

## Summary

The Natural Resources Conservation Services in 1993 reported that the combination of decomposed granite and excessive logging on steep terrain resulted in an estimated 170,419 tons of sediment annually leaving the Grass Valley Creek Watershed and entering into the Trinity River. From 1993 through 1995 a variety of physical treatments were conducted; stabilizing banks and head cuts, re-contouring roads and skids trails and road decommissioning. During this period from 1993-1995, revegetation was used as a secondary treatment after the physical work had been completed. Outlined in the 10 Year Revegetation Plan for the Grass Valley Creek Watershed (1996-2007) created by the Trinity County Resource Conservation District in cooperation with the Bureau of Land Management was a strategy to reduce sediment runoff through revegetation. As of 2005 a total of 1.9 million propagules have been planted within 22 subwatersheds (Table 1). The combination of physical and revegetation treatments has reduced the total year mean of sediment runoff recorded at Fawn Lodge by 133,542 tons/mi<sup>2</sup>/yr (Graham Matthews & Associates 2001).

## Introduction

The Grass Valley Creek (GVC) watershed in northern California is an important watershed of the Trinity River Basin. The watershed encompasses 23,525 acres with steep, mountainous terrain that ranges in elevation from 1600 to 5950 ft. The predominate plant community is montane hardwood conifer, consisting of ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), canyon live oak (*Quercus chrysolepis*), Douglas fir (*Pseudotsuga menziesii*), and black oak (*Quercus kelloggii*). Other plant communities include Klamath mixed conifer (Douglas fir, ponderosa pine, sugar pine, and incense cedar), montane chaparral (manzanita and shrub tan oak), red and white fir (above 4500 ft), and montane riparian (California bigleaf maple, white alder, and willow species.)

The Grass Valley Creek watershed had been extensively logged from the 1940's until the early 1990's resulting in hundreds of erosion sites from the extensive network of logging roads, skid trails, landings and stream crossings constructed during timber operations. Erosion was determined to be a problem on forest slopes that underwent a severe reduction in canopy cover as well due to the exposed patches of un-vegetated soil left to erode.

In addition to logging disturbance, erosion problems stemmed from the decomposed granite soil that comprises 75% of the watershed. This soil is derived from highly weathered granitic rocks and is naturally erosive due to its coarse texture and weak structure. Decomposed granite also has low water-holding and nutrient capacity due to reduced quantities of cohesive agents such as clay and organic matter in the soil that bind water and nutrients (BLM 1995).

The combination of decomposed granite and excessive logging on steep terrain resulted in an estimated 170,419 tons of sediment annually leaving the watershed and entering into the Trinity River (NRCS 1993). With such high sediment yields, the GVC watershed was identified as the largest single sediment source entering into the Trinity River. Through the Trinity River Basin Fish and Wildlife Restoration Act, restoration began on the Trinity River and in major watersheds including Grass Valley Creek.

Work in the Grass Valley Creek watershed began in 1993 following the purchase of 17,000 acres by the Bureau of Land Management from Champion International. Restoration work was initiated under a cooperative agreement between the Trinity County Resource Conservation

District (TCRCD), the Bureau of Land Management (BLM), and the Natural Resource Conservation Service (NRCS). Restoration efforts focused on rehabilitating the main sediment producers in the watershed; logging roads, skid trails, landings, and crossings. The primary treatment consisted of using heavy equipment to restructure disturbed sites back into their original form. A variety of physical treatments were used, such as road decommissioning, re-contouring roads and skids trails, and stabilizing banks and head cuts. During this period from 1993-1995, revegetation was used as a secondary treatment after the physical work had been completed.

