentation that negatively affect elk and other Forest species of concern. The processes, function, patch size and diversity of forested habitats must all be considered in order to properly address wildlife habitat needs. Examples of habitat improvement include:

- Enhance habitat components that will support sustainable elk populations consistent with the Forest Plan. This includes the best available science to move the project landscape towards the recommended road density and elk security habitat guidelines (*e.g*. effective seasonal gate closures). One potential method of moving towards effective road densities and enhancing elk security habitat is to target road closures in areas where there is route redundancy.
- Maintain or restore a representative, resilient and redundant network of habitats for species of greatest conservation concern *(e.g.* northern Idaho ground squirrel, white-headed woodpecker, northern goshawk, *etc*.).

Community Wildfire Mitigation Treatments

Both, fuel loading and fuel continuity would be altered to reduce surface fire potential as well as crown fire potential among the community wildfire mitigation treatment areas (see Prescribed Fire Treatments and Community Wildfire Mitigation Map). This would provide suppression forces a higher probability of successfully attacking a wildland fire within intermix or rural condition while creating a safer working environment.

A combination of non-commercial thinning, commercial thinning, limbing to reduce ladder fuels, piling dead and downed material, pile burning, and/or prescribed burning would facilitate the desired condition. More specifically, activities would result in the following:

- Increased canopy base heights to reduce potential for spotting, torching, and crown fire
- Reduced canopy densities to reduce the potential for crown fire spread
- Reduced species that are not fire-resilient to promote fire-resilient stands
- Reduced ground and surface fuels

Recurrent application of the necessary treatments (primarily prescribed fire) every 5-15 years would maintain the desired condition, which is lower fuel loadings and reduced horizontal fuel continuity.

Treatments would occur adjacent and among the values at risk in the area.

- <u>Community protection zones (CPZ)</u>
    - Generally 0.5 to 1 mile on either side of the communities of Bear and Cuprum
        - Approximately 4,600 acres of forested vegetation within Cuprum CPZ
        - Approximately 3,600 acres of forested vegetation within Bear CPZ
- <u>Primary ingress and egress routes</u>

- Up to 250 feet on either side of primary ingress and egress routes
    - This would chiefly support safe travel for firefighter access as well as to facilitate community member escape from a wildland fire. Snags leaning toward and within reach of these travel routes would be felled. Additionally, reduced fuel conditions within this buffer would improve the ability to manage wildfire and prescribed fire along these roadways. This activity would encompass approximately 14.8 miles of roadway among NFS lands.

<u>Isolated values needing treatment</u>

- Up to 500 feet around isolated values
    - Communication tower site (7 acres)
    - Snake River RAWS (9 acres)
- Up to 0.5 miles from the structures at the Decorah site

- <u>Draft sites</u>
    - Up to 250 feet around water drafting sites
        - This would ensure that draft sites near communities are accessible to engines (Type 6 - Type 4) and pump operations (supporting hose lays) and provide for safe operations for emergency responders and the public. Firefighting equipment needs unencumbered access to draft sites for efficient and effective fire response, particularly near houses and other structures. Minor road improvements may be needed to facilitate efficient and safe drafting access points.
- <u>Cuprum community trail / fireline</u>
    - An approximately 2 mile trail (18-24 inches wide) would provide firefighters with an existing, efficient, and safe opportunity to defend the community of Cuprum. The majority of the trail would be on NFS lands and would encircle the entire community

References

Barrett, S.W. 1987. Fire History of the Rapid River Drainage, New Meadows Ranger District, Payette National Forest. Systems for Environmental Management. On file: P.O. Box J, New Meadows Ranger District, Payette National Forest. 9p.

Barrett, S.W. 1994. Fire Regimes on the Payette National Forest, Bear Analysis Area, Final Report. Purchase Order 43-0256-3-0755. On file: P.O. Box J, New Meadows Ranger District, Payette National Forest. 18p.

Franklin, J.F., K.N. Johnson, D.J. Churchill, K. Hagmann, D. Johnson, and J. Johnston. 2013. Restoration of dry forests in eastern Oregon: a field guide. The Nature Conservancy. Portland, OR. 202 p. Http://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/Networkproducts/Pages/Dry-Forest-Guide-2013.asp

Omnibus Public Land Management Act of 2009 (PL 111-11).

Potyondy, J.P. and Geir, T.W. Forest Service Watershed Condition Classification Technical Guide. USDA 2010. Draft.

Sanders, B. 1998. Hazard Risk Assessment for Ponderosa Pine Dominated Fire Regimes. Payette National Forest. On file: P.O. Box J, New Meadows Ranger District. Payette National Forest. 26p.

USDA Forest Service 2003. Payette National Forest Land and Resource Management Plan. Payette National Forest, McCall Idaho.

USDA Forest Service 2011. Watershed Condition Framework. Intermountain Region. Report # FS-977, May 2011.

Appendices

Appendix 1. Existing vs. Desired Condition of the Project Area

Forested Vegetation

Historically, wildfire disturbances helped shape forested landscapes across the Project area. Decades of fire exclusion, forest management, insect outbreaks, and other factors have substantially altered forest structures, especially in the low- to-mid-elevation ponderosa pine forest that comprise about 65 percent of the forested acres in the project area.

The discrepancies between the current and desired vegetative conditions include forested conditions with:

- Less large tree size class than desired;
- More canopy cover than desired, and
- Less of an early seral species (*i.e*. - ponderosa pine and western larch) component than desired.

These differences can generally be attributed to past fire suppression and timber management practices

Vegetation within the project area is comprised of both forested and non-forested vegetation types. Table A-1 identifies the amount of different groups of vegetation in the project area. The classification system utilized in the Forest Plan is Potential Vegetation Groups (PVGs). An explanation and definitions of PVG can be found in Appendix A of the Forest Plan.

Table A-1. Project Area Potential Vegetation Groups

Potential Vegetation Group	Acres within Project Area	Percent of Project Area
PVG 1—Dry Ponderosa Pine/Xeric Douglas-fir	412	1%
PVG 2—Warm Dry Douglas-fir/Moist Ponderosa Pine	11,195	17%
PVG 3—Cool Moist Douglas-fir	0	0%
PVG 4—Cool Dry Douglas-fir	0	0%
PVG 5—Dry Grand Fir	7,261	11%
PVG 6—Cool Moist Grand Fir	19,563	29%
PVG 7—Warm Dry Subalpine Fir	4,879	11%
PVG 8—Warm Moist Subalpine Fir	0	0%
PVG 9—Hydric Subalpine Fir	159	<1%
PVG 10—Persistent Lodgepole Pine	210	<1%
PVG 11—High Elevation Subalpine Fir	589	1%
Grassland/Shrubland	18,352	27%
Other[1]	771	1%
Project Area Total	67,144	

1 – Other is barren and water

Tables A-2 through A-4 display the differences in forested areas by Potential Vegetation Group (PVG) for tree size class, canopy closure and species composition based on the desired conditions specified in the Forest Plan. An explanation and definitions of desired tree size class, desired canopy closure and desired species composition can be found in Appendix A of the Forest Plan. PVGs 2, 5, 6, and 7 are displayed as they account for 97 percent of the forested landscape in the project area and comprise the forest types that are most departed from historical conditions.

PVG 1 values are not displayed because insufficient acres are present in the project area to conduct a meaningful analysis of this PVG and the general trends from forest level data indicate that the discrepancies between current and desired conditions for PVG 1 are similar to those of PVG 2.

