

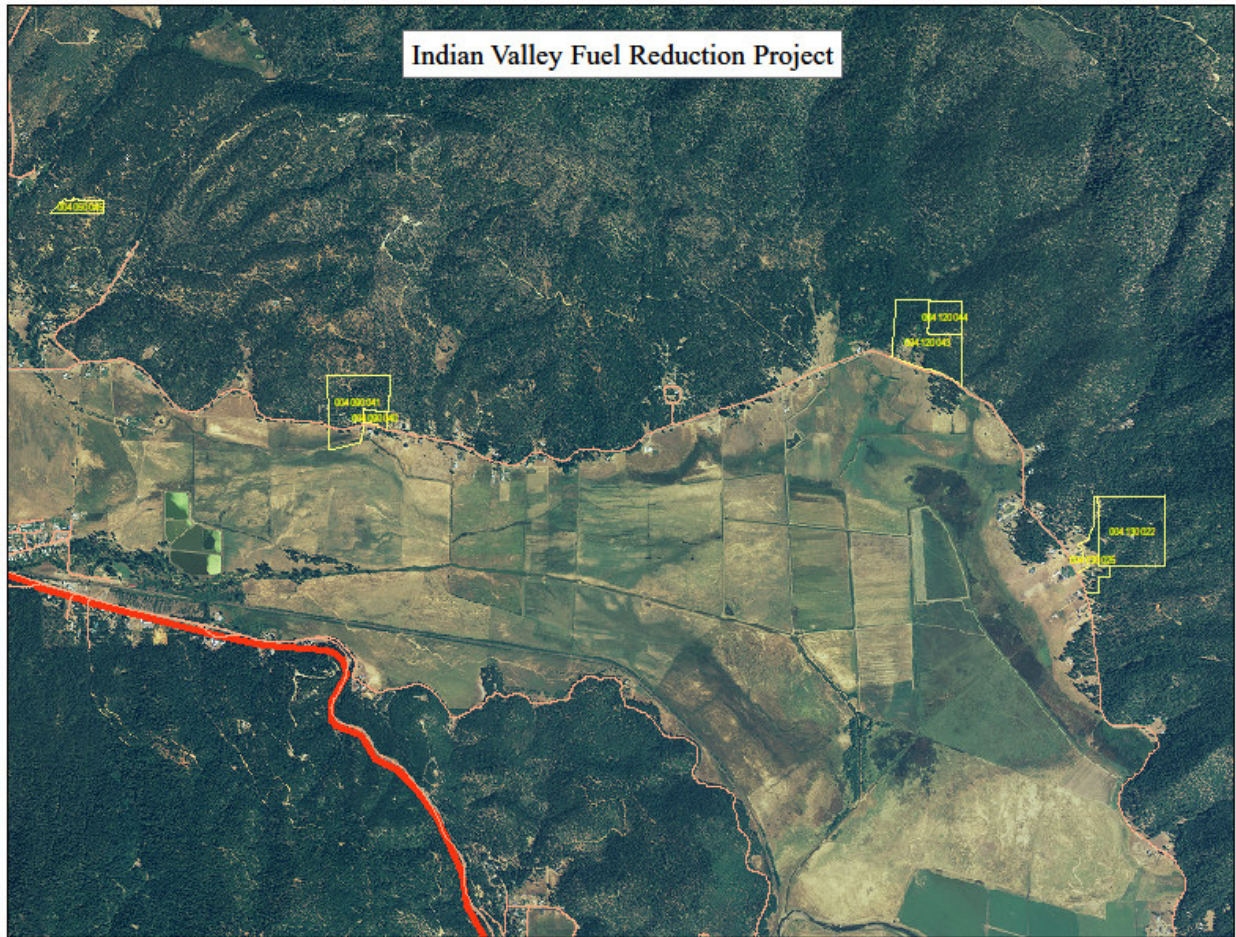
## **Indian Valley Hazardous Fuel Reduction (HFR)**