## **Planning**

In 1996 a revegetation plan for the GVC Watershed was outlined in the 10 Year Revegetation Plan for the Grass Valley Creek Watershed created by the Trinity County Resource Conservation District in cooperation with the Bureau of Land Management located in Redding. A Natural Resource Conservation Service (NRCS) report published in 1993 listing 1500 acres of critically eroding sheet and rill locations throughout the GVC watershed was used as an initial guideline in selecting priority sites. Planning began with a preliminary survey of these high priority sites using aerial photographs to locate potential treatment sites. Sheet and rill slopes were circled on the photos, and access roads marked. Once sites were identified, a total acreage of sheet and rill was determined for each subwatershed. Follow up field inspections were conducted by the RCD Ecologist and Revegetation Coordinators to locate restoration sites.

In later years, beyond the scope of the planning section within the 10 Year Revegetation Plan potential restoration sites were identified for rehabilitation through the process of surveying. Site characteristics, such as aspect, slope, soil depth, and canopy cover along with species composition were documented (Appendix A). Draws and ridges were identified by the use of metal tags and mapped so that sites could be relocated for planting and monitoring. All treatment sites were tagged and numbered for database purposes.

## **Cone and Seed Collection**

Collection of seed from site adapted species from the GVC watershed was done for direct sowing onto sites, propagation at commercial nurseries and District Nursery along with creating a seedbank in case of a catastrophic fire event. Plants were selected from seed zone 332 where GVC watershed lies and collected within 500 ft increments in elevation. Seed was collected from several different stands in order to increase the genetic base and to avoid inbreeding depression. No more than 1/3 of the ripened fruit in any stand of species was collected as not to deplete their natural regenerative capabilities. All conifer, shrub, forbs and grass seed species are being stored at the Lewis A. Moran Reforestation Center Seedbank, 5800 Chiles Road, Davis, CA 95616.

## **Propagation**

Tsemeta Forest Nursery propagated 135,000 conifer seedlings in stryo 5 containers and 20,000 grass plugs in 10 inch containers for planting in 2004 (Appendix C). The District also propagated a variety of species: vine maple, big leaf maple, sulphur flower buckwheat, broadleaved lotus and black cottonwood. The remainder of the plant stock that was planted in 2004 was purchased from Cornflower Farms located in Elk Grove, CA.

## Outplanting

A total of 194,086 seedlings were planted in subwatersheds; 9, 10, 13, 14, 17, and 18 in 2004 (Tables 24-25). In total over the course of 12 years the revegetation program has planted approximately 33 acres a year utilizing up to 38 species of trees, shrubs, and grasses (Tables 1-25). The relative densities of the plantings are graphically depicted in Appendices E1-E22. The majority of plantings consisted of one and two-year old conifer stock, in both plug and bare-root forms, with ponderosa and sugar pine (*Pinus lambertiana*) most widely planted. In addition to conifers, other tree species have been planted, including riparian hardwoods such as bigleaf maple, white alder, and Pacific dogwood (*Cornus nuttallii*).

The revegetation program has also experimented with outplanting plug and bare-root shrubs, especially with those with nitrogen-fixing bacteria such as the following ceanothus species: deerbrush (*Ceanothus integerramus*), Lemon's ceanothus (*C. lemmonii*), and buckbrush (*C. cuneatus*). It was theorized that planting nitrogen-fixing shrubs will amend decomposed soils that are nitrogen limited, thereby improving soil conditions for natural plant establishment.

Native grass plugs have also been planted on sites that may be too degraded to support conifers, with the idea that the grasses will improve soil conditions by contributing organic matter and increasing nutrient cycling. Many species have been used in plug form, such as blue wildrye, California brome, and California fescue. These plantings were especially useful in revegetating banks and channels, where rapid establishment was needed for stabilization purposes.

Hardwood cuttings were used for revegetating riparian areas and for assisting in the stabilization of stream channels, with two types of cuttings used: wattles and stakes. The wattles consisted of 3-6 ft. cuttings of young, willow (*Salix spp.*) branches that were bundled into small groups of 20-30 branches using heavy duty string. To install each wattle, a 4-6 in. deep trench was dug parallel to the stream, with the wattle placed in the trench and covered with soil. Two stakes were used to hold the bundle in place, with the wattle ends left exposed. The buried section of the wattles developed roots, while the ends sprouted shoot material that eventually developed into a small shrub.