Table A-2. Current versus Desired Tree Size Class[1]

	Acres by PVG (*percentage in parenthesis*)							
	PVG 2		**PVG 5**		**PVG 6**		**PVG 7**	
	Desired	Existing	Desired	Existing	Desired	Existing	Desired	Existing
GFSS	448-560	201	119-290	56	1,369-1,761	64	342-781	6
(<4.5 feet tall)	(4-5)	(2)	(3-4)	(<1)	(7-8)	(<1)	(7-16)	(<1)
Saplings	336-784	826	119-508	387	1,396-1,761	1298	537-732	60
(0.1-4.9" DBH)	(3-7)	(7.2)	(3-7)	(8)	(7-9)	(7)	(11-15)	(1)
Small	560-2,351	599	290-1,597	804	2,152-5,282	2,559	1,025-1,073	5
(5.0-11.9" DBH)	(5-21)	(5.3)	(2-22)	(11)	(11-27)	(13)	(21-22)	(<1)
Medium	784-3,918	6999	508-2178	2868	3,521-7,043	6124	1,561-1,756	926
(12.0-19.9" DBH)	(7-35)	(63)	(7-30)	(39)	(18-36)	(31)	(32-36)	(19)
Large	6,605-8,956	2570	4,792-6,099)	3146	4,792-6,099	9518	976-1,025	3882
(≥20"DBH)	(59-80)	(23)	(66-84)	(43)	(66-84)	(49)	(20-21)	(80)

1 – Desired values are derived from the Payette Forest Plan and the draft Wildlife Conservation Strategy.

Table A-3. Current versus Desired Canopy Closure in Large Tree Size Class stands[1].

	Acres by PVG *(percentage in parenthesis)*							
	PVG 2		**PVG 5**		**PVG 6**		**PVG 7**	
	Desired	Existing	*Desired*	Existing	*Desired*	Existing	*Desired*	Existing
Low (10-39% CC)	*1,568-2,082* (61-81)	203 (8)	*786-1,416* (25-45)	187 (6)	*0-1,904* (0-20)	230 (2)	*0-776* (0-20)	651 (17)
Moderate (40-69% CC)	*488-1002* (19-39)	1,810 (70)	*1,730-2,360* (55-75)	2,095 (67)	*7,614-9518* (80-100)	3,493 (37)	*3,106-3,882* (80-100)	1,708 (44)
High (≥70% CC)	*0* (0)	557 (22)	*0* (0)	863 (27)	*0* (0)	5,795 (61)	*0* (0)	1,523 (39)

1-Desired values are derived from the Payette Forest Plan and the draft Wildlife Conservation Strategy.

Table A-4. Current versus Desired Species Composition [1,2]

	PVGs (%)					
	2		5		6	
Species[3]	Desired	Existing	Desired	Existing	Desired	Existing
Aspen	T[4]	-	T	-	T	-
Lodgepole Pine	T	-	T	-	1-5%	-
Ponderosa Pine	*81-87%*	54%	*80-88%*	35%	*23-41%*	33%
Whitebark Pine	-	-	-	-	-	-
Western Larch	-	-	*0-1%*	-	*15-29%*	-
Douglas-fir	*10-16%*	27%	*7-17%*	28%	*15-25%*	31%
Engelmann Spruce	-	-	*T*	-	*0-2%*	1%
Grand Fir	-	13%	*0-1%*	22%	*9-23%*	21%
Subalpine fir	-	-	-	-	*0-3%*	-
Other[5]	-	6%	-	8%	-	11%

1-Desired values are derived from the Payette Forest Plan and the draft Wildlife Conservation Strategy.
2-For project purposes the desired species composition should be based on species composition of the habitat types present within the analysis area.
3-Denotes average species compositions for all habitat types. Desired compositions will be based on site specific habitat type information.
4 -T = Trace
5 -OTHER is not a "desired condition", but depicts how the Working Group information is grouped.

Fire and Fuels

Decades of commercial timber harvests have removed the larger and more fire-resilient tree species (such as ponderosa pine and western larch), favoring species that are less fire-resilient (grand fir). Fire suppression has led to a buildup of ground, surface, and canopy fuels and favored the maturation of less fire-resilient species. Recurrent commercial harvests, fire suppression, and grazing have led to:

- An increase in canopy densities;
- A decrease in canopy base heights (height to live crown);
- A change in species composition from a majority of more fire-resilient to less fire-resilient tree species;
- An increase in ground, surface, and canopy fuels.

As a result, vegetation and fuel conditions are outside the historic range of natural conditions. Historically the drier forest types (PVGs 1, 2, and 5) of the project area consisted of a diverse understory of grasses, forbs, and low shrubs with a large-diameter fire-resilient overstory. This condition was maintained over time by frequent low-intensity fires. The moister, mixed severity fire regimes of PVGs 3, 4, 6, 7, and 11 occurred in the Douglas-fir, grand fir, and white bark pine communities.

Table A-5. Departure from Historic Fire Return Interval.

Historic Fire Regimes	PVGs	Acres	Range of Historic Fire Return Intervals (years)	Average Historic Fire Return Intervals (years)	Missed Intervals
Non-Lethal	1, 2, 5, 99[1]	34,344	5-25	15	6.8
Mixed Severity I	3, 4, 6	19,563	5-70	37.5	2.7
Mixed Severity II	7, 11, 99[2]	9,175	70-300	185	0
Stand Replacement	8,9, 10	369	100-400	250	0

Note: It has been assumed that non-forested (grass/shrub) has a fire frequency equivalent to PVGs 1, 2, and 5 (Non-Lethal and Mixed Severity I Fire Regimes). 99[1] is not a PVG, but denotes grassland/shrubland below 6500 feet elevation; 99[2] donotes grassland/shrubland above 6500 feet elevation

Due to suppression efforts the project area has not experienced many significant wildfires event in the last decade. The project area experienced 248 fire starts from 1956 to 2014, an average of four fire starts per year. Of these starts, 243 (98%) were kept at ten acres or less. Many starts have occurred adjacent to the project area, but were also suppressed. Hence, fires were not allowed to move into the project area from the surrounding areas. The largest wildfire on record within the project area, the Windy Ridge Fire, occurred in 1992 and grew to 17,579 acres; 8,497 acres were within the Huckleberry project area. The only other three larger (greater than 100 acres) fires that occurred within the project area also occurred in the last three decades. From 1984 to 2015, 1,313 acres of prescribed fire has been implemented within the project area (approximately 42 acres per year). Between fire response activities (387 acres annually) and the application of prescribed fire (42 acres annually), the project area experiences approximately 416 acres of fire per year. However, the vast majority of these acres (86%) are from just two wildfires.

Approximately 85 percent of the vegetated acres in the project area have missed two or more fire return intervals. The extent to which a system has departed from historic conditions influences the extent to which key ecosystem components, critical to the integrity of the ecosystem, are altered. Many of the Non-lethal and Mixed-Severity I Fire Regimes acres have transitioned to Mixed-Severity II and Stand Replacement Regimes in the project area. This is consistent with the research by Sanders (1997), and Barrett (1987 and 1994) on the Payette NF indicating a shift in the fire regimes. This shift in fire regimes indicates that a higher percentage of the project area acres would likely burn at higher severities as well as larger patch sizes given a wildfire event. Uncharacteristic fire effects threaten desirable plant communities, ecological processes and the ability to protect life, investments, and other valuable resources.

Soil and Water

The 2003 Payette Forest Plan and the Watershed Condition Framework Categorization process in 2011 developed reference condition values of ecological indicators, or WCIs, which are useful as diagnostic tools to assist in comparing and evaluating current soil, water, riparian, and aquatic conditions. WCIs provide a means for assessing how management actions may potentially influence the condition and trend of aquatic resources, including threatened, endangered, proposed, and candidate (TEPC) fish species, soil, water, and riparian resources. The Forest Plan identified a restoration priority and type for each subwatershed. Three subwatershed condition classes were recognized by the WCF directly related to the degree or level of watershed functionality or integrity. Subwatersheds are identified as Impaired (class 3) because some physical, hydrological, or biological threshold has been exceeded. Substantial changes to the factors that caused the degraded state are commonly needed to set them on a trend or trajectory of improving conditions that sustains physical, hydrological, and biological integrity. By contrast, a Class 1 watershed in

properly functioning condition has minimal undesirable human impact on natural, physical, or biological processes and is resilient and able to recover to the desired condition when disturbed by large natural disturbances or land management activities.