### **Final Report:**

**October, 2009**

### **General**

Indian Valley Hazardous Fuels Reduction (HFR) Project took place in 2005-2009 through the Plumas County Fire Safe Council (PCFSC). The project was initiated by the Indian Valley Volunteer Fire Department, following an outreach meeting with the Plumas National Forest on their broader “Keddie” project proposed for the Forest Service administered upland areas surrounding Indian Valley and nearby Genesee Valley. The Keddie Project is still in the planning stages. Outreach in 2005 and 2006 led to a PCFSC application to the Plumas County Board of Supervisors for Title III (federal Secure Rural Schools Act) funds to carry out planning for the project as well as to California Fire Safe Council for federal “National Fire Plan” funds to actually reduce the forest fuels. Planning funding began on 7/1/07 (\$15,300) and the HFR funding from CAFSC (\$176,560) became effective from 9/1/07-4/1/09 (subsequently amended to 9/30/09). The project generated \$51,566 in revenues from harvested forest products and landowner cash contribution. The project costs were \$ 243,532 as of 9/30/09. Some funds (<\$7,000) were expensed but are being held back for rainy season pile burning (as of 9/30/09). There were 183.5 acres of private lands’ fuel thinning done versus the original goal of 200 acres. Eleven property owners took part. The project area is north east of Greenville, in central Plumas County, along North Valley Road and also on Williams Valley, Pecks Valley and Hunt Canyon roads. A map of the initial (2007) project area follows:

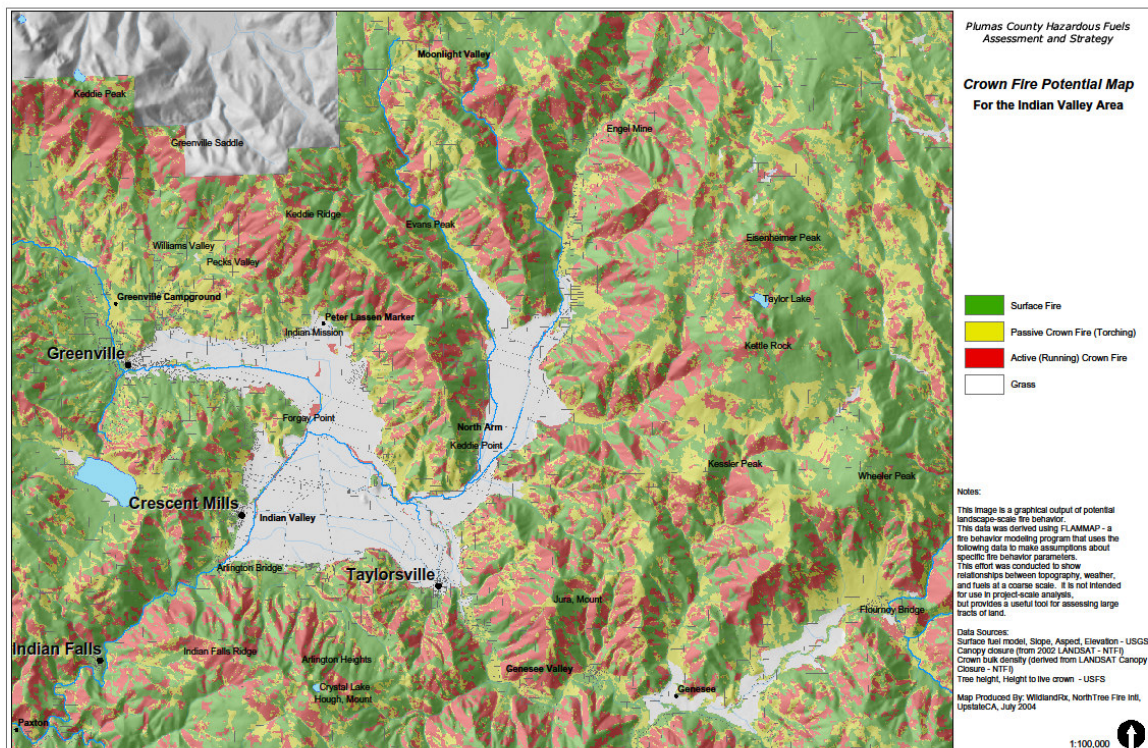


## Project Design, Planning & Oversight

A Request for Proposals to Registered Professionals Foresters (RPF) was issued by PCFSC in 9/07 for this and other hazardous fuels projects. California Registered Professional Forester Joe Smailes was retained by the Plumas Fire Safe Council in late 2007 to design and supervise the project (using Title III funds). Contemporaneously, he was hired to oversee a smaller nearby project (Taylorsville Campground, ~30 acres). Smailes continued the previous outreach phase, designed the fuels reduction project and accomplished the Landowner Agreements, permits and the bidding process. He took a new position as ecosystem manager at the USDA Forest Service's Mt. Hough Ranger District in 2008 (the District surrounds both project areas). He was succeeded during the actual forest thinning contracts' execution and supervision phase of the project by Danielle Banchio, another registered professional forester doing business as 'North Valley Resources'. Banchio oversaw the bidding, contracting and actual fuels reduction activities. As in previous PCFSC projects, a local non-profit, Plumas Corporation, performed the administrative and financial functions.

## Hazardous Fuels Conditions

The area below and south of the Keddie Ridge (primarily public lands managed by the US Forest Service) and above the agricultural land of Indian Valley proper is a South-facing slope and has not had its forest fuels treated in generations. Consequently it was defined in PCFSC's 2005 'Hazardous Fuels Assessment and Strategy' as being especially prone to passive and active 'crown fires'. The following map shows the crown fire potentials along Keddie Ridge and in the general project area. The project acres are east and west of the 'Peter Lassen Marker' on this map.



This hazardous fuels condition led the PCFSC to focus outreach attention and educational efforts on the area bordering Indian Valley as well as to continue working with USFS to develop treatments on nearby federal lands. The Strategy described the area north of the town of Greenville in these terms:

### **Community: Greenville**

#### **Dominant Historic Large Fire Behavior by Community:**

*Uphill runs on south slopes, no large fire history on north-facing slopes, no large fire history in flats.*

#### **Tactical Considerations:**

*Many scattered structures on large parcels in doghair thickets along Williams Valley Road (sec. 35 north of county road dept. yard). Suggest area treatments in center sec. 35.*

***Fuels Comments/Recommendations:***

*Opportunities for multi-owner collaboration to thin and underburn areas between Wolf Creek Road Subdivision and RxR - consider RAC grant in collaboration with Collins Pine Co. Excellent opportunities for prescribed fire use and outreach in collaboration with Maidu tribe stewardship lands north of town. Roadside thinning/ignition hazard reduction is high priority in Williams Valley Road area. Recent thinning on large ownership in area directly west of town will present opportunity for demonstration maintenance burning in 5-10 years.*