Willow and alder stakes 3/4 to 2 inches in diameter were cut 3-4 ft. in length and soaked for 5-7 days prior to installation to initiate root development. Either an auger or digging bar was used to create a hole, with the stake installed by hand and the soil firmly packed around it. It has been suggested that 2/3 of the stem should be placed below ground, with one to three buds remaining above ground.

To ensure sprouting of wattles and stakes, it was found that materials must be cut and installed when the plants are dormant: late fall (November) through early spring (March). Sprouting and survival was quite high: 98% for wattles and 88% for stakes. The use of wattles and stakes has proven to be an easy and inexpensive way to revegetate riparian areas.

Depending upon the aspect of the site and the soil composition, seedlings were planted in more favorable locations often referred to as microsite planting. These locations may have any number of attributes, including greater moisture, increased organic matter and wind protection. Microsite locations include the following:

Shade zone. During the hottest part of the day, the north side of existing shrubs, trees, and stumps remain shaded, so that soil temperatures are cooler resulting in decreased evaporation of

soil moisture and plant evapo-transpiration. There are often larger quantities of soil nutrients in the shade zone due to the accumulation of duff.

Woody debris. Fallen branches provide some shading from direct sunlight, act as barriers of eroding soil, thereby forming microsites of deeper soil. Fallen logs and branches also collect organic matter as it fall and moves down a slop enhancing soil conditions for planting.

Canopy protection. Planting under shrubs where soil temperatures are cooler and soil moisture is greater provides a shade zone mitigating seedling desiccation.

Micro-site planting was only performed within the worst sub-watersheds because of the associated increase in planting time and labor.

## **Monitoring**

Monitoring of the revegetation treatments became an integral part of the watershed revegetation program during 1995 through 1998. The first full scale monitoring effort was undertaken in the summer of 1995, with all treatment sites, approximately 100, visited by a field technician and visually observed for effectiveness and percent vegetative cover. The latter was divided into cover of sown species and those naturally occurring.

In attempting to analyze the data, certain problems with the monitoring system became evident. The foremost problem was the subjective manner in which the data was collected. Estimates of cover were not obtained in an objective and quantitative manner.

In 1996 the monitoring system was changed to include a series of vegetation transects on sample sites, allowing the statistical analysis of the data. Incense cedar had the highest survival of any species 44.2%. This probably was due to the more favorable, shaded locations where it was planted. Ponderosa pine had the highest survival of any conifer 26.5%, which is to be expected because of its drought tolerance and natural presence on granitic soils. Shrub survival ranged from 9.4 to 23%.

The low survival rates can be partly attributed to the harshness of some sites and the general difficulty in revegetating in decomposed granite. Other factors that contributed to poor survival during the first year of work were improper site selection and an inexperienced planting crew. The RCD has learned of the importance of proper planting technique, as well as, appropriate storage and handling methods.

## **Development of the Grass Valley Creek Geographic Information Systems (GIS)**

When the BLM acquired the land in Grass Valley Creek (GVC) in the early 1990's, Vestra Resources, a GIS consultant in Redding, CA, was hired to create the initial GIS for GVC. The primary source for this information came from hardcopy sources such as USGS 7.5' quads. The resulting base map GIS layers were then provided to the RCD to support planning and tracking the conservation treatments to be performed in the watershed.

With these layers as a starting point, the RCD began documenting both the physical and revegetative work that was being performed in the watershed. This mass of paper documentation is still retained by the RCD and is the raw material from which the new GIS layers have been created. Through the years, planting data has been consistently entered into a Microsoft Access

database with corresponding spatial locations being noted on printed maps of each sub-watershed. This project has largely been an exercise of transferring these spatial locations from paper records into the electronic GIS files now included with this report. The original Access database was also exported into the native format required for use in ESRI software such as ArcGIS, then cleaned up for project-wide data consistency.

