

# **WEAVERVILLE COMMUNITY FOREST STEWARDSHIP PROJECT**

## **FY 2008 Annual Report**

**(Cooperative Agreement NO. BAA050055)**

**Prepared by  
Trinity County Resource Conservation District**

**For**

**USDI, Bureau of Land Management – Redding Field Office**



## **I. BACKGROUND**

Northern California is prone to large catastrophic wildland fires that burn several thousand acres of forestland as well as residential homes. The 2001 Oregon Fire burned directly into the town of Weaverville as well as portions of BLM lands within the community forest stewardship project area. Subsequent wildfires in 2006 and 2008 in the vicinity of Weaverville highlight the importance of managing forest in the Wildland Urban Interface. Fuels treatments such as mechanical thinning can be instrumental in protecting forest habitat and valuable property adjacent to public land. In 2002, BLM completed a series of shaded fuel breaks along Democrat Ridge, the main road system, and around the Timber Ridge subdivision. These fuel breaks offer some degree of fire protection but larger landscape level project are more effective. The new BLM forest stewardship program provides an opportunity for BLM to partner with local organizations to expedite larger scale and multiple year forest and resource management projects. This is the third annual report for the Weaverville Community Forest Stewardship Project since the ten-year master agreement was executed in September 2005.

## **II. PROJECT OBJECTIVES**

The Weaverville Community Forest Stewardship Project is planned to be a multi-year project on approximately 1000-acres of densely forested BLM public lands adjacent to the town of Weaverville. The Stewardship project will meet both the Weaverville community and BLM management objectives for multiple use resource management, reducing hazardous fuels near communities, and improving overall forest health. Several community meetings and on-site field trips have been conducted and a cooperative agreement and initial stewardship forest plan was developed. The initial project operation and management plan was designed to implement initial fuels treatment work on some of the highest fire risk areas near the Timber Ridge subdivision. The first phase was completed on approximately 200 acres in 2007. The revenue generated from this treatment will then be used to complete future projects on BLM lands within at the community forest such as: additional sustained yield forest health treatments, road and trail maintenance, patrol, sign maintenance, cultural inventory and interpretation.

## **II. PROJECT LOCATION AND DESCRIPTION**

A. Location: BLM public lands adjacent to the community of Weaverville, CA, Trinity County. Specific project location for this mechanical treatment phase is; portions of Sections 11, 12 & 13, T33N, R10W, MDB&M bounded roughly by the second unnamed tributary to Weaver Creek west of Mill Street, the lower slope south of the PG&E high voltage power line and Weaver Creek, and Timber Ridge subdivision on the southeast, the divide between the Democrat Gulch and Weaver Creek drainages on the west, "Noble" Road and an unnamed haul road between it and Democrat Gulch Road on the northeast, and Democrat Gulch Road on the east.

See Project Map (Weaverville Community Forest Fuels Treatment, Phase I (June 21, 2005).

B. Access. The project area is accessed by Oregon Street, Mill Street, and Democrat Ridge Road in Weaverville.

C. Description: Heavily timbered ponderosa pine- Douglas fir forests on mainly north aspects of Democrat Ridge within the Weaver Creek Drainage. Elevations range from 1,900 – 3,000'.

The topography of the project area is generally characterized by short moderately steep slopes (25-70%), with a main ridge running northwest to southeast.

D. Strategic Plan: A Strategic Plan was developed in 2006 using the results of numerous community meetings and field trips to the WCF as a guide. This 10-year road map and schedule for the entire community forest area includes the following key elements:

- Road and trail maintenance and/or obliteration priorities to improve and/or maintain water quality within the watershed
- Vegetation management to promote healthy forest stands and reduce fire hazards
- Weed management assessment, project prioritization and implementation
- Other watershed and wildlife habitat improvement needs
- Cultural resources protection and interpretation
- Effectiveness monitoring
- Community outreach and involvement
- Detailed annual stewardship work plan.



### III. Accomplishments From 2008 Work Plan

The annual work plan for 2008 was designed to focus on smaller stewardship projects that did not involve the removal of merchantable timber. Instead, the following projects were developed from the Strategic Plan to meet other stewardship objectives. The annual work plan had the following tasks with a proposed budget of approximately \$77,000.00.

#### 1 Plan Phase II Forest Health Treatment:

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**Task Description** TCRC and the BLM will develop a plan, as well as the complete NEPA, for Phase II of the Weaverville Community Forest. A portion of this plan will include details to deal with the bug infestation that is affecting portions of the Weaverville Community Forest. The NEPA documentation for this task will be separate from the NEPA document that will be prepared for other tasks in the strategic work plan.

**Work Summary** TCRC is currently working to develop Phase II of the Weaverville Community Forest. A number of field visits have been made with TCRC staff and BLM staff to first determine the project area, as well as management activities within that area. The Phase II project area is highly sensitive for cultural resources and many of the areas will need site-specific decisions on how to work within and around the cultural resources.

#### 2 Prepare NEPA for 2008 Tasks

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**Task Description** In order to complete some of the below mentioned tasks, proper NEPA documentation is required. This task will provide funds to complete any required documentation.

**Work Summary** A draft NEPA document has been prepared for the loop trail that is proposed. It is currently being reviewed by BLM staff, NEPA was prepared and approved for the Weaver Creek Trail, the prescribed herbivory project and the Oregon Street (Grub Ridge) Forest Stand Improvement Project.