Current Condition

The Watershed Condition Framework identifies the desired condition for Watershed Condition Indicators (WCIs) at the subwatershed scale. Many of WCIs are Impaired or Functioning at Risk categories.
Many subwatersheds have road densities that are contributing to reductions in long-term soil productivity, road-related sediment contributing to stream channels, negative effects to floodplains and riparian conservation areas (RCAs), and changes to hillslope hydrology due to the intersection of subsurface water by cutslopes. Effects to channel stability, peak flows, and stream channel resiliency are likely due to past harvest, livestock grazing, and roads.

Table A-6. Forest Plan Restoration Priority by subwatershed and WCF Rating

Subwatershed	Subwatershed (as identified by the 2003 Forest Plan)	2003 Forest Plan Restoration Type/Priority	Watershed Condition Framework Rating (as identified by subwatershed)
Lick Creek	Upper Lick Creek	Active/Low	Impaired (Class 3)
	Middle Lick Creek	Active/Low	
	Lower Lick Creek	Active/Low	
Bear Creek	Upper Bear Creek	Active/Moderate Priority Subwatershed	Functioning at Risk (Class 2)
	Middle Bear Creek	Active/Moderate	
	Lower Bear Creek	Active/Moderate	
Indian Creek	Upper Indian Creek	Active/Moderate Priority Subwatershed	Functioning at Risk (Class 2)
	Middle Indian Creek	Active/Moderate	
	Lower Indian Creek	Active/Moderate	

Desired Condition

The Forest Plan includes the Aquatic Conservation Strategy (ACS) which provides direction to maintain and restore characteristics of healthy functioning watersheds, riparian areas, and associated fish habitats (Forest Plan Appendix B, pages B-49 through B-63). Component 2 identifies Watershed Condition Indicators (WCIs) and describes desired conditions for each WCI. Watershed Condition Indicators and the associated matrices in Appendix B, p. B-12) of the Forest Plan were developed to assist managers in identifying desired and baseline conditions and how management actions may influence the condition and trend of SWRA resources and native and desired non-native fish species.

The desired condition within the project area for soil, water, riparian, and aquatic resources is to improve overall watershed functionality and integrity. This would include reducing sediment and other ecological effects from roads, improving stream bank stability and resiliency, improving aquatic organism and fish passage at road-stream crossings, improving long-term soil productivity, and improving riparian vegetation and floodplain function.

Appendix 2. Northern Idaho Ground Squirrel Emphasis Areas

Background and Direction for Northern Idaho Ground Squirrel Treatments

The following proposal was developed based on the NIDGS Recovery Plan and NIDGS Technical Working Group recommendations. The US Fish and Wildlife Service NIDGS Recovery Plan States (p. 23):

Restore and Maintain Habitat

Thinning, burning, reseeding, and other measures are necessary management tools for habitat restoration and maintenance Site-specific habitat management plans for primary metapopulation sites will need to be completed within 2 years of this Recovery Plan, and as stipulated by the Payette National Forest in their Land and Resource Management Plan. The following management tools and sociological considerations should be used to create the habitat at appropriate stages of ecological succession:

Development of site-specific management plans for primary metapopulation sites

- *Consider compatible human uses;*
- *Assess potential forestry practices;*
- *Conduct plant community composition analysis*

Restoration of habitat

- *Thinning and burning (i.e., treatments from Lost Creek-Boulder Creek CFLRP et al.*)
- *Reseeding with native grass and forb species;*
- *Livestock management*

Maintenance of appropriate habitat

- *Prescribed burning at site-specific intervals;*
- *Vegetation management (e.g., noxious weed control);*
- *Grazing regimes appropriate to each site*

Priority areas for NIDGS emphasis treatment have been developed and divided into two types. Priority one (P1) areas are areas within ¼ mile of occupied habitat and within USFWS recovery plan metapopulation areas. Priority two (P2) areas are based on potential habitat that could link meta-populations to increase and maintain genetic diversity within the known populations. Approximately 1,543 acres of P1 and 16,508 acres of P2 areas have been identified.

Within the P1 areas, an estimated 1,000 (TBD) acres of mechanical treatments are proposed. Within these NIDGS priority areas, the objective of these treatments would be as described in the Vegetative Treatments section of this document. The treatment objectives should be designed to move towards the desired conditions. The following additional direction should be applied to treatments in the NIDGS priority areas.

NIDGS objectives in P1 areas

- Prioritize the timing of treatments in these areas to be as soon as practical (i.e. treat these areas first).
- Manage areas immediately adjacent to occupied sites toward the low end of desired canopy closures (*i.e.* – average canopy closures should typically be between 15-30 percent in these areas).
- Emphasize forage production for NIDGS. This can typically be accomplished by managing for frequent (return interval 3-7 years), low intensity disturbance (*i.e.* – prescribed fire).
- Identify potential corridors for connecting occupied sites. Manage portions of these stands to encourage dispersal and exchange of individuals. (*i.e*. – reduce canopy closure to near 10-20 percent mostly in PVG 2, but sometimes in PVG 5 in corridor areas). Work with wildlife staff (utilizing NIDGS Recovery Plan and NIDGS technical team recommendations) to determine appropriate corridor location and spatial arrangement.

NIDGS objectives in P2 areas

- Identify suitable habitat outside one quarter mile of known populations and treat to improve habitat.
- Encourage geographic growth of metapopulations toward other known populations and high quality habitat.
- Treatments in currently unoccupied habitat should be designed to achieve low to moderate canopy closure.

University of Idaho Research – Northern Idaho ground squirrel

Ongoing research conducted currently by the University of Idaho may help guide the Payette National Forest habitat management as relates to prescribed fire intervals and timing, immigration and emigration corridors, including how to manage sylvatic plague if found present and determined to be a limiting factor in NIDGS recovery.

Appendix 3. Riparian Conservation Area Treatments

Delineation of Riparian Conservation Areas

Riparian Conservation Areas (RCAs) are stream and wetland protection zones delineated for the protection of riparian-dependent resources. Management activities are subject to specific Forest Plan goals, objectives, standards, and guidelines. RCAs include traditional riparian corridors, perennial and intermittent streams, wetlands, lakes, springs, reservoirs, and other areas where riparian functions and ecological processes are crucial to maintenance of the area's water quality, sediment regime, large woody debris, nutrient delivery system, and associated biotic communities and habitat.

Appendix B of the Forest Plan outlines a step-down process for delineation of RCAs on perennial and intermittent streams, ponds, lakes, reservoirs, and wetlands (USDA Forest Service 2003). The RCAs within the project area have been identified utilizing Option 2 (Forest Plan page B-34) delineation method. Forest Plan Option 2 provides a more specific delineation of an RCA boundary using site potential tree heights.

Field reconnaissance and stand exam data has indicated that Potential Vegetation Groups (PVGs) 2, 5, and 6 are the dominant PVGs in forested areas within the proposed activity units in the project area. RCA widths in forested areas will be based on the PVG 2 and PVG 6 site potential tree height of 120 feet (Forest Plan page B-36). RCA widths that will be used for this project are displayed in the following table:

Table A-2. Project Area RCA Widths

Water Source	RCA Width
Perennial Forested Streams (and intermittent streams providing seasonal rearing and spawning habitat)	240 feet (two site-potential tree heights) from the ordinary high water mark
Intermittent Forested Streams	120 feet (one site-potential tree height) from the ordinary high water mark
Ponds, Lakes, Reservoirs, and Wetlands	120 feet (one site-potential tree height) from the ordinary high water mark
Non Forested Streams (perennial and intermittent)	The extent of the flood prone width, or riparian vegetation, whichever is greater.