***Photopoints***

*GV 1, GV 2*

***Fire Behavior***

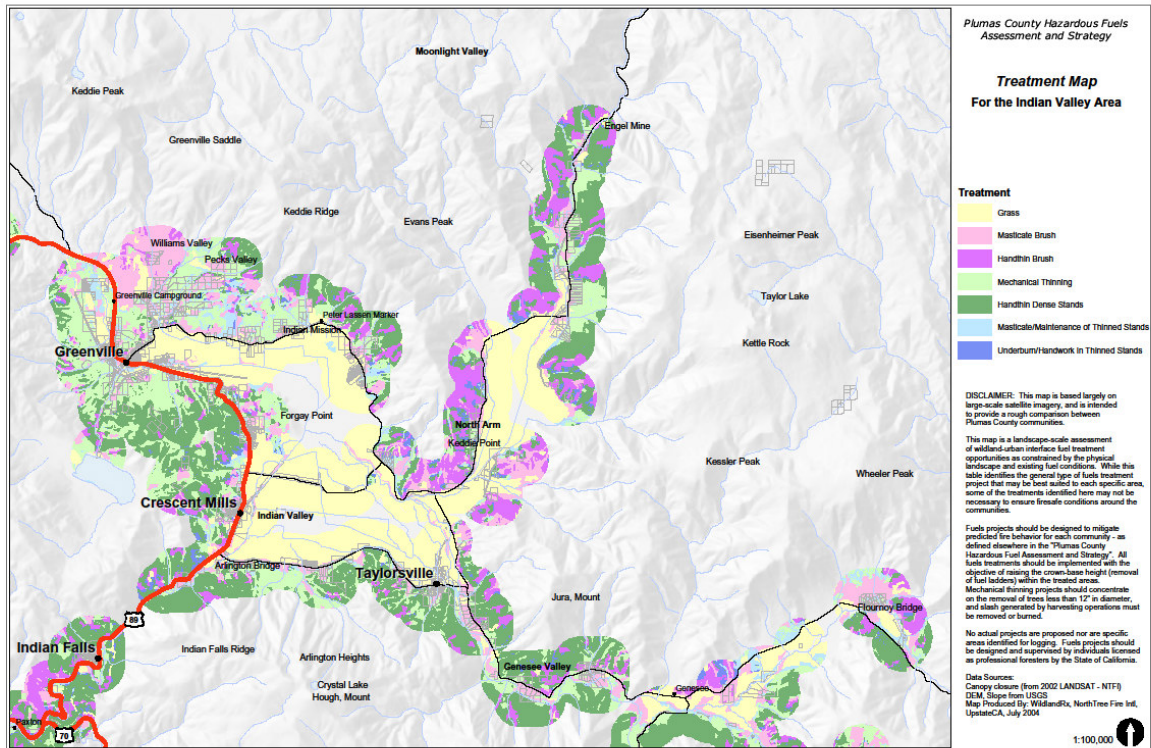
*Extreme fire Behavior with Plume dominated active crown fire.*

## **HFR Project Outreach**

Indian Valley residents and landowners began responding to PCFSC's calls for acreages to thin in late 2006 and began to submit PCFSC 'landowner applications'. More than 200 letters were mailed by PCFSC to property owners in Indian Valley on 3/14/07 to further that continuing effort. An additional mailing in March 2008 preceded a 4/08 community meeting in Greenville to further inform the community. This effort resulted in completing the roster of property owners interested in the project. All eleven property owners executed the standard "Landowner Agreement" (using a contract template developed by PCFSC with the in-kind assistance of Plumas County Counsel) defining the various roles in the project implementation. Some modifications in the landowner agreement, for clarification, were approved by Plumas County Counsel for this Indian Valley project.

## **Recommended Treatments and Rationale**

The 2005 *Hazardous Fuels Strategy* briefly outlined the recommended area treatments within Indian Valley in narrative fashion (see above). The intention of the treatments by PCFSC was to move the treated acreage from a very flammable situation to one less likely to initiate or propagate a crown fire, where stands would become fire resilient and survive a fire. The narrative developed by PCFSC for this project application stated: 'The primary benefit will be in converting 200 acres of "Condition Class III" forests to Class II. Community benefits will include, decreased wildland fire impacts to a community; increased education for other property owners in the County on how to mitigate the potential effect of a wildland fire; reduced suppression costs & resource commitments during a wildfire, higher residence survival opportunities; and local employment and woody materials (for local mills and cogeneration plants) generated by this project. This project compliments HFR efforts on other public and private lands in the vicinity.' The Plumas National Forest's *Keddie* project is proposing treatment for 6,500 acres of adjacent public lands (analysis area), with treatments which include mechanical and hand thinning, and prescribed underburning. The type of treatments suggested for the public and private lands within the WUI are visually described in the attached map from the 2005 *Strategy*.