#### 3 Design future recreation and education plan

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**Task Description** BLM and TCRC will work with local educational providers and recreational users to provide needed educational and recreational needs. Some portion of this task will be to work with those interested in developing a "ropes course" within the Weaverville Community Forest.

**Work Summary** The WCF has been selected as a field study site for a Field Biology Course (BIO 12) through the Shasta College Weaverville Campus. The class will be offered in the Fall 2009 semester. The course will use the permanent plots and the CreekWatch stations and will lead to long-term monitoring within the WCF.

#### 4 Design and build loop trail lined to West Weaver Trail with interpretive signage

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**Task Description** Using existing mining ditches and other natural features, TCRC will construct a loop recreational trail within the Phase I boundary. This trail will connect with the existing Weaver Basin Trail system, specifically the West Weaver Trail and will include interpretive signage where appropriate.

**Work Summary** NEPA for this is being reviewed; the trail location has been planned, mapped and flagged for construction. Additional funding has been secured from WAPA for interpretive signage or brochure.

## 5 Develop and implement road and trail maintenance plan

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**Task Description** Many of the roads and trails within the Community Forest will need maintenance and upgrades due to the increased usage. This plan will ensure proper management of the roads as well as existing trails and include 2008 maintenance.

**Work Summary** Democrat Gulch Road is a primary access road and has heavy public use. A Storm-proofing design has been completed. Cost-share funding was secured from the Trinity River Restoration Program for this project, but the funding did not arrive until the end of the 2008 field season, so only a small portion of the work was completed in 2008.

## 6 Native American cultural outreach--Traditional ecological knowledge

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**Task Description** This task will enable the TCRCD and BLM to work with local Native American groups and use traditional ecological knowledge when managing the Weaverville Community Forest. It will also allow TCRCD to work with local Native American groups to manage resources within the WCF that are important to those groups.

**Work Summary** On January 15<sup>th</sup> TCRCD Staff and a consulting forester met with a Native American forester who specializes in management of oak woodlands. He has completed an Oaks Management Field Consultation, as well as provided his publication of *Ecocultural Restoration Prescriptions and Ecological Principles for the Klamath-Siskiyou Ecoregion and the North Coast Mountains of NW California* for future planning efforts.

## 7 Annual survey/maintenance and monitoring

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**Task Description** Using TCRCD staff, the existing Christmas tree farm be surveyed and necessary maintenance will be preformed. The 2007 scotch broom eradication program will also be surveyed to ensure continued success. Monitoring of the Weaverville Community Forest will also include before and after photo points throughout the forest.

**Work Summary** Post-treatment photos were taken for Phase I. A sample set is included in this report. The replanted Christmas Tree "farm" was monitored with a survival rate of approximately 95 % of the approximately 1024 trees planted in 2008. The replanted trees were watered throughout the summer, increasing the survival. The scotch broom eradication sites were reviewed and hand-pulling of regeneration completed, removing 62 plants.

## 8 Sub-Merchantable timber (from Phase I) and biomass demonstration project

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**Task Description** Remove small diameter timber from Phase I and use some of the material to work with the TCRCD Biomass Utilization grant to construct a pole pavilion at Lee Fong Park.

**Work Summary** The Pole Pavilion was constructed at Lee Fong Park with logs provided by the Watershed Research & Training Center. The purpose of the pavilion is to demonstrate the possible uses of small diameter materials. Through demonstration and education it might be possible to develop a demand for poles, which will improve the economics of removing small diameter material. Removal of small diameter material from the Weaverville Community Forest began in the late summer of 2008, having been delayed by the extreme wildfire season in Trinity County. Removal techniques involved using a Polaris Ranger and a Forwarding Arch. This method proved to be very successful and a very cost effective way of removing small diameter material. The most likely product will be firewood to be sold in 2009. Other biomass utilization included working with a local non-profit (LAPP) to cut boughs from the small diameter project area for a Christmas Wreath fundraiser.

## 9 Black Locust Forest Investigation

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**Task Description** Explore the origin, condition and history of the Black Locust Forest located within the Weaverville Community Forest.

**Work Summary** Using local knowledge from the historical society, the roads department, the Joss House, an investigative report was written regarding the Black Locust Forest within the Weaverville Community Forest. It is still unknown why the Black Locust have grown to extent they have along the trail in the community forest.

## 10 Heritage Fruit Trees

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**Task Description** Work with Carol Fall and the UC Extension to provide assistance in identifying the varieties of the heritage fruit trees within the Weaverville Community Forest and subsequently collecting scion wood and propagating grafts.

**Work Summary** Fruit was collected this summer/fall and sent for identification and an additional tree was located along the Weaver Creek Trail. It was photographed, catalogued and its location mapped. Based on the results of the fruit identification, scion wood will be collected in 2009 and grafted. Five young grafted heritage trees were planted in the vicinity of the existing trees and cared for in 2008.

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Additionally there were two tasks to complete from the previous year – a prescribed herbivory demonstration project and the construction of the Weaver Creek Trail. Both were implemented in 2008.