Need for Treatment

Initial project area analysis indicates vegetative treatments (*i.e.* thinning and prescribed burning) in the RCAs would be needed to maintain or move towards the desired vegetative conditions as specified in Appendix A of the Forest Plan and minimize potential fire behavior among values at risk. Based on Forest Plan management direction and other resource concerns a more detailed approach has been applied to develop an RCA treatment proposal that is consistent with management direction, including Appendix B of the Forest Plan and the Aquatic Conservation Strategy (ACS).

Proposed Treatments in RCAs

Based on the purpose of the project and need to treat vegetation in RCAs, both mechanical and prescribed fire treatments are proposed in the RCAs. RCA vegetation treatments are not proposed in

the Indian and Bear Creek subwatersheds because they contain ESA-listed bull trout and their respective critical habitat.

Commercial Thin

Commercial thinning treatments are intended to move upland vegetation within RCAs toward the desired conditions described in the Forest Plan while maintaining soil, water, riparian and aquatic resources. Treatments would be designed to ensure that project activities do not degrade current RCA conditions and do not retard the attainment of SWRA desired conditions. All RCA treatments would apply only to upland vegetation that occurs within the outer portion of a RCA, and not to riparian vegetation (*i.e*. – willow, spruce). This action, on a site specific basis, is consistent with direction for upland vegetation desired conditions and RCAs in Forest Plan Appendices A and B (USDA Forest Service 2003).

RCA treatments would be limited to thinning where at least 30 percent canopy closure would be retained and would be developed in consultation with the district fish biologist and/or hydrologist to ensure streambank stability, ground cover are considered and riparian function is maintained.

In portions of RCAs where mechanical treatments would not be feasible or deleterious effects to riparian functions and ecological processes (described in the Forest Plan, page B-37) are anticipated, the unit (or portion(s) thereof) would be excluded from treatment.

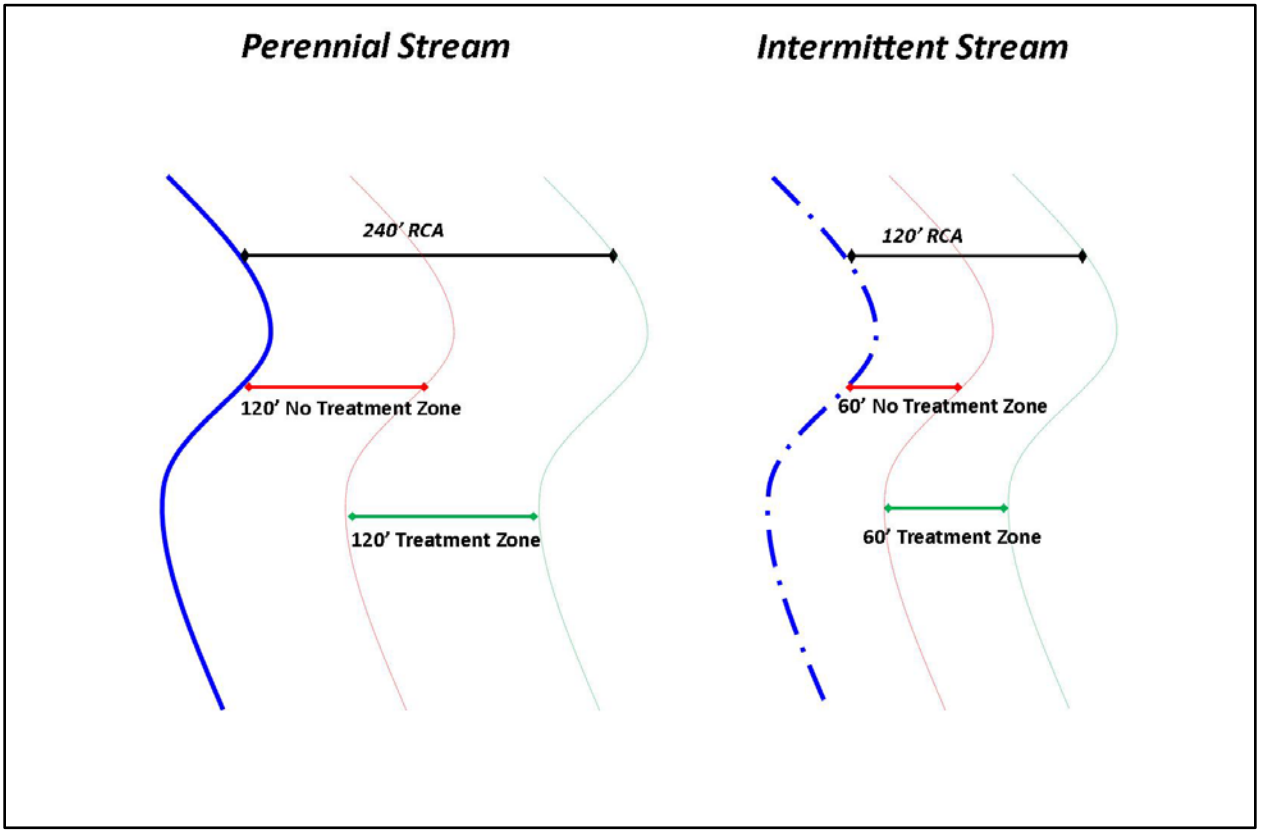
Generally, mechanical disturbance in RCAs would be avoided. Due to the site specificity of each proposed RCA treatment unit, a map and description of the layout of the RCA portion of the unit would be provided to the District fisheries biologist, hydrologist,(or qualified designees)for field verification.. A site specific plan would be approved by a District hydrologist and fisheries biologist prior to implementation.

The following guidelines would be used for RCA treatment layout and implementation. Only upland vegetation in the outer portion of the RCA would be treated (Figure A-1).

- Along intermittent streams, thinning and limited equipment use could only occur in the outer 60 feet of the RCA. No cutting of vegetation would occur within 60 feet of the stream (Figure A-1).
- Along perennial streams, thinning and limited equipment use could only occur in the outer 120 feet of the RCA. No cutting of vegetation would occur within 120 feet of the stream (Figure A-1).
- No harvesting would be allowed in the no-cut zones. Cutting of individual trees within the no-cut zone may be approved on a case by case basis but removal of that material would not be permitted.
- If unidentified RCAs are discovered during layout or implementation, they may be treated if: 1) they meet intent of RCA treatments; 2) all Project Design Features and restrictions can be adhered to; and 3) they meet the following criteria:
  - They fall outside of the Indian and Bear Creek subwatersheds;
  - The area is proposed for treatment but was identified during the layout/implementation phase of the project;

- In PVG 1 and 2 – the existing canopy closure of forested areas within the stand is greater than 65 percent.
- In PVG 5 and 6 – the existing canopy closure of the stand is greater than 70 percent.

Figure A-1. Commercial RCA Treatment and Stream Buffer Guidelines.