The location of all RCD revegetation sites in the watershed have been created in two different feature layers. One layer contains sites that fall along linear features such as roads, skid roads, and hydrologic channels. The other layer contains sites that represent specific areas on the ground such as landings, channel crossings, and open sheet and rill areas. Each site was assigned a unique identifier that corresponds with a site ID in the database. This allows the treatment entries in the database to be tied back to their spatial locations, which can then be displayed on a map and analyzed.

One thing should be noted about the dispersal of feature types. Early in the restoration of GVC, revegetation was often used to stabilize sites that had previously been physically treated. This resulted in features that represent primarily roads, skids, crossings, landing, etc. However, when the RCD began the ten year revegetation plan physical treatments were no longer being implemented and planting was more frequently attributed to exposed areas in an entire channel or draw. Because of this, entire stream segments were assigned site identification for almost all of the later work. This will account for the obvious graphic differences in feature distribution between the earlier, lower watersheds and the later, upper watersheds.

## **Recommendations**

A total of 8.2 million dollars has been spent on addressing the sediment runoff from Grass Valley Creek Watershed (Appendix A). A continuation of survival monitoring is needed not only to determine the cost effectiveness of the revegetation treatments, but also, to provide important adaptive management information for others involved in watershed restoration.

## **Conclusion**

The combination of physical and revegetation treatments has reduced the total year mean of sediment runoff from an estimated 170,419 tons leaving the Grass Valley Creek Watershed (NRCS 1993) to 36,877 tons/mi<sup>2</sup>/yr (Graham Matthews & Associates 2001).

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**Table 1. Fall 1993-Spring 2005 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek - Planting Summary- 1993-2005</b>				
<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
ABCO	<i>Abies concolor</i>	White Fir	62	18405
ACCI	<i>Acer circinatum</i>	Vine Maple	9	763
ACLE	<i>Achnatherum lemmonii</i>	Lemmon's Needlegrass	5	455
ACMA3	<i>Acer macrophyllum</i>	Bigleaf Maple	32	7725
ACMI2	<i>Achillea millefolium</i>	Common Yarrow	17	556
AGROS2	<i>Agrostis</i>	Bentgrass	1	104
ALRH2	<i>Alnus rhombifolia</i>	White Alder	27	6873
ARME	<i>Arbutus menziesii</i>	Pacific Madrone	9	652
ARPA6	<i>Arctostaphylos patula</i>	Greenleaf Manzanita	29	2438
ARVI4	<i>Arctostaphylos viscida</i>	Whiteleaf Manzanita	10	274
ASSP	<i>Asclepias speciosa</i>	Showy Milkweed	6	183
BRCA5	<i>Bromus carinatus</i>	California Brome	96	32132
CADE27	<i>Calocedrus decurrens</i>	Incense Cedar	58	8295
CEBE3	<i>Cercocarpus betuloides</i>	Birch-leaf Mountain-mahogany	19	1843
CEOC	<i>Cercis occidentale</i>	Western Redbud	46	9699
CECU	<i>Ceanothus cuneatus</i>	Wedge-leaf ceanothus	40	13023
CEIN3	<i>Ceanothus integerramus</i>	Deerbrush	189	40665
CELE	<i>Ceanothus cuneatus</i>	Buckbrush	63	13501
CEPA	<i>Ceanothus palmeri</i>	Palmer's Ceanothus	1	100
CEPI	<i>Ceanothus pinetorum</i>	Kern Ceanothus	49	3746
CEPR	<i>Ceanothus prostratus</i>	Prostrate Ceanothus	3	460
CERCO	<i>Cercocarpus</i>	Mountain Mahogany	9	2290
CHNA2	<i>Chrysothamnus nauseosus</i>	Green Rabbitbrush	9	945
COCOC	<i>Corylus cornuta var. californica</i>	California Hazelnut	4	59
CONU4	<i>Cornus nuttallii</i>	Pacific Dogwood	14	1419
COSE3	<i>Cornus sessilis</i>	Black-fruit Dogwood	6	10
COST4	<i>Cornus stolonifera</i>	Red-osier Dogwood	10	1106
DEEL	<i>Deschampsia elongata</i>	Slender Hairgrass	2	800
DOWA	<i>Dogwood wattles</i>		1	10
ELEL5	<i>Elymus elymoides</i>	Bottlebrush Squirreltail Grass	73	16009
ELGL	<i>Elymus glaucus</i>	Blue Wild-rye	141	61237
EQUIS	<i>Equisetum sp.</i>	Horsetail	1	0
ERUM	<i>Eriogonum umbellatum</i>	Sulphur Wild-buckwheat	1	75
FECA	<i>Festuca californica</i>	California fescue	51	29855
FEID	<i>Festuca idahoensis</i>	Idaho fescue	100	27248
FEOC	<i>Festuca occidentalis</i>	Western Fescue	16	3611
FRLA	<i>Fraxinus latifolius</i>	Oregon Ash	4	300
GRASS	<i>Poa sp.</i>	Grass species	1	500
HODI	<i>Holodiscus discolor</i>	Oceanspray	3	163
JUCA7	<i>Juglans californica</i>	California Walnut	2	430
LIDE3	<i>Lithocarpus densiflorus</i>	Tanoak	4	1030
LOCR	<i>Lotus crassifolius</i>	Broadleaf Deervetch	14	332
LUBI	<i>Lupinus bicolor</i>	Bicolor Lupine	10	2846
LUPIN	<i>Lupine species</i>	Lupine	8	540
PHLE4	<i>Philadelphus lewisii</i>	Mockorange	7	1357
PIJE	<i>Pinus jeffreyi</i>	Jeffrey Pine	48	33666
PILA	<i>Pinus lambertiana</i>	Sugar Pine	278	117843
PIPO	<i>Pinus ponderosa</i>	Ponderosa Pine	1351	1192191
PISA2	<i>Pinus sabiniana</i>	Gray Pine	3	733
POBAT	<i>Populus balsamifera ssp. trichocarpa</i>	Black Cottonwood	5	252