The prescribed herbivory demonstration area is along a segment of Weaver Basin Trail between Mill Street and the Industrial Park. A crew from the Trinity River Conservation Camp built the mile-long trail in May by cutting away huge blackberry thickets to clear a route. The blackberries immediately began re-sprouting with renewed vigor, as expected. A herd of 32 goats was brought in for two weeks in early July to browse back the carpet of new shoots. According to the owner of the Boer goat herd, Rob Augusta, allowing goats to munch and trample blackberry vines in two or three repeat visits over several months can deplete and ultimately kill the plants. This demonstration project had additional benefits. The publicity resulted in requests from other landowners to use the goat herd to help control this invasive and hard to manage blackberry species and the project uncovered cultural resources that had been hidden by the impenetrable vegetation, including heritage apple trees in an historic mining site.



**Public Education and Outreach** continued in 2008 and was blended with the on-going efforts to expand the community forest model on lands managed by the USFS in the Weaverville Basin. Highlights of the outreach including the following:

A Community Meeting was held April 2008. Approximately 30 people attended the meeting to discuss the Phase I project, the annual stewardship work plan and to discuss the community's interest in an expansion of the WCF onto USFS lands, based on the positive reaction to the work within the BLM lands.

Field Tours continued throughout the year. Some highlights were the following:

- ★ GAO staff (April 17)
- ★ Humboldt State University Natural Resources Class (April 3)
- ★ BLM RAC (June 11)
- ★ California Association of Conservation Districts Forestry Committee (August 14)
- ★ University of California Cooperative Extension Roads Workshop (September 13)
- ★ Congressman Herger (October 6)
- ★ East African Group Study Exchange Team (November 14)

Considerable benefit is derived from involving the community in the forest and its management. Two notable activities have promoted forest health issues in the WCF in 2008. The Community Firewood project was a great success. All of the wood purchased by the TCRCD from BLM was sold and delivered for local household heating use. The Lowden Aquatic Park Project (LAPP) worked with TCRCD staff for the second year to collect Douglas Fir boughs from the sub-merchantable project area. These boughs were used to make wreaths and swags as a fundraiser for LAPP (\$3,000) and to decorate downtown Weaverville. The *Trinity Journal* provided news coverage of the volunteer workdays in the forest enhancing the connection of the community with the forest.



#### **IV. Stewardship Work Plan (2008)**

The Weaverville Community Forest Stewardship Account had approximately \$113,000 available from the Phase I project in 2007. A work plan was developed in Spring 2008 from the WCF Strategic Plan and progress on the tasks completed during the 2007 field season is noted on the table above. The most significant challenge in 2008 was the severe wildfire season, which began on June 21 and lasted through most of the summer. Delays in receiving matching money from other sources, most notably the Trinity River Restoration Program's watershed implementation grant also caused delays in to the 2009 work season.

#### **V. Leveraging Funds**

One element of the TCRCD's efforts on the WCF is to bring additional funding to leverage with Stewardship funds. Funds from other sources have been added to the overall Weaverville Community Forest program. This year \$102,800.00 of leveraged funds have been contributed, as follows:

State Water Resources Control Board (319[h] grant): The TCRCD received a multi-year grant to implement a wide range of projects to address the sediment TMDLs that have been adopted by

USEPA in Trinity County. This grant's scope of work identified the link between catastrophic wildfire and sediment delivery to the Weaver Creek watershed, including the tributaries in the Community Forest. This grant is contributing a small amount of funding (less than \$15,000.00) to kick-off a citizen stream monitoring program called "CreekWatch."

California Department of Transportation: The TCRCDC was solicited by Caltrans to assist with mitigation for the Rocky Point Passing Lane Project on Highway 299 east of Weaverville. As a result an agreement was signed between Caltrans and TCRCDC to help implement Oregon Street forest stand improvement project in the Grub Gulch Ridge parcel of the WCF. \$25,000.00 was used to implement this project in 2008.

Trinity River Restoration Program, through the Trinity River Watershed Council has contributed funds in 2008 for some vegetation management associated with the Oregon Street/Grub Ridge project and \$60,000 for storm-proofing of the Democrat Gulch Road, which was started in 2008 and will be completed in 2009.

The Western Area Power Administration (WAPA) provided \$2,800 as cultural resources mitigation. These funds will be used in 2009 to complete the interpretive signage for the West Weaver Creek Trail/ADA Loop Trail.



**Oaks Management Field Consultation**  
**For Phase II of the**  
**Weaverville Community Forest Watershed Health Project**

**Report by Dennis Martinez**

**January 15, 2009**

In doing assessments for oak woodland/savanna health, I look for three primary indicators: good acorn productivity, tree vigor, and regeneration. I approach any thinning operations from a variable density management perspective. I apply the same approach for conifer forests as I do for oaks. The main principle is to find a good balance between individual tree vigor and overall forest stand net primary and secondary productivity, and compositional and structural diversity. The whole forested landscape takes precedence over any one part, except in the special case of endangered species or rampant invasives. Of particular concern is genetic diversity for the overall resistance, resilience, and redundancy that is needed to adapt to rapid climate change. (Refer to sections III and V in “Yurok/Ecotrust” prescription, which covers all of the Klamath-Siskiyou ecoregion.)

The site we visited is mostly a hardwood type (especially white oak) with some ponderosa pine and only occasional sugar pine, and incense-cedar present, with Douglas-fir more abundant on the north and northeast aspects and in soils with adequate moisture retention. There are occasional black oaks, madrones and canyon live oaks. The oaks dominate west, south, southwest, and southeast slope aspects. Buckbrush (*Ceanothus cuneatus*), white leaf manzanita (*Arctostaphylos viscida*), and green leaf manzanita (*A. patula*) are the dominant shrubs. Native bunchgrass (*Festuca* spp, *Elymus* [*Leymus*] *glauca*, and *Nasella lemmonii*) are dominant on many sites, but interspersed with some exotic grasses, especially *polygonum monspeliensis* (rabbit’s-foot grass) where soils are severely compacted. Other annual exotic grasses and most native and introduced forbs were not identifiable due to the season. Soils are mostly compacted clays. This accounts

for the pit-and-mound forest floor in the conifer stands caused by windthrow during saturated soil conditions.

