**Project Summary**

Juniper reduction and willow restoration within the Riparian Reserve land allocation along Butte Creek. Within a 470-acre planning area of the Klamath National Forest on the Goosenest Ranger District. Project activities outlined in this treatment prescription consist of hand felling and piling of western juniper that is encroaching along the banks of Butte Creek. The removal of junipers will improve the water table conditions and help reduce hazardous fuel loadings. The end state will be to have piles ready for USFS-KNF personnel to burn. Tribal members are encouraged to participate in implementing the prescribed burning with Forest Service employees.

The Pit River Tribe will provide transportation for crew members to the project site, meals, local lodging, Personal Protective Equipment, and any other necessary supplies.

The Forest Service will provide technical oversight, maps, inspections of completed work, and supply paper or plastic covering material for hand piles.

**Description of Work**

* + - * Hand thinning of western juniper utilizing chainsaws followed with limbing, bucking, and piling of activity fuels.
* Hand piles will be covered in preparation for burning.
* Pit River crews will be expected to identify treatment area boundaries and stream buffers using geo-referenced digital map products.
* Forest Service personnel will place flag lines to physically identify heritage exclusion area boundaries.
* Primary points of contact will be designated for the Goosenest RD and Pitt River Tribe in order to track work progress and coordinate field inspections.

**Treatment Specifications**

1. **Thinning Specifications:** Cut all juniper which do not meet leave tree specifications as defined by the following criteria:
	1. Retain juniper equal to or greater than 24 inches DBH, designated as beneficial to wildlife. Defined as trees with some or all of the following characteristics:
		1. Flattened, rounded or uneven tops.
		2. Bark that is thick and fibrous with well-developed vertical furrows.
		3. A combination of dead branches, missing bark, and limbs covered with light green lichens.
		4. Large diameter branches near the base and weakened leader growth.
	2. Retain all juniper which have pre-settlement era characteristics. Defined as trees with some or all of the following characteristics:
		1. Live trees which have historic fire scars; displayed as char, fire damage, or cat faces which show signs of significant weathering.
		2. Bottom limbs which are five or more feet above ground level (evidence of pruning by fire).
		3. Trees sheltered from fire by geographic barriers such as lava flows, rocky surfaces or ridges.
	3. Do not cut trees which are structurally integrated into existing fence lines.
	4. Do not cut trees which contain suspected eagle or hawk nests **(Appx. A, item F.4)**
	5. **See Appendix B (Treatment Unit Matrix) for guidance on thinning specifications in Heritage Exclusion Areas**. All cut material will be removed from and piled outside of the exclusion area boundary. Removed fuels should be carried fully suspended, in a manner which avoids ground disturbance caused by dragging one or both ends of a log **(Appx. A, item A.2.2)**.
2. **Stump Height**
	1. All trees felled will be cut to a specified stump height of 12 inches or less.
	2. All trees felled within the visual distance of high and moderate use recreation areas will be cut to a specified stump height of 6 inches or less **(Appx. A, item D.1)**.
3. **Limb wood**
	1. All limbs will be flush cut from boles of felled trees. Tops, 5 inches DBH and smaller may be placed directly in the piles.
	2. All live limbs will be fully severed from residual stumps.
4. **Boles and Stems**
	1. Boles of all felled trees which are to be piled, will be cut to a maximum length of six feet.
	2. Boles of felled trees which are left for down woody debris retention as identified below (4.2.1 and 4.2.2) will not be piled. Logs will be limbed as and bucked to ensure ground contact and that the majority of the log is not suspended or elevated. There is not a length requirement.
		1. Within 100 feet of Butte Creek, maintain an average of 20 pieces of large woody debris (40 cubic feet or larger) per 1,000 lineal feet of stream channel. For example, one 10-foot log 24 inches DBH, or two 10-foot logs 12 inches DBH, or two 10-foot logs 12 inches DBH, or sixteen logs 6 inches DBH. **(Appx. A, item G.1)**
		2. Outside of the 100-foot stream buffer, maintain existing snag and coarse woody debris levels across the landscape. Averaging 5 to 20 pieces in various states of decay, greater than 12 inches in diameter, randomly placed, per acre **(Appx. A, item F.2)**.
5. **Hand Piling Specifications:** Pile all cut material, limb wood, boles, and stems. With the exception of coarse woody debris used to satisfy requirements in **items F.2 and G.1**.
	1. **Pile Construction:** Hand piles shall be constructed symmetrical, compactly, and neatly.
		1. Maximum pile size shall be 8 feet in width and 8 feet in height. Minimum pile size shall be 4 feet in width and 4 feet in height. If circumstances require larger piles, Forest Service personnel may provide a written modification to the prescription upon review of resource protection requirements.
		2. Pile cut material with pieces oriented parallel in the same direction. Stack smaller diameter material (fines) in the bottom of pile. Stack larger diameter material, greater than 4 inches DBH, on the top half of the pile. At least 50% of material located in the lower third of the pile shall be composed of small diameter material which provide a kindling core.
		3. Piles shall be constructed in a manner to minimize voids, or large air spaces, in order to facilitate acceptable consumption when burned. Voids in excess of 8 cubic inches are not acceptable.
		4. Hand piles shall be separate and distinct, with a minimum of 10 feet between piles.
		5. Piles shall not be constructed on top of pre-existing large logs or stumps in order to minimize heat residence time during prescribed burning.
		6. If stand conditions require piles to be constructed on top of existing down logs, a 4-foot section of the log shall be cut out to isolate the pile and break fuel continuity to limit fire spread during prescribed burning.
	2. **Pile Location:** Hand piles shall be constructed in openings allowing defensible space around infrastructure, improvements, and areas of special concern.
		1. Piles shall be constructed at least 50 feet from the center line of powerlines.
		2. Piles shall be constructed at least 15 feet from active stream channels.
		3. Piles shall be constructed at least 15 feet from wooden fenceposts.
		4. Piles shall be constructed in locations which limit scorch impact to leave trees during prescribed burning.
		5. Where stand density allows, the center of the pile shall be 10 feet outside of the dripline of leave trees.
		6. Piles shall not be constructed to encompass or touch the base of leave trees.
	3. **Pile Covering:** Hand piles shall be covered with Forest Service provided material.
		1. Covering material shall be placed to cover the lower two-thirds of the pile. Covering 50 percent of the pile area. The remaining one-third of piled material will be placed on top of the covering material, anchoring it securely.
		2. Covering material shall not be anchored to the ground.
		3. Covering shall be placed in a manner which allows for full consumption of cover material during prescribed burning.
		4. Excess covering material, boxes, and core tubes shall not be placed in handpiles. Forest Service employees will coordinate back-haul and disposal of pile covering materials upon request.