**Table 1 cont'd. Fall 1993-Spring 2005 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek - Planting Summary- 1993-2005</b>				
<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
POSC	<i>Poa secunda</i>	Pine Bluegrass	9	499
PSME	<i>Pseudotsuga menziesii</i>	Douglas Fir	718	224136
PTAQP2	<i>Pteridium aquilinum var. pubescens</i>	Bracken Fern	1	200
QUCH2	<i>Quercus chrysolepis</i>	Oregon White Oak	44	2400
QUERC	<i>Quercus species</i>	Oak	1	100
QUGA4	<i>Quercus garryana</i>	Oregon White Oak	12	397
QUKE	<i>Quercus kelloggii</i>	California Black Oak	16	850
RULA	<i>Rubus leucodermis</i>	Blackcap Raspberry	2	45
SAME5	<i>Sambucus mexicana</i>	Blue Elderberry	4	116
SALIX	<i>Salix species</i>	Willow	9	1069
SAMBU	<i>Sambucus species</i>	Elderberry	3	58
SIHY	<i>Sitanion hystrix</i>	Squirreltail Grass	2	505
STIPA	<i>Stipa species</i>	Needlegrass	1	4000
STLE2	<i>Stipa lemmonii</i>	Lemon's Needlegrass	9	2539
STPU2	<i>Stipa pulchra</i>	Needlegrass	2	880
STST2	<i>Stipa stillmanii</i>	Stillman's Needlegrass	2	287
SYAL	<i>Symphoricarpus albus</i>	Common Snowberry	7	285
Shrub	<i>Shrub species</i>		8	1986
VICA5	<i>Vitis californica</i>	California Wild Grape	7	396
WIST	<i>Willow Stakes</i>		25	1345
WIWA	<i>Willow Wattles</i>		26	1232
<b>Totals</b>				<b>1902074</b>