Douglas-fir and ponderosa pine that have invaded white oak stands during the extended relatively moist, cool period of 48 years from 1937 to 1985 are dying or dead from beetle kill, probably a result of increased water-stress during the relatively dry period from 1985 to the present and exacerbated by climate change (e.g. besides water-stress, annual reproductive cycles of bark-beetles have increased due to longer warm seasons).

Consequently, there are many snags and down logs. The question is: how many snags and how much large down wood (LDW) should be removed from the site (for firewood?) and how much should be left. Fire danger concern is very high. (Please refer to pp. 27, 28, in “Yurok Tribe/Ecotrust” prescription for suggested amounts of LDW, number of snags, and tonnage of ground fuels to be left in stands.

Since the site is winter range for deer, most buckbrush patches have been repeatedly browsed (deer do not generally browse manzanita). There is virtually no white or black oak regeneration due to browsing by deer and predation by meadow voles, field mice, and gophers. Consequently, the longterm future for oaks is uncertain. The oak gene pool will go through a severe bottleneck that may affect its ability to produce trees—assuming it can reproduce—adapted to drought tolerance, disease, insect predation, etc. White oaks observed were much older than their size suggests, probably from 100 to 150 years old (most were cut for fire wood in earlier times or were top-killed by past hot fires and therefore tend to be multi-stemmed). On sites that are exposed on south or west aspects in soils that are either severely compacted, nutrient-poor, or mildly toxic (e.g. heavy metals), oaks are somewhat stunted with relatively small diameter stems and are probably fairly old. The dominance of forbs over grasses on these sites reinforces this interpretation (grasses generally prefer more nutrient-rich soils, especially available nitrogen from surface mulch (mulch is very scant; also nutrient cation-exchange capacity may be impacted by very heavy clay).

## Restorative Oak Thinning

1. In places where conifers have invaded oak stands and are crowding or overtopping oaks, the first thinning phase should be conifer removal on the south and west aspects of oaks to allow more sunlight in. A second thinning could occur 5 to 10 years later, depending on site conditions (the poorer the site the longer the interval between thinnings) and on the vigor of the oak tree. An exception to conifer removal may be relatively scarce sugar pines that could be left standing. The ecological principle determining a phased thinning approach is the harm that could result from too heavy of a onetime thinning.
2. In oak stands that are crowded and stagnating, the manager should first carefully assess true vigor by observing such indication of health as foliage quantity and amount of die-back, acorn productivity and relative amount of mistletoe infestation (large infestation usually indicates stress). Multi-stemmed oaks that are in a state of moderate stagnation could be thinned down to one or two stems in order to push new growth on the leave stem(s). The real test of whether our initial guesstimates were correct will be whether or not the oak bole-sprouts within a year or two following thinning. (I have thinned some conifer-suppressed oaks that were spindly and bare of foliage for most of their bole but put out new branches within a year; others I have thinned haven't bole-sprouted.)
3. **It is hoped that the luck of the draw of how we select what tree or stems will remain will result in an irregular, clumpy configuration of leave trees. Deliberate evenly spaced trees do not look natural and is to be avoided.** It was suggested on site that the public be allowed—*under supervision*—to trim and use removed stems and branches for firewood. Following thinning, broadcast burning can be done, enhanced by lop-and-scattered finer branches and one-hour herbaceous fuels on site.

## Restorative Oak Regeneration and Climate Change Adaptation

1. As has been noted above, oak regeneration has virtually ceased (this is true over most oak ranges in the Pacific NW). Oaks will need to be propagated on site to literally

allow oaks to continue to survive into the future and to restore genetic diversity to ensure their capacity for future environmental adaptation.

2. Acorns should be harvested next year as it is probably going to be a good mast year for white oaks since it has been over 6 years since the last good mast; deciduous oaks produce a bountiful crop of acorns every 4 to 6 years, but very occasionally take 7 or more years. Acorns should be gathered from a large number of trees from different sites encompassing a variety of site conditions. However, with climate change expected to rapidly increase warming, drought stress, and frost intolerance due to earlier flowering, a significant number of acorns should be gathered from oaks growing on very poor or harsh sites. Acorns could be gathered from both lower and higher elevation extremes for both greater drought and frost tolerance. It should be noted that oaks will tend to move up in elevation as mean temperatures rise over the next few decades—provided they have any regeneration—moving to sites presently occupied by conifers. This likely upward (and northward) movement of oaks tells us that we should thin adjacent higher elevation conifer stands a little heavier in anticipation of more conifers dying off as the climate warms, and being replaced by oaks spread by jays and squirrels.
3. Acorns should be placed in large tubs filled with water to sort out inviable from viable ones (the inviable acorns will float to the surface). Also, care should be taken to throw out acorns with tiny holes in their shells caused by exiting filbert worms and filbert weevils. Acorns should be lightly covered with soil (1-2”) in containers and planted out the next fall after rains begin. If problems with rodent predation of roots are anticipated, acorns can be planted in narrow, cone-shaped tarpaper containers (about 16” deep) with narrowly open bottoms. Standard bare-root tube containers can also be used. All planted acorns should be protected from deer by plastic cones at planting time.