## Funding

PCFSC applied for Title III funds from the Board of Supervisors for permitting, planning, implementation field supervision and environmental work on this project in March of 2007. These funds were approved and formally contracted to PCFSC in July of 2007 (\$ 15,300). PCFSC applied to CA FSC for National Fire Plan funding on 2/3/07. These funds were awarded and a contract for \$ 176,560 between CAFSC and PCFSC was executed with a start date of 9/1/07 and an initial completion date of 4/30/09. This was later extended to 9/30/09. Additionally, the sale of harvested forest products (chips), along with landowner contribution from the project brought in \$ 51,566.

## Monitoring

Two types of field monitoring (using gps and photo points) are being carried out before and during the project term. Nine photo points were established in the broader Indian Valley/Indian Falls/Genesee Valley area as part of the 2005 *Hazardous Fuels Strategy*. One of those photo points was in the Williams Valley portion of the project area. The actual project era monitoring was developed and overseen by University of California Cooperative Extension. It consists of 12 photo points on project properties. Each

photo point was gps'd and digital photos taken in each cardinal direction prior to thinning work. Most of these sites were visited after thinning. The series is considered an attachment to this report and can also be viewed separately at the website <[www.plumasfiresafe.org/projects](http://www.plumasfiresafe.org/projects)>

## The “Prospectus”

PCFSC puts fuels reduction projects out to bids for loggers and other contractors with a ‘Prospectus’. The Prospectus is both mailed to contractors, posted on the PCFSC website and an email notice also goes to the contractor list. The Prospectus was promulgated on 7/29/08 and is available at <<http://www.plumasfiresafe.org/Projects/FSC%20Indian%20Valley%20Prospectus.pdf>>. The bids were accepted on 8/22/08. All bidders were required to attend two field tours prior to bids being presented.

The prospectus called for three different types of treatment-

- “ biomass”,
- “mastication” and
- handthin/pile and burn.

This mix of treatments was based upon slope, aspect, fuel loading, access, landowner wishes and other considerations. The following chart describes those treatments and their proposed acreages in the *Prospectus*:

Treatment	Description	# of acres in <i>Prospectus</i>
Biomass	A combination of biomass (whole tree commercial thinning), chip & sawlog delivery including sanitation-salvage { <i>N.B. Biomass is a commercial activity with product revenues, in contrast to the other treatments</i> }, followed by mastication, hand pile & burn, or chipping shall be required to reduce the fuel load and modify vegetative density for fire hazard reduction.	75
Mastication	Mechanical mastication, hand cutting, or chipping, targets small conifer trees (< 10”), schlerophyl brush, and surface fuels for the purpose of reducing fuel loading, and the modification of vegetative density/arrangement for fire hazard reduction. The area is composed of an overstory mix of Ponderosa Pine, Sugar Pine, Douglas-fir, Incense Cedar,	65

	California Black Oak, Canyon Live Oak and an understory of mixed conifer/oak saplings and schlerophyl brush. In some cases, brush is the dominant vegetation mixed with occasional pockets of mixed conifer. Native oaks are favored to remain as a part of the residual stand.	
Hand thin/Pile and Burn	This proposed treatment method will target the removal of schlerophyl brush (drought hardy chaparral –primarily Manzanita and Ceanothus spp) and conifer trees less than 9.9” dbh. The area is composed of an overstory mix of Ponderosa Pine, Sugar Pine, Douglas-fir, Incense Cedar, California Black Oak, Canyon Live Oak and an understory of mixed conifer/oak saplings and schlerophyl brush.	30.5
	Total Acres	170.5

## Bids and Contract Awards

Eight contractors submitted bids in a timely manner. Most contractors bid on one or two aspects of the project. Contractors were allowed to bid in this manner.

After a significant level of negotiation, (including one contractor being relieved from the project prior to commencement of work due to their expressed inability to accomplish the work in the fall of 2008) the following initial contracts were entered into with the Licensed Timber operators and contractors, using a contract template developed by PCFSC, with the in-kind assistance of Plumas County Counsel). These contracts were later modified to allow for acreage and other cost increases allowed for in the initial contracts and the *Prospectus*.