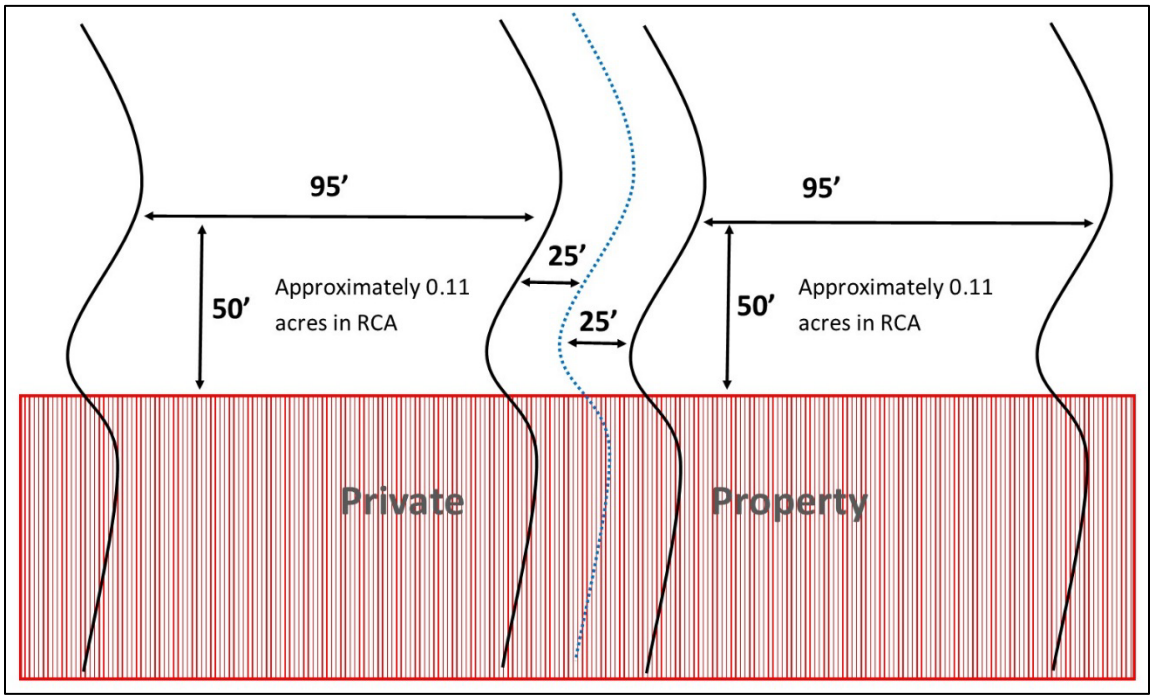


Non-Commercial Thinning

Non-commercial thinning would be permitted within RCAs within the Lick Creek watershed. Non-commercial thinning would not be allowed within 60 feet of intermittent stream channels or 120 feet of perennial stream channels within Lick Creek. Non-commercial thinning would not be permitted within RCAs in Bear Creek or Indian Creek watersheds, except where special provisions occur within the widlfire mitigation treatment areas. There would be no cutting of riparian vegetation (*i.e.* spruce, willows) within any RCA among the project area and no piling (hand or machine) within RCAs. There will be no reduction in canopy closure due to non-commercial thinning (excluding plantations). Exceptions for wildfire mitigation treatment areas are as follows.

- No machine piling within RCAs; no hand piling is allowed within 60 feet intermittent and 120 feet of perennial stream channels
- Within RCAs that are among the CPZs, there will be NCT, but not within 25 feet of intermittent or perennial stream channels, and not for more than 50 feet along either side of the channel (Figure A-2). This will minimize potential fire behavior along private property during the application of prescribed fire.

Figure A-2. NCT and/or Prescribed Fire within Indian and Bear Creek Intermittent RCAs.



Prescribed Fire Treatments

Direct ignitions would be permitted within RCAs in the Lick Creek watershed, but not be allowed within 60 feet of intermittent stream channels or 120 feet of perennial stream channels within Lick Creek or within 25 feet of riparian vegetation (*i.e.* spruce, willows). Direct ignitions would not be permitted within RCAs in Bear Creek or Indian Creek watersheds, except where special provisions permit within the wildfire mitigation treatment areas (described below). Fire is allowed to back into any RCA within the project area. When applying fire within RCAs, no fire would be directly applied to riparian vegetation (*e.g.,* spruce, willows). Fire within the RCAs would create a mosaic burn pattern. Exceptions for wildfire mitigation treatment areas are as follows.

- When adjacent to private property direct ignitions will occur within RCAs, but not within 25 feet of intermittent or perennial stream channels, and not for more than 50 feet along either side of the channel to minimize potential fire behavior along private property as well as contain fire spread (Figure A-2).

Appendix 4. Glossary and Acronyms

Glossary

Aquatic Conservation Strategy (ACS)—"A long-term strategy to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within lands administered by National Forests," page B-48, Forest Plan, 2003 as amended.

Canopy closure—Canopy closure (canopy cover) represents the total non-overlapping crown closure of all trees in a stand, excluding the seedling tree size class. Trees in the seedling tree size class are used to estimate canopy closure class only when they represent the only structural layer present.

Commercial thin—Any type of thinning that produces merchantable material at least equal to the value of the direct cost of harvesting.

Condition class—The degree of departure from historical fire regimes and vegetation characteristics.

Critical Habitat— Specific areas within a geographical area occupied by a threatened or endangered species, on which are found physical or biological features essential to conservation of the species.

Road Decommissioning—Activities that result in the stabilization and restoration of unneeded roads to a more natural state (36 CFR 212.1). Implementation can range from blocking the road entrance to full obliteration.

Desired Condition (DC)—A portrayal of the land, resource, or social and economic conditions that are expected in 50-100 years if management goals and objectives are achieved.

Fire regimes—The characteristics of fire in a given ecosystem, including factors such as frequency, intensity, severity, and patch size.

Fire severity—Fire effects at and below the ground surface.

Forest plan—In this document, the Payette National Forest Land and Resource Management Plan (2003).

Forest Road or Trail —A road or trail wholly or partly within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources (36 CFR 212.1).

Fuel treatment—The rearrangement or disposal of natural or activity fuels to reduce the fire hazard. Fuels are defined as both living and dead vegetative materials consumable by fire.

Goal—As Forest Plan management direction, a goal is a concise statement that helps describe a desired condition, or how to achieve that condition.

Guideline—As Forest Plan management direction, a guideline is a preferred or advisable course of action generally expected to be carried out. Deviation from compliance does not require a Forest Plan amendment (as with a standard), but rationale for deviation must be documented in the project decision document.

IDT (Interdisciplinary Team)—A team of individuals with skills from different disciplines that focus on the same task or project.

Level I Maintenance—Roads that have been placed in storage between intermittent uses. The period of storage must exceed 1 year. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs.

Long-term road closure—Roads placed in maintenance level 1 and receiving treatments to keep damage to adjacent resources to an acceptable level, and to perpetuate the road to facilitate future management activities. These roads were identified as not needed for project use for more than 15 years. Closure activities could include removing man-made drainage structures, restoring stream channel and banks, providing for drainage (waterbars), scarifying, seeding, and fertilizing.

Maintenance—The upkeep of the entire forest transportation facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization (36 CFR 212.1).

Management Area—A land area with similar management goals and a common prescription, as described in the Forest Plan.

Management direction—Activities that must be carried out to meet the goals of agency management.

New road construction—Activity that results in the addition of forest classified or temporary road miles (Forest Plan).

Objective—As Forest Plan management direction, an objective is a concise time-specific statement of actions or results designed to help achieve goals. Objectives form the basis for project-level actions or proposals to help achieve Forest goals.

Road Obliteration — Road decommissioning technique used to eliminate the functional characteristics of a travelway and reestablish the natural resource production capability. The intent is to make the corridor unusable as a road or a trail and stabilize it against soil loss, which can involve re-contouring and restoring natural slopes (Forest Plan).

Open road density—Miles of open road per square mile.

Potential Vegetation Group (PVG)—Potential vegetation types grouped on the basis of a similar general moisture or temperature environment.

Prescribed fire—Any fire ignited by management actions to meet specific objectives. Project area—The area bounding all management activities associated with a project.

Proposed action—A proposal made by the Forest Service or other federal agency to authorize, recommend, or implement an action to meet a specific purpose and need.