### **Restorative Prescription Fire**

1. Historically, cool Indian fall understory burns of low to moderate severity kept fuel loads and fire hazard low, creating a patchy, mosaic kind of landscape of interspersed grass and forb opens, brush islands, and well-spaced but clumpy mature and old

growth hardwoods and conifers. Indian burning from July (for tarweed) to mid November and lightning (usually late August and September) ignitions occurred annually, with some places burning every year and others with 2 to 20 year intervals. This is the fire regime that plants and animals have been familiar with for thousands of years in a co-evolutionary sense. Stocking rates of trees have increased from 5 to 15 to the present 100-1500 TPA. Fuel loads far exceed historical levels.

2. Fall burning favored non-sprouting shrubs (e.g. buckbrush) preferred by wildlife at the expense of sprouters (e.g. green leaf manzanita). As mentioned above, the site is winter deer range and their preferred foods here are native bunchgrasses, forbs, and buckbrush, which has been repeatedly browsed down to a foot or two in height. Repeated defoliations of buckbrush, while producing palatable, protein-rich new growth in the near to mid term, will also cause a slow decline in plant vigor in the long term. Low to moderate severity burning will recycle nutrients faster and more frequently than normal decomposition. This will mitigate the repeated defoliation to some extent, especially if deer are directed to their more preferred native bunchgrasses and forbs by maintaining sufficient opens between brush and trees with periodic fire. Deer need the higher protein levels of *native* grasses in order to better digest the tannin in acorns and oak foliage.

Keep in mind that buckbrush does not resprout like deerbrush (*Ceanothus integerrimus*); it reproduces by seed only. Fire creates a nutrient-rich seedbed for better seedling establishment success in addition to germinating many buckbrush seeds. Care should be taken to ensure that some of the more vigorous, mature plants are protected as a seed source. It was suggested on site that heavier concentrations of brush could first be crushed and then burned. Crushing should be supervised for the reasons mentioned above. (See prescription for the do's and don'ts of mastication, II, D, 5,e.) Everything I have said about buckbrush applies as well to the non-sprouting whiteleaf manzanita. It was too early in the season to properly study smaller herbaceous vegetation, but I did observe some stands of bunchgrass mixed with exotic annual grasses. Burning will also enhance the growth of the grasses and forbs.

3. I suggest a burning cycle of every 5 to 8 years on oak sites. (Indians burned from 2 to 8 years to stimulate native bunchgrass vegetative and fertile tillering (seed

production), germinate seeds, recycle nutrients for oaks, break over-wintering filbert worm dormant life-cycles, kill fungal spores (with smoke), thin brush, and recharge ground water by checking evapotranspiration. The best burn is an irregular, patchy one, creating a mosaic of vegetation types and compositional and structural diversity ("rotational mosaic burns" or as Dr. David Perry, formerly of Oregon State University puts it, a "steady-state shifting-mosaic). **Care should be taken while both thinning and burning to end up with a variety of age classes and representatives of all site species, including some senescent brush species and dying or dead timber to insure a variety of wildlife habitats.**

4. A burn interval for hard chaparral (e.g. ceanothus and manzanita) is 15 to 20 years. Longer intervals fail to check brush invasion into the grassy opens and rejuvenative brush patches before they become senescent with lower levels of nutrients in leaves and stems for wildlife browse. Again, the goal is maintaining all age classes while fragmenting contiguous patches for a mosaic effect and reducing fire hazard. (See "Yurok Tribe/Ecotrust" prescription, VI. E. for how to burn safely with "strip-head ignitions".)
5. While late summer to mid fall burning occurred historically, and is the preferred time for wildlife browse, oak stand rejuvenation, and Indian cultural resources (spring fires burned up fall-germinated non-sprouters), where there are larger, dense stands of brush, two consecutive spring burns spaced only long enough time to accumulate sufficient fuels to reburn, should be done. Roots are most vulnerable in mid-to-late spring since most of the plant's energy is in the rapidly growing tops, buds, and leaves. However, if there are significant numbers of forbs in the bud or flowering stage, there is a danger of dramatically reducing seeding opportunities that season. **Timing is critical.** This is particularly risky if there is a chance of the native species being replaced by exotic invasives. In this case, a midwinter pre-greenup burn may be desirable. Where introduced annual grasses and early successional forbs dominate natives, it is advisable to do a spring burn while the soil is still moist in order to literally steam-kill the annual soil seedbank, and reseed later with native grasses. While midwinter or spring burns are safer and usually produce less smoke due to lack

of inversions at that time of year, **the longterm goal is to reduce fuels enough to burn in the fall.**

### **Community Monitoring**

I recommend engaging community volunteers in both pre-project baseline work and post-project monitoring. While we will not have a pre-project baseline for acorn productivity, it is very probable that thinning and burning will stimulate more acorn production. But we can determine if thinning multi-stemmed oaks is effective or not by first observing the health indicators described above and then again one, two, and five years following the first thinning phase. Photo-point photographs taken before and after are the easiest way to accomplish monitoring (See prescription, VII, "Ecological monitoring Protocols"). Photo-points can similarly be used for qualitatively measuring the response of burned grassy places and brush patches.