**Table 2. Fall 1993 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 1993 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
21	CADE27	<i>Calocedrus decurrens</i>	2	500
21	PIPO	<i>Pinus ponderosa</i>	3	1400
21	PSME	<i>Pseudotsuga menziesii</i>	3	2900
21	WIST	Willow Stakes	1	270
<b>S/W 21 Total</b>			<b>9</b>	<b>5070</b>
22	WIWA	Willow Wattles	1	15
<b>S/W 22 Total</b>			<b>1</b>	<b>15</b>
23	CEPR	<i>Ceanothus prostratus</i>	1	10
23	DOWA	Dogwood Wattles	1	10
23	ELGL	<i>Elymus glaucus</i>	4	3756
23	PHLE4	<i>Philadelphus lewisii</i>	3	205
23	PIJE	<i>Pinus jeffreyi</i>	2	1600
23	SAME5	<i>Sambucus mexicana</i>	2	46
23	STIPA	<i>Stipa species</i>	1	4000
23	SYAL	<i>Symphoricarpus albus</i>	2	112
23	WIWA	Willow Wattles	1	25
<b>S/W 23 Total</b>			<b>17</b>	<b>9764</b>
24	PIPO	<i>Pinus ponderosa</i>	9	2205
24	PSME	<i>Pseudotsuga menziesii</i>	7	1512
24	Shrub	Shrub species	3	480
24	WIST	Willow Stakes	9	285
24	WIWA	Willow Wattles	2	2
<b>S/W 24 Total</b>			<b>30</b>	<b>4484</b>
26	ACMA3	<i>Acer macrophyllum</i>	1	20
26	WIST	Willow Stakes	5	375
<b>S/W 26 Total</b>			<b>6</b>	<b>395</b>
27	ARPA6	<i>Arctostaphylos patula</i>	2	55
27	CEBE3	<i>Cercocarpus betuloides</i>	3	137
27	CEIN3	<i>Ceanothus integerramus</i>	2	3287
27	CEOC	<i>Cercis occidentalis</i>	3	150
27	PHLE4	<i>Philadelphus lewisii</i>	1	85
27	PIJE	<i>Pinus jeffreyi</i>	3	1500
27	PIPO	<i>Pinus ponderosa</i>	13	3820
27	PSME	<i>Pseudotsuga menziesii</i>	22	9834
27	SAME5	<i>Sambucus mexicana</i>	2	70
27	SYAL	<i>Symphoricarpus albus</i>	3	111
27	WIST	Willow Stakes	3	125
27	WIWA	Willow Wattles	1	0
<b>S/W 27 Total</b>			<b>58</b>	<b>19174</b>
<b>Fall 1993 Total</b>				<b>38,902</b>