Name of Contractor/Location, Contract Date	Initial Contract Amount	Activity
Winningham Forest Management, Taylorsville, 12/16/08	\$ 27,185	Mastication
Holt Enterprises, Westwood, 10/15/08	\$125,547	Biomass

American Valley Tree Service, Quincy, 9/26/08	\$ 21,039	Hand Thin/Pile/Burn
Total Initially Committed	\$ 173,771	

## Permits

The Forester accomplished the needed environmental reviews under CEQA and NEPA. These resulted in two permit applications submitted to California Department of Forestry and Fire Protection in November of 2008. These requests could be submitted once the logging operators had been identified. CalFire issued a 'Forest Fire Prevention Exemption' (2-08EX-943-PLU) on 11/18/09 and also issued 'Dead, Dying or Diseased Exemption' (2-08EX-950-PLU) on 11/19/08. These exemptions enabled the field work to legally begin and for forest products to be harvested and sold to the extent allowed in the Exemptions. The exemption performance was approved by CalFire by 9/30/09.

## Timing and Type of Forest Thinning

The thinning and hand piling work began in October of 2008 (American Valley Tree Service). The original hand work was augmented by other acreages during the contract and continued through early August, 2009. Some pile burning remains to be accomplished under contract and funds have been withheld from the contractor for that purpose in fall/winter 2009.

The stand-alone mastication work (Winningham) began in December, 2008 and that work was completed by 3/31/09.

The major biomass work (Holt) took in late spring of 2009 and was completed by 6/30/09, although some final road work and closeout took place as late as September, 2009. Some log sales had been expected from this effort. This expectation was not met for two primary reasons:

- The small log mill closed in Quincy in May of 2009 due to the slowdown in the economy and other (supply related) reasons and
- Prices offered by the remaining local small log mill in Chester were lower (due to the demand slowdown in the housing economy) than that which were realized through sales of chips to the stand- alone biomass electric generator in nearby Westwood (Lassen County).

## Material Removed

The Indian Valley HFR biomass work produced 1019 Bone Dry Tons (BDTs) on the 68 acres where chips were produced for sale. This equates to approximately 15 BDT per acre (the equivalent of approximately 30 'green' tons per acre). One large chip truck usually carries ~25 green tons. The project produced more than a load of chips per acre. This chip tonnage amount greatly exceeded the per acre volume from previous PCFSC projects [approximately 10 BDTs per acre], owing to the dense, overgrown nature of the treated acres around Indian Valley as well as the lack of log sales. This was due to the lack of reasonable sales prices for the small logs that resulted from the project.

No revenues were received from the sale of sawlogs. The smaller trees, which could have been taken to a small log mill, were instead made into chips. These chips were either broadcast onto the ground in the less dense and overly steep areas or, when possible, trucked to a biomass-powered electric generation station. No live trees > 21" diameter at breast height (dbh) were cut. Revenues from chips were received in June and July, 2009 and along with landowner cash contribution, totaled \$51,566. The grant application had predicted \$ 61,840 from the sale of material on the project. The FOB price for chips from the Covanta Power in Westwood was \$50/BDT. This was a comparatively a high price paid for the chips.

The grant application had predicted 20,000 cubic board feet of sawlogs and 2800 green tons of chips for the estimated 200 acres to be treated. The application predicted volumes would be removed from all 200 acres. Due to the actual property owners who participated compared to what was estimated in the application, only 68 acres had material removed, all in the form of chips (due to lumber market and other reasons). There were a number of equipment limitations on the participating properties which reduced the available acres of forest product harvesting. There were no sawlogs removed for reasons discussed above. A total of ~ 2038 'green' of chips tons were removed. Had there been a higher level of community interest from other landowners, the project would have likely exceeded the revenue projections. The lack of log sales, uncontrollable as it was, negatively impacted the project finances, particularly matching funds, in three ways:

- Fewer acres produced revenues,
- More truckloads of chips off the revenue producing acres led to higher transportation costs than were anticipated and
- Although acres producing logs and acres producing chips have similar logging costs per acre, the revenues per acre from chips are much lower than from logs.