I believe that a concentrated effort needs to be made by RCD in making these projects community-friendly. While I know that some efforts have been made in the past to bring in volunteers, I think that much more can and ought to be done to create a sense of community ownership in the community forest..

# ARCHAEOLOGICAL INVESTIGATION REPORT

Weaverville Community Forest—Weaverville, CA

Investigative Report on Black Locust Forest within  
the Weaverville Community Forest  
Weaverville USGS Quadrangle

September 2008



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## **Introduction**

This Cultural Resource Report is an investigative report to help explain the context and association of a Black Locust Forest within the Weaverville Community Forest.

The project area is within the Weaverville Community Forest along West Weaver Creek. The legal location is T33N R9W, Sections 18 Weaverville USGS Quad Map

## **Environmental Setting**

The Black Locust Forest is located in Weaverville, which is situated in the Klamath Range in the Pacific Northwest region of California. The area is mixed conifer forests, consisting of Douglas-fir, ponderosa pine, canyon live oak, black oak, poison-oak, Manzanita, and various other vegetation types.

Geologically the area is underlain by a series of folded and faulted metamorphic rocks of Paleozoic and Mesozoic age that have been invaded by batholiths of Late Jurassic and possibly Early Cretaceous age (Clark 1970). The area has produced large amounts of gold, mainly along the Trinity River, most notably the La Grange Mine near Weaverville which is one of the largest hydraulic mines in California.

## **Cultural Setting**

### Historic Context

#### First Explorers

Though probably visited by fur traders like Jedediah Smith in the early 19th century, the area's first recorded exploration was by Major Pierson P. Reading. In 1845 Reading received a Mexican land grant near Redding which became known as Rancho Buena Ventura. Soon after he settled the land, he began explorations in Trinity County, and became one of the first to explore the Trinity River system.

According to Colby (Colby 1982) early settlers in Trinity County found their occupational opportunities limited to trapping, ranching and lumbering. Agricultural practices were mainly for personal consumption, though with the growth in California, settlers established more regularized exchange routs and sold excess to newly arriving immigrants.

In 1848 Reading mined the Trinity River near Douglas City, and created the Shasta-Weaverville Road as a return route back to Redding. This route went up Rush Creek to Lewiston, over Trinity Mountain, then down to Shasta. With the new route, the discovery of gold at Sutter's Mill, miners began to make their way to Trinity County which forever disrupted the agrarian lifestyle of Trinity County.

A major influx of miners came after the publication in Sacramento newspapers which publicized the diggings along Weaver Creek. Weaver Creek and the town of Weaverville were named after a prospector who is credited with building the first cabin in the basin (Gudde 1975; Martin et al. 1981). In 1851, Weaverville consisted of one round tent and four log cabins, which grew in the next two years to include a school and hospital (Cox 1940).

The town of Weaverville continued to grow, but was destroyed by a large fire in 1853. The 1853 fire burned nearly half the town, while another fire in 1855 burned an additional 29 homes. Two months after the 1855 fire, in December, a third fire destroyed many of the remaining buildings. The damage could have been greater, except that many of the residences began to be constructed with brick. By 1859, twenty brick buildings were constructed in Weaverville (Jones 1981)

Mining activities in Weaverville continued to expand with the advancement of technologies, and as the ground was considered to be worked out, Chinese miners moved in to re-work the areas. The Chinese population in Weaverville was somewhere between 1000-2000 in 1854 (Brott 1982). According to a newspaper account in 1898 (Givin 1998) 1855-1860 were the most prosperous in Trinity County. There were many water conveyance systems (ditches, hollowed wood logs, flumes and penstocks) which allowed the mining of higher grounds above the creeks. But as the gold became more difficult to extract, miners began to look towards new technology to improve their productivity.

Isaac Woodbury was the first to use hydraulic mining near Garden Gulch in Weaverville (Given 1898). The introduction of the monitor in 1870 forever changed the surrounding landscape and mining technology. The new technology, which allowed miners to reach areas that were previously inaccessible, created a new mining boom in Trinity County.

Mining was not the only industry, but it was the largest. Agriculture and farming remained important to the area as a source of work, as well as food for the mining population.

Timber harvesting and the development of lumber grew as an industry with the growth of mining. Mines used large quantities of lumber in flumes, shoring, houses, and related equipment. Most of the lumber came from local supplies as it was too expensive to haul logs any great distance.

Another industry that developed alongside the mining was the manufacturing of iron pipes. Weaverville supplied local miners as well as those in nearby Douglas City and Junction City.

Pipe Makers.—The making of iron hydraulic pipe has been and is quite an extensive business in this county the present year. M. Lang has two men steadily employed at it in his Weaverville tin shop. Warsman and Jackson have just completed a large lot of pipe for Trotter and Simly, Douglas City, and now got to Junction City to make some for Hager and Hoos. Joshua Pope is at Hayfork Making pipe for I. Woodbury, and C.L. Cass is at Minersville doing like work for G.F. Deiner. Besides these, several miners are at work making pipe for their own use.