**Table 3. Spring 1993 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1993 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
22	CADE27	<i>Calocedrus decurrens</i>	3	245
22	HODI	<i>Holodiscus discolor</i>	1	65
22	PSME	<i>Pseudotsuga menziesii</i>	4	635
22	RULA	<i>Rubus leucodermis</i>	1	25
22	WIST	Willow Stakes	2	125
<b>S/W 22 Total</b>			<b>11</b>	<b>1095</b>
25	CADE27	<i>Calocedrus decurrens</i>	10	1350
25	PIPO	<i>Pinus ponderosa</i>	12	2300
25	PSME	<i>Pseudotsuga menziesii</i>	7	900
25	Shrub	Shrub species	2	100
25	WIST	Willow Stakes	3	35
<b>S/W 25 Total</b>			<b>34</b>	<b>4685</b>
26	ACMA3	<i>Acer macrophyllum</i>	1	450
26	CADE27	<i>Calocedrus decurrens</i>	7	570
26	PIPO	<i>Pinus ponderosa</i>	9	1400
26	PSME	<i>Pseudotsuga menziesii</i>	7	1490
26	QUERC	<i>Quercus species</i>	1	100
26	SALIX	<i>Salix species</i>	4	625
26	WIST	Willow Stakes	1	30
26	WIWA	Willow Wattles	1	18
<b>S/W 26 Total</b>			<b>31</b>	<b>4683</b>
27	CADE27	<i>Calocedrus decurrens</i>	2	175
27	EQUIS	<i>Equisetum species</i>	1	0
27	PIJE	<i>Pinus jeffreyi</i>	1	125
27	PIPO	<i>Pinus ponderosa</i>	5	975
27	PSME	<i>Pseudotsuga menziesii</i>	4	525
<b>S/W 27 Total</b>			<b>13</b>	<b>1800</b>
29	CADE27	<i>Calocedrus decurrens</i>	1	167
29	PIPO	<i>Pinus ponderosa</i>	1	167
29	PSME	<i>Pseudotsuga menziesii</i>	1	167
<b>S/W 29 Total</b>			<b>3</b>	<b>501</b>
32	PIPO	<i>Pinus ponderosa</i>	1	5600
<b>S/W 32 Total</b>			<b>1</b>	<b>5600</b>
<b>Spring 1993 Total</b>				<b>18,364</b>

**Table 4. Fall 1994 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 1994 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
9	ARPA6	<i>Arctostaphylos patula</i>	6	1038
9	ARVI4	<i>Arctostaphylos viscida</i>	1	45
9	CEBE3	<i>Cercocarpus betuloides</i>	3	592
9	CEIN3	<i>Ceanothus integerramus</i>	10	2877
9	CELE	<i>Ceanothus lemmonii</i>	9	4544
9	CEPI	<i>Ceanothus pinetorum</i>	4	575
9	CONU4	<i>Cornus nuttallii</i>	2	125
9	PIPO	<i>Pinus ponderosa</i>	14	8875
9	STPU2	<i>Stipa pulchra</i>	2	880
9	SYAL	<i>Symphoricarpus albus</i>	1	62
9	Shrub	Shrub species	2	263
<b>S/W 9 Total</b>			<b>54</b>	<b>19876</b>
21	Grass	Grass Plug	1	500
21	PIPO	<i>Pinus ponderosa</i>	2	10000
21	Shrub	Shrub species	1	1143
<b>S/W 21 Total</b>			<b>4</b>	<b>11643</b>
29	ALRH2	<i>Alnus rhombifolia</i>	2	149
29	CADE27	<i>Calocedrus decurrens</i>	1	250
29	CEIN3	<i>Ceanothus integerramus</i>	5	204
29	PIPO	<i>Pinus ponderosa</i>	15	6027
29	PSME	<i>Pseudotsuga menziesii</i>	1	500
<b>S/W 29 Total</b>			<b>24</b>	<b>7130</b>
<b>Fall 1994 Total</b>				<b>38,649</b>