This variability in volumes and disposition of materials is the current nature of these projects involving Hazardous Fuel Reduction in western, conifer forested communities.

## Cost Areas

Plumas Corporation Project Name and Code #	Grant Contract #	Logging/Fuels Reduction Contractor Costs	Forester: Planning, Permitting and Supervision Costs	Attributable Plumas Corporation Staffing and expenses	Plumas Corporation Professional Liability Insurance premiums	Attributable Plumas Corporation General Administration	Total
Indian Valley Hazardous Fuels Reduction: # 233	CA FSC # 08 USFS 00008 (National Fire Plan)	211,788.46	3,273.41	10,706.03	504.72	2,708.34	228,232.23
Indian Valley HFR Title III: # 228	Board of Supervisors approved 7/07		15,248.73	44.26	1.18	5.83	15,300.00
<b>Total Expenses</b>		<b>211,788.46 (87 %)</b>	<b>18,522.14 (7.6 %)</b>	<b>10,570.29 (4.4 %)</b>	<b>505.9 (&lt; 1 %)</b>	<b>2,714.17 (1.1 %)</b>	<b>243,532.23</b>
						<b>Accrued Expenses (9/30/09) Minus Chip/other Revenue (\$ 51,566)</b>	<b>191,966.23</b>
						<b>Total Available Grants (for reference)</b>	<b>191,860.00</b>

The percentage of expenses devoted to actual fuels reduction work is similar to previous Plumas Fire Safe Council projects in the last five years, beginning with the 2005 HFR Demonstration project (82 %), C Road HFR (91 %), Whitehawk HFR (85 %) and Red Clover HFR (86 %). The other expense areas are also similar to previous projects.

## Payments to Loggers

The payments to the loggers were as follows:

Name of Licensed Timber Operator	Type treatment/ Acres treated	Amount To LTO	Costs per acre
Holt Logging	Biomass with embedded mastication/70 ac.	\$ 129,806.96	\$ 1,854
American Valley Tree	Hand Piling and burning/ 51.5 ac.	\$ 40,796 cut/pile plus \$ 4,950 burn= \$ 45,746	\$ 888
Winningham	Mastication/63.5 ac.	36,235.5	\$ 571
	Total- ~185 acres	\$ 211,746.46	\$ 1,144 per acre

## Indian Valley HFR Treatment Types, Landowners and Acres

The suite of treatments at Indian Valley included most of the equipment and operational methods available in this area. The following chart describes the generic treatments by method, owner and acreage. The actual acreage differs slightly from the above total due to rounding in the above total

Landowner (Initial)	Masticated Only Acres	Biomass (with embedded mastication) Acres	Hand Pile/Burn Acres	Acreage Totals
A			1	1
H1	9			9
M1			3.5	3.5
WI	15			15

M2	6.5	49	1.5	57
S	20			20
B1	13		23.5	36.5
H2		19	3.5	22.5
B2			7	7
R			2	2
P			10	10
	63.5	68	52	183.5

## Signage

The following sign was developed for placement on two participating properties.

# Plumas County Fire Safe Council



## INDIAN VALLEY HAZARDOUS FUEL REDUCTION (HFR) PROJECT

This HFR project will reduce future impacts to life, property and natural resources due to catastrophic wildfires for properties in the Indian Valley Community. Over 170 acres of HFR have been completed. Treated properties are spread along the North Valley Road. Funding for this project was provided to the Plumas County Fire Safe Council by the US Forest Service, with National Fire Plan funds, through the California Fire Safe Council, County Board of Supervisors and forest product contributions by landowners.

Visit [www.plumasfiresafe.org](http://www.plumasfiresafe.org) for more information



PLUMAS  
*Corporation*