*Trinity Journal 11-1873*

## **Black Locust (*Robinia pseudoacacia* L.)**

Black locust is a fast growing tree that can reach 40 to 100 feet in height at maturity. While the bark of young saplings is smooth and green, mature trees can be distinguished by bark that is dark brown and deeply furrowed, with flat-topped ridges. Seedlings and sprouts grow rapidly and are easily identified by long paired thorns. Leaves of black locust alternate along stems and are composed of seven to twenty one smaller leaf segments called leaflets. Leaflets are oval to rounded in outline, dark green above and pale beneath. Fragrant white flowers appear in drooping clusters in May and June and have a yellow blotch on the uppermost petal. Fruit pods are smooth, 2 to 4 inches long, and contain 4 to 8 seeds. Two other locusts native to the Appalachians, *Robinia viscosa* (with pink flowers), and *Robinia hispida* (with rose-purple flowers), are used in cultivation and may share black locust's invasive tendencies.

Black locust is an early successional plant, preferring full sun, well drained soils and little competition. It is commonly found in disturbed areas such as old fields, degraded woods, and roadsides. Due to its rapid growth, black locust has been promoted by state and federal agencies and nurseries, and is sometimes planted in or near prairies, oak savannas and native woodland edges.

Black locust is very rot resistant and has great structural strength and longevity. A large number of trees were planted during the California Gold Rush and used in mines to shore up the shafts.

## **Methods and Results**

A search was conducted at the Trinity County Historical Society to determine if any information was available.

Personal communication with Alice Jones, local historian, was conducted to see what information was currently available.

Two random sample trees were bored to determine relative age.

Historical maps were checked to determine historical uses in the area.

Personal communication with the Gail Goodyear, Weaverville Joss House Historian

### **Results**

#### Trinity County Historical Society

No information exist regarding the Black Locust Forest

#### Alice Jones

Mrs. Jones did not have any information regarding the Black Locust Forest

### Tree Bore

The random sampled trees were determined to be approximately 40 years old.

Random Sample Tree 1

24" DBH

42 annual rings

Random Sample Tree 2

20" DBH

38 annual rings

### Trinity County Historical Maps

Trinity County historical maps depict the main road into Weaverville passing through the area, see *Historical Road Map* in Appendix X

### Weaverville Joss House (Gail Goodyear and other Historians)

According to the historians at the Weaverville Joss House, Black Locust pods were commonly used by Chinese as packing material during shipping of goods. This is one possible explanation for the importation of Black Locust to the West Coast. In addition, the black locust forest that is being looked at is in close proximity to a historical Chinese cemetery. Chinese ritual is that every year family of the deceased will bring a cooked meal to the cemetery to maintain a strong relationship with the deceased. This food is left and often eaten by the local bird populations who have also been eating black locust seeds. As the birds digest the seeds and cooked food they help cultivate black locust near the cemetery.