Recontour—Reestablish the natural slope of the land where a road has been located. This may involve pulling the fill material up onto the road surface and/or bringing in material to replace that, which was removed to build the road.

Reforestation—Natural or artificial restocking of an area with Forest trees. Regeneration—The renewal of a tree crop, whether by natural or artificial means.

Restore—For biological and physical resources, restore means to repair, re-establish, or recover ecosystem functions, processes, or components so that they are moving toward or within their range of desired conditions.

Revegetation—The re-establishment of plant cover, either naturally or by manually seeding.

Riparian—Relating to the banks of natural watercourses such as rivers or streams.

Riparian Conservation Areas (RCAs)—Portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific goals, objectives, standards, and guidelines. RCAs include traditional riparian corridors, perennial and intermittent streams, wetlands, lakes, springs, reservoirs, and other areas where proper riparian functions and ecological processes are crucial to maintenance of the area's water, sediment, woody debris, nutrient delivery system, and associated biotic communities and habitat.

Road maintenance—Ongoing upkeep of a road necessary to maintain or restore the road in accordance with its road management objectives (FSM 7705).

Road construction or reconstruction—Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road (36 CFR 212.1.

Road reconstruction—Activity that results in improvement or realignment of an existing classified road as defined below: (Forest Plan)

> (a) *Road Improvement* - Activity that results in an increase of an existing road's traffic service level, expansion of its capacity, or a change in its original design function.
>
> (b) *Road Realignment* - Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway.

Seasonally open road—Roads open to motorized use on a seasonal basis (e.g., closed during hunting season).

Short-term road closure—Roads placed in maintenance level 1 and closed to vehicular traffic for greater than one year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level, and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns.

Silvicultural prescription—The method selected to manage a forest stand.

Slash—Residue left on the ground after timber cutting and/or accumulation as a result of storm, fire, or other damage.

Standard—As Forest Plan management direction, a standard is a binding limitation placed on management actions. It must be within the authority and ability of the Forest Service to enforce. A project or action that varies from a relevant standard may not be authorized unless the Forest Plan is amended to modify, remove, or waive application of the standard.

Subwatershed—An area of land that drains to a common point. A subwatershed is smaller subdivision of a watershed but is larger than a drainage or site.

National Forest System Road - A forest road other than a road which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority (36 CFR 212.1).

Temporary road or trail—A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas (36 CFR 212.1).

Thinning—A cultural treatment made to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality.

Threatened species—Designated by the FWS or NOAA Fisheries, in accordance with the Endangered Species Act; a plant or animal species, or critical habitat, given federal protection, because it is likely to become endangered throughout all or a significant portion of its range within the foreseeable future.

Unauthorized road or trail—A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas (36 CFR 212.1).

Underburn—A light broadcast burn under an existing forest canopy. A fire prescribed to reduce fuels without significantly altering the larger tree component.

Watershed Condition Indicator (WCI)—WCIs are an integrated suite of aquatic (including biophysical components), riparian (including riparian –associated vegetation species), and hydrologic (including uplands) condition measures that are intended to be used at a variety of watershed scales. They assist in determining the current condition of a watershed and should be used to help design appropriate management actions, or to alter or mitigate proposed and or ongoing actions, to move watersheds toward desired conditions. WCIs represent a diagnostic means to determine factors of current condition and assist in determining future conditions associated with implementing management actions or natural restoration over time.

Acronyms

ACS – Aquatic Conservation Strategy AOP – Aquatic Organism Passage

CFLRA - Collaborative Forest Landscape Restoration Act DCH – Designated Critical Habitat