**Appendix A: Project Design Features**

1. **Heritage Resources**
	1. All archaeological sites and features within the area of potential effects will be clearly delineated prior to implementation. This includes but is not limited to flagging site boundaries.
	2. No project activities will occur within exclusion area boundaries unless approved by a Forest archeologist and Standard Protection Measures in the R5 Programmatic Agreement are applied, as follows.
		1. Non-mechanized, hand treatments may be used within site boundaries to cut and remove hazardous fuels or trees. Hazardous fuels removed from within site boundaries will be piled and burned outside of site boundaries.
		2. Trees will be directionally felled away from site features and left on the ground or bucked and removed by hand. Removed fuels should be carried fully suspended, in a manner which avoids ground disturbance caused by dragging one or both ends of a log.
		3. Refer to Appendix A (Treatment Unit Matrix) for specific exclusion area treatment specifications.
	3. In the event that new archaeological deposits, including human remains, are discovered during project implementation, a Forest archeologist must be notified and all activities in the resource vicinity (150 feet) stopped until clearance is provided by a Forest archeologist.
2. **Botany**
	1. Meadows adjacent to treatment units shall not be used for landings, staging areas, or contractor camping. Vehicles are also prohibited from off-road travel in these areas.
		1. Affected Units: 721-119, 721-120, 721-129, 721-131, 721-135, 731-155.
3. **Non-native invasive species**
	1. Equipment and vehicles that leave established road surfaces will be cleaned of soil, seeds, vegetative matter, and other debris that could contain noxious weed seeds prior to entering and before leaving the project area. Areas appropriate for cleaning equipment prior to leaving the project area will be designated as appropriate.
	2. Ensure that there will be no parking of vehicles or mechanical equipment where high priority noxious weed infestations are known to occur. Equipment, vehicles, and personnel will avoid working within flagged noxious weed sites. Orange flagging labeled in black with "Invasive Species" will be used to identify avoidance boundaries.
4. **Recreation and Scenery**
	1. Low stump felled trees to about 6 inches within the visual distance of high and moderate public use areas, defined as:
		1. 150’ from Shafter Campground
		2. 150’ on either side of the Tennant Road (Siskiyou County 6P01), Old State Highway (Siskiyou County 8Q01), Orr Lake Road (44N030X and 44N06X).
	2. Do not use recreation sites along Butte Creek for landings, storage, or other vegetation management operations.
5. **Watershed**
	1. Directional felling will be used to protect streambanks. Cut trees shall not span or lay in the stream channel.
	2. Handpiles shall be constructed at least 15 feet from active stream channel for all streams.
	3. Hazard trees felled within hydrologic Riparian Reserves will be left on site unless leaving the tree would threaten the function of a drainage structure, cause stream diversion, or present a safety hazard.
	4. Refueling will not take place within Riparian Reserves except at designated landings in locations that are not hydrologically connected to water resources. A spill containment kit will be in place where refueling and servicing take place. Equipment used for refueling in Riparian Reserves will not exceed 150 gallons.
	5. Found wet areas (e.g. springs, seeps, ponds, streams) and meadows not previously identified during project planning will be treated as Riparian Reserves until reviewed by a specialist.
	6. Operate according to the Forest’s Wet Weather Operation Standards (USDA Forest Service 2002).
		1. Wet weather conditions result in poor road conditions in the project area. If wet conditions result in rutting 2 inches or greater in depth, travel on affected routes will be suspended until conditions improve.