# Pictures

















## **Professional Archaeologist qualifications**

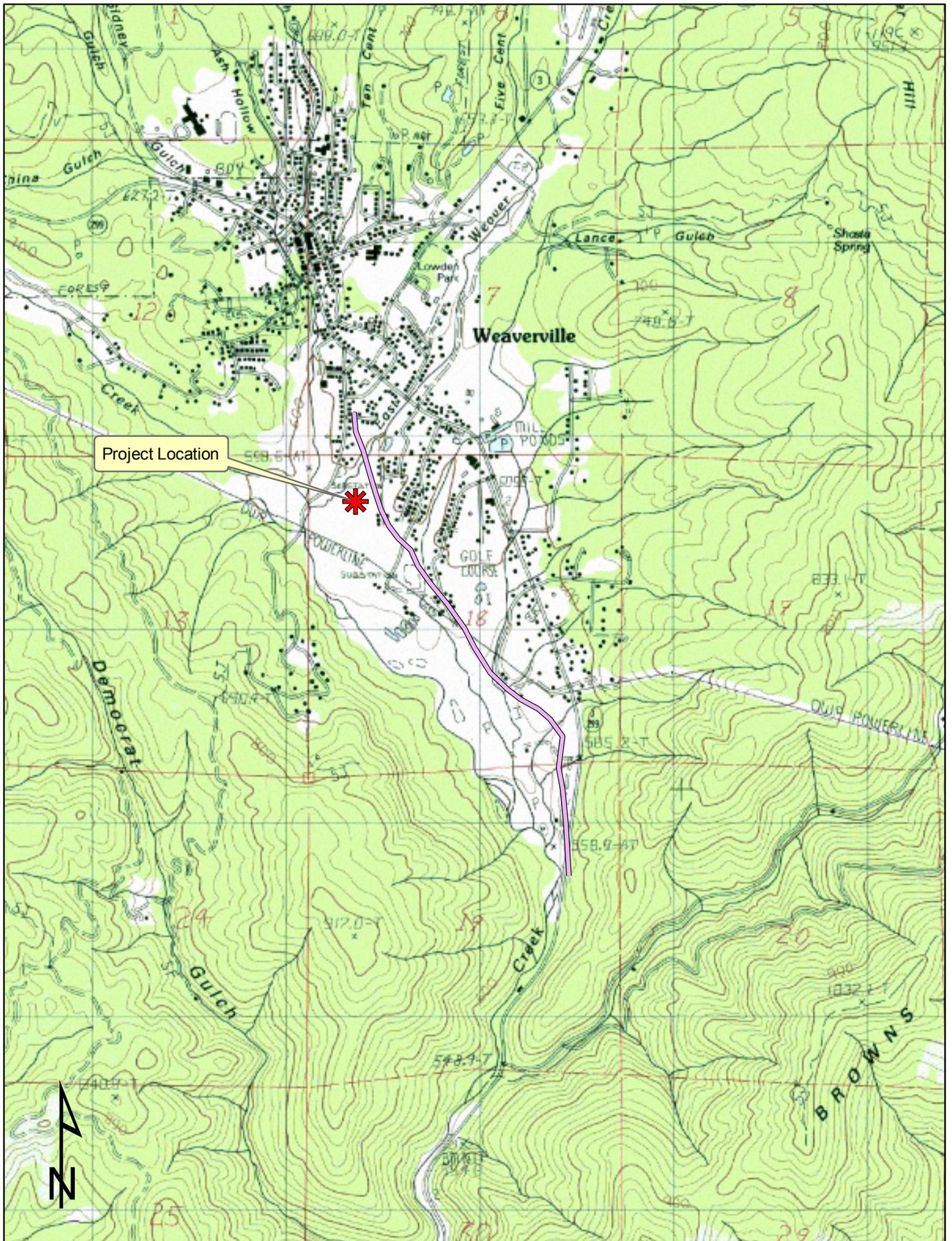
Alex Cousins,

- MA Latin American Studies 2001, San Diego State University
- BA Anthropology (Archaeology), 1998, California State University, Chico
- Archaeological Field School, El Peten (Tikal) Guatemala, 1998, Guatemalan Government
- 11 Years Cultural Resource Management in Northern California—Both Private and Government

### **Alex Cousins**

/s/ Alex Cousins

Archaeologist



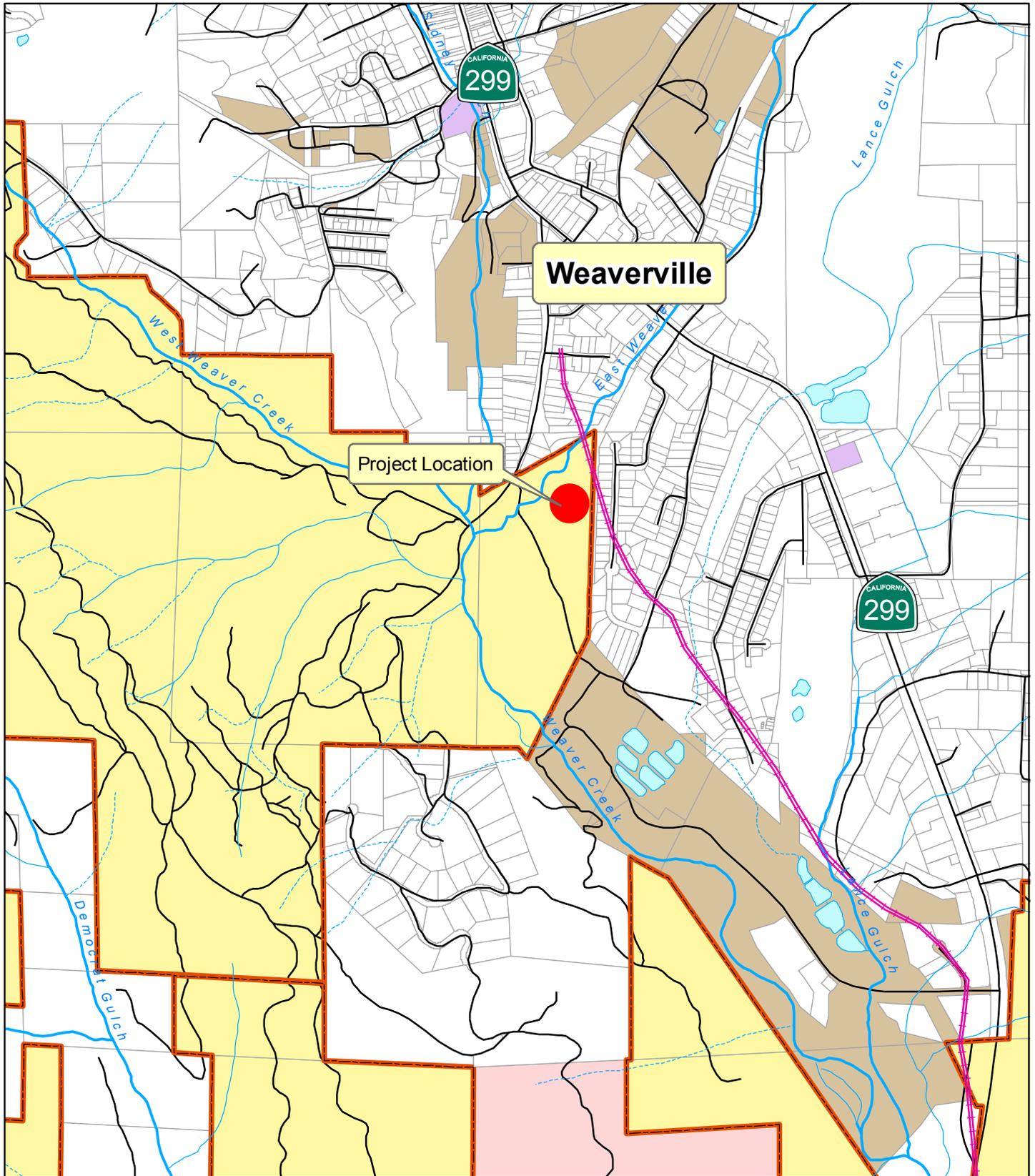
Project Location

Weaverville



**Weaverville Community Forest  
Black Locust Investigation**

**Location Map**



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