ESA – Endangered Species Habitat

FA – Functioning Appropriately

FR – Functioning at Risk

FUR – Functioning at Unacceptable Risk

LTC – Long Term Closure

MA – Management Area

MRS – Minimum Road System

NIDGS – Northern Idaho Ground Squirrel

OHV – Off-Highway Vehicle

PFC – Payette Forest Coalition

RCA – Riparian Conservation Area

TAP – Travel Analysis Process

TES – threatened or endangered species

WCF – Watershed Condition Framework

WCI - Watershed Condition Indicator

Appendix 5. Figures

Figure 1. Huckleberry Landscape Restoration Project Vicinity Map

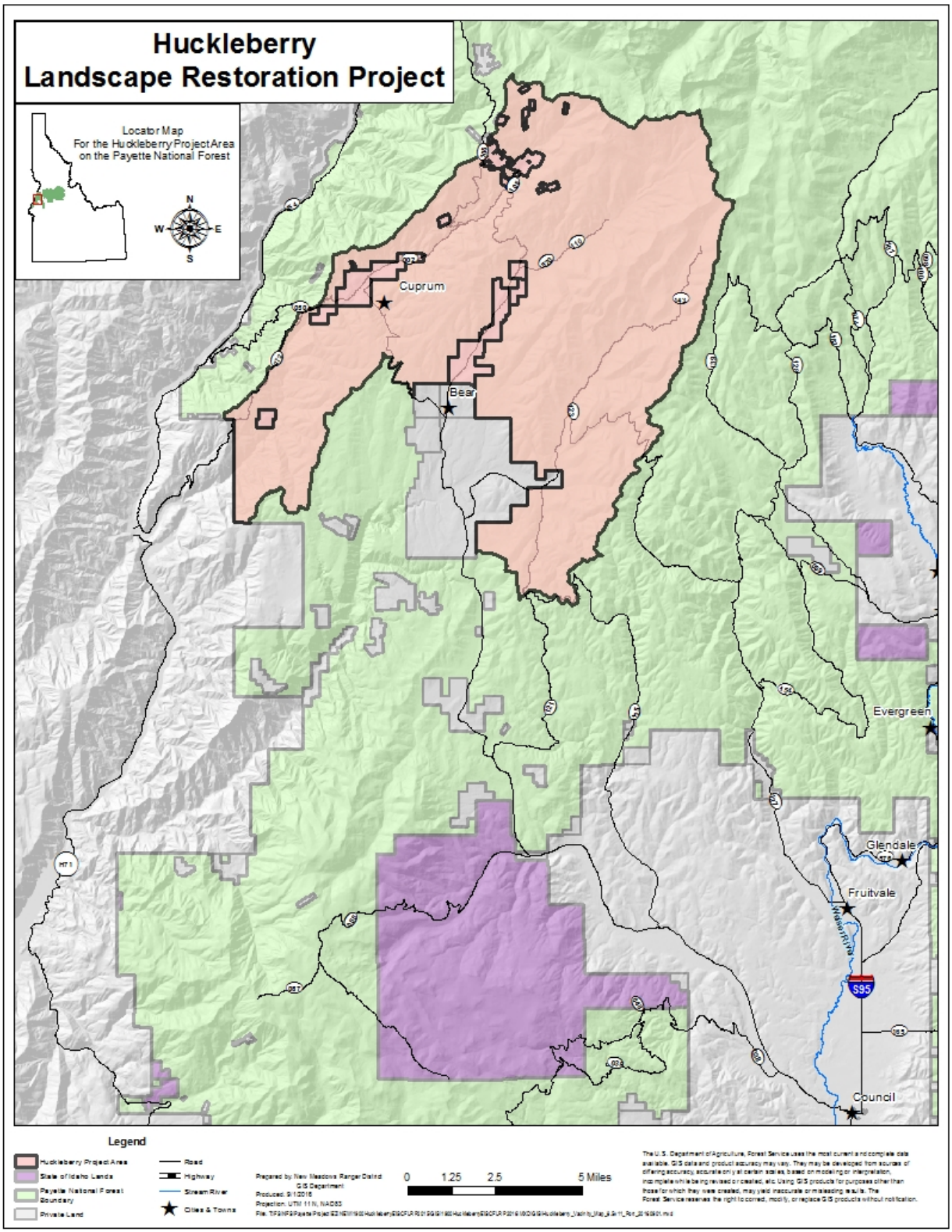


Figure 2. Recreation Improvements

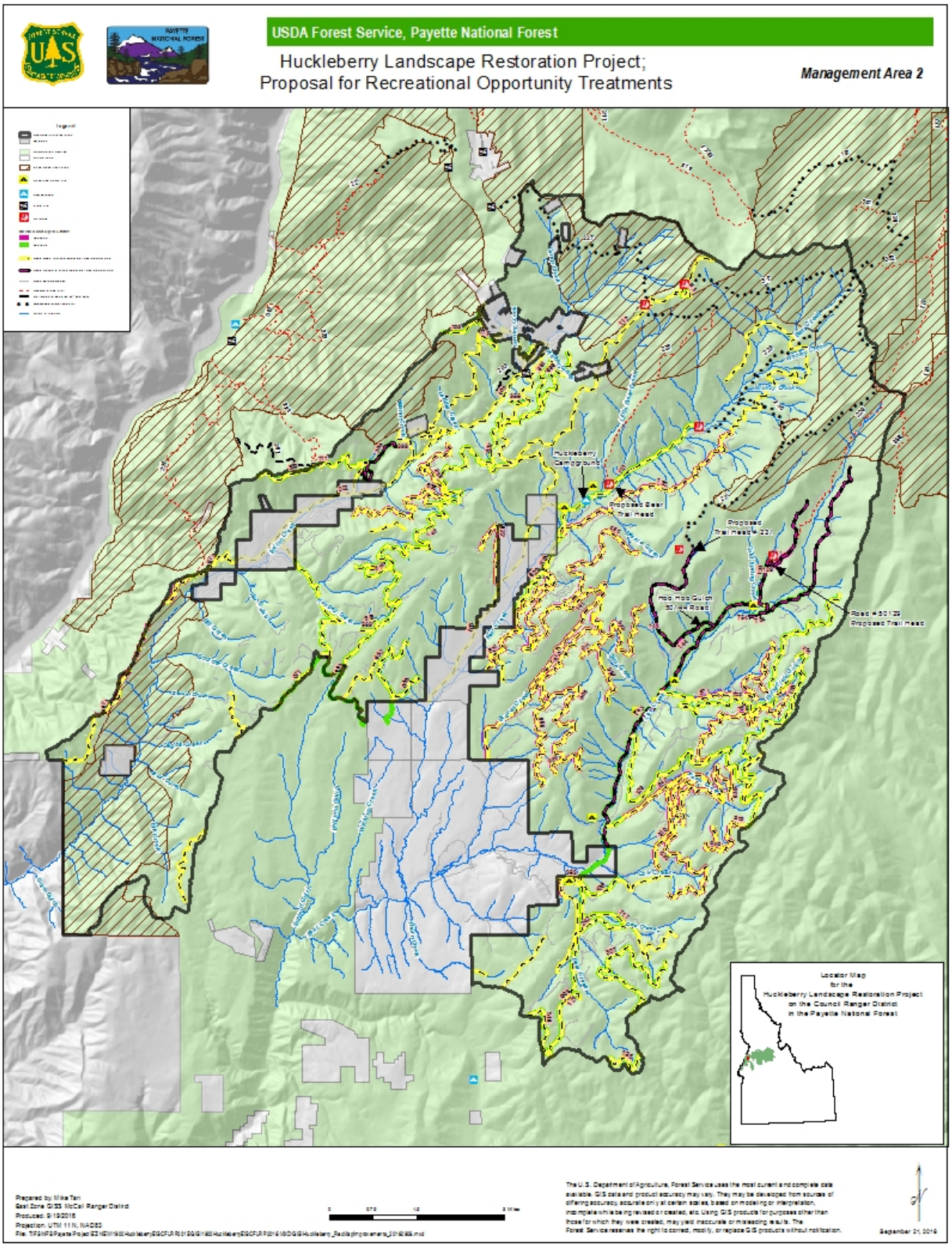


Figure 3. Proposed Prescribed Fire Treatments

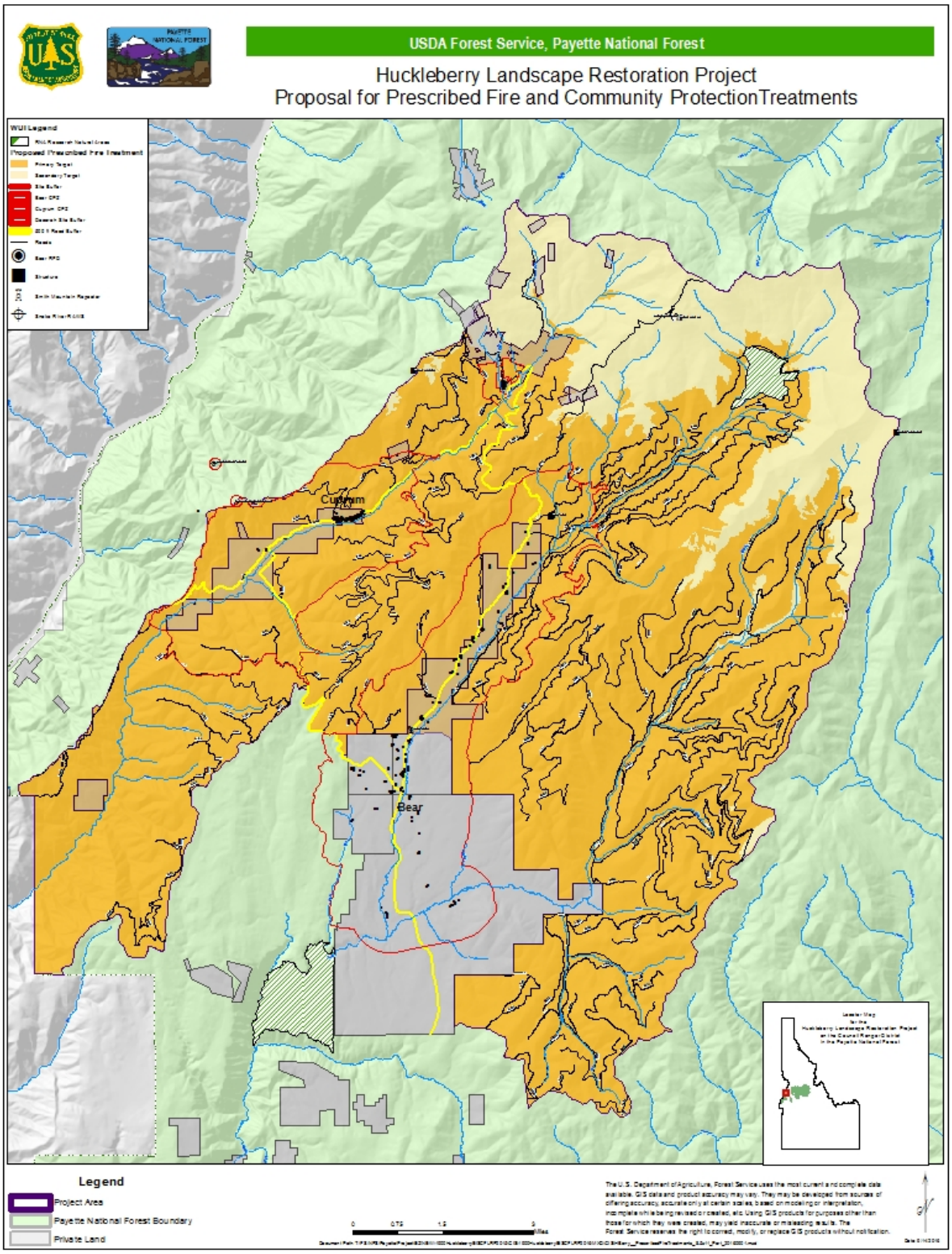


Figure 4. Vegetation Treatments

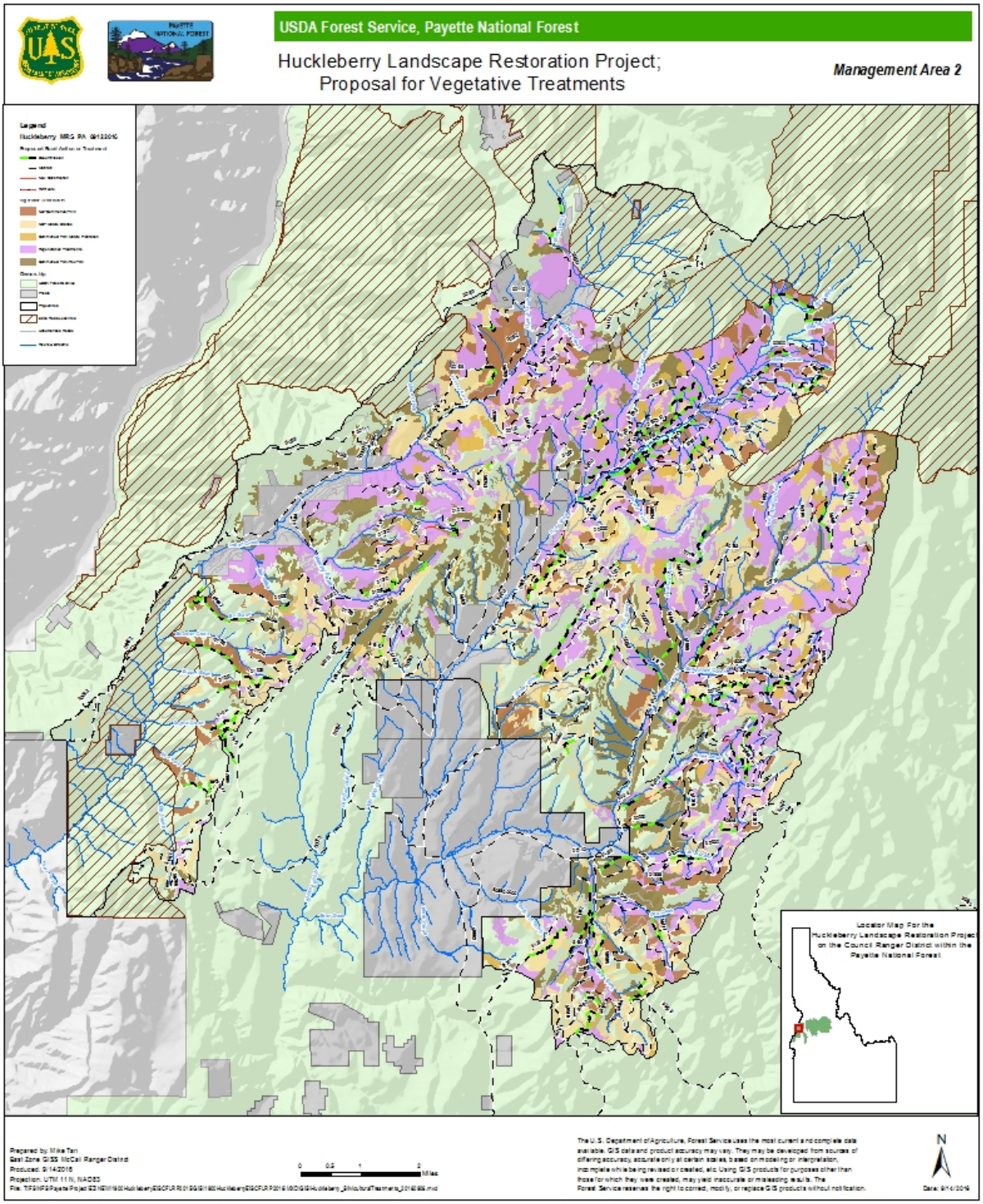
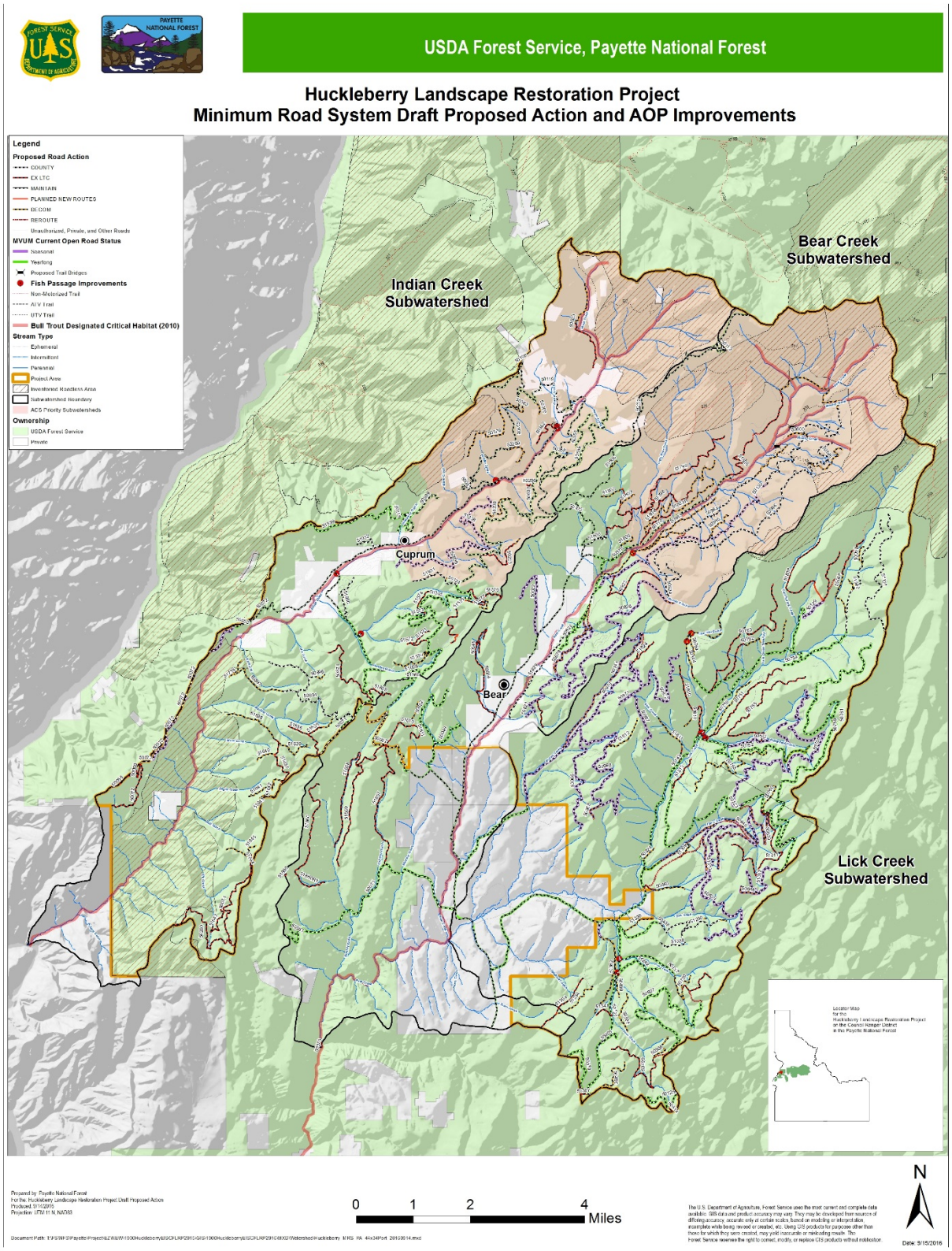



Figure 5. Watershed Restoration Treatments