	7. For all units with a Riparian Reserve component, effective stream shade will be maintained, or in the case of Butte Creek, restored through riparian plantings, to prevent negative effects to stream water temperature. Applies to both intermittent and perennial waterways.
6. **Wildlife**
	1. Retain mature juniper trees, defined as those with some or all of the following characteristics: flattened, rounded, or uneven tops, bark that is thick and fibrous with well-developed vertical furrows, a combination of dead branches, missing bark, and covered with light green lichens, or large branches near the base and weakened leader growth.
	2. Maintain existing snag and coarse woody debris levels across the landscape (7th field watershed scale) where fuel loading is not excessive; average five to twenty pieces in various states of decay, greater than 12 inches in diameter, per acre.
	3. Project activities within 300 feet of willow habitat will not be implemented during the period of May 15 through August 31, to reduce disturbance to nesting willow flycatchers.
	4. The District Wildlife Biologist will be notified and limited operating periods (LOP) will be established as necessary, If newly discovered occupied gray wolf dens or nests associated with bald eagle, golden eagle, northern goshawk, Swainson’s Hawk, or sandhill crane are found in the project area.
	5. No previously known or newly discovered bald or golden eagle, nest trees, perch trees, or roost trees within winter roost areas shall be removed or destroyed as a result of project activities.
7. **Riparian Reserve** **(All treatment units are located within the Riparian Reserve.)**
	1. Maintain 20 pieces of large wood (40 cubic feet or larger) per 1,000 lineal feet within 3rd to 5th order channels.
8. **Travel Management Plan**
	1. Vehicle travel including UTV and ATV use will be restricted to open travel routes in accordance with the KNF Motor Vehicle Use Map (MVUM).

**Appendix B: Treatment Unit Matrix**

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| **Unit ID** | **Unit Acres** | **Exclusion Area Acres** | **Exclusion Area Treatment Direction** |
| 720-33-1 | 5.9 | 0.4 | Cut and remove material within flagged exclusion area boundary. Construct piles outside of exclusion area.  |
| 720-121 | 1 | 0.3 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 720-122 | 1.3 | 0.2 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 721-116 | 7 | 0.1 | Cut and remove material within flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 721-119 | 26.8 | 3.1 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 721-120 | 17.7 | 0.9 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 721-121 | 12.3 | 1.3 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 721-129 | 74.8 | 0.5 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 721-131 | 114.1 | 0.0 | No exclusion areas present. |
| 721-135 | 25.9 | 4.8 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 730-62 | 106.8 | 10.6 | Cut and remove material within 50 feet interior of flagged exclusion area boundary. Construct piles outside of exclusion area. |
| 731-155 | 74.5 | 0.0 | No exclusion areas present. |

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| **Unit ID** | **Location** | **PDF** | **Acres** | **Coarse Woody Debris Retention Specifications** |
| 721-116, 721-120, 721-135, 721-119, 721-121, 721-129, 731-155, 730-62 |  Within 100-foot stream channel buffer | Riparian Reserve | 112.8 | Maintain an average of 20 pieces of large woody debris (40 cubic feet or larger, L’ x W ’x W’) per 1,000 lineal feet of stream channel. For example, one 10-foot log 24 inches DBH, or two 10-foot logs 12 inches DBH, or sixteen logs 6 inches DBH. |
| All | Remainder of Units | Wildlife | 355.8 | Maintain existing snag and coarse woody debris levels across the landscape. Averaging 5 to 20 pieces in various states of decay, greater than 12 inches in diameter, randomly placed, per acre. |