**Table 5. Spring 1994 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1994 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
9	PIPO	<i>Pinus ponderosa</i>	1	1500
<b>S/W 9 Total</b>			<b>1</b>	<b>1500</b>
18	CEOC	<i>Cercis occidentalis</i>	6	1070
18	ELGL	<i>Elymus glaucus</i>	8	7325
18	LUBI	<i>Lupinus bicolor</i>	10	2846
18	PIPO	<i>Pinus ponderosa</i>	40	21526
18	PSME	<i>Pseudotsuga menziesii</i>	1	800
<b>S/W 18 Total</b>			<b>65</b>	<b>33567</b>
21	ELGL	<i>Elymus glaucus</i>	10	3510
21	FECA	<i>Festuca californica</i>	2	160
21	JUCA7	<i>Juglans californica</i>	2	430
21	PIPO	<i>Pinus ponderosa</i>	1	32
21	PSME	<i>Pseudotsuga menziesii</i>	6	2990
21	RULA	<i>Rubus leucodermis</i>	1	20
21	VICA5	<i>Vitis californica</i>	7	396
<b>S/W 21 Total</b>			<b>29</b>	<b>7538</b>
22	CEPA	<i>Ceanothus palmeri</i>	1	100
22	ELGL	<i>Elymus glaucus</i>	5	1500
22	FECA	<i>Festuca californica</i>	6	3700
22	PIPO	<i>Pinus ponderosa</i>	4	690
22	PSME	<i>Pseudotsuga menziesii</i>	7	1520
<b>S/W 22 Total</b>			<b>23</b>	<b>7510</b>
23	ELGL	<i>Elymus glaucus</i>	3	1395
23	FECA	<i>Festuca californica</i>	2	400
23	PIPO	<i>Pinus ponderosa</i>	2	400
23	PSME	<i>Pseudotsuga menziesii</i>	3	1750
<b>S/W 23 Total</b>			<b>10</b>	<b>3945</b>
26	ACMA3	<i>Acer macrophyllum</i>	1	20
26	PSME	<i>Pseudotsuga menziesii</i>	1	450
<b>S/W 26 Total</b>			<b>2</b>	<b>470</b>
27	PIPO	<i>Pinus ponderosa</i>	1	1800
27	PSME	<i>Pseudotsuga menziesii</i>	1	240
27	WIWA	Willow Wattles	2	8
<b>S/W 27 Total</b>			<b>4</b>	<b>2048</b>
28	ELGL	<i>Elymus glaucus</i>	1	250
<b>S/W 28 Total</b>			<b>1</b>	<b>250</b>
29	CEOC	<i>Cercis occidentalis</i>	1	120
29	ELGL	<i>Elymus glaucus</i>	9	2600
29	PIJE	<i>Pinus jeffreyi</i>	1	1500
29	PIPO	<i>Pinus ponderosa</i>	4	10090
29	PSME	<i>Pseudotsuga menziesii</i>	6	1400
<b>S/W 29 Total</b>			<b>21</b>	<b>15710</b>
40	FECA	<i>Festuca californica</i>	1	1500
40	PIPO	<i>Pinus ponderosa</i>	1	150
<b>S/W40 Total</b>			<b>2</b>	<b>1650</b>
<b>Spring 1994 Total</b>				<b>74,188</b>

**Table 6. Fall 1995 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 1995 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
17	STST2	<i>Stipa stillmanii</i>	1	98
<b>S/W 17 Total</b>			<b>1</b>	<b>98</b>
18	CECU	<i>Ceanothus cuneatus</i>	13	4358
18	CEIN3	<i>Ceanothus integerramus</i>	3	256
18	CELE	<i>Ceanothus lemmonii</i>	7	1642
18	CEOC	<i>Cercis occidentalis</i>	10	2663
18	FECA	<i>Festuca idahoensis</i>	4	1193
18	HODI	<i>Holodiscus discolor</i>	2	98
18	PISA2	<i>Pinus sabiniana</i>	1	20
<b>S/W 18 Total</b>			<b>40</b>	<b>10230</b>
21	CECU	<i>Ceanothus cuneatus</i>	1	227
21	CEIN3	<i>Ceanothus integerramus</i>	1	561
21	CEOC	<i>Cercis occidentalis</i>	1	588
21	CONU4	<i>Cornus nuttallii</i>	1	10
21	FECA	<i>Festuca idahoensis</i>	1	120
21	PSME	<i>Pseudotsuga menziesii</i>	1	1
21	SAMBU	<i>Sambucus species</i>	1	10
<b>S/W 21 Total</b>			<b>7</b>	<b>1517</b>
27	ACMA3	<i>Acer macrophyllum</i>	1	10
27	CECU	<i>Ceanothus cuneatus</i>	2	1499
27	CEIN3	<i>Ceanothus integerramus</i>	2	875
27	CELE	<i>Ceanothus lemmonii</i>	1	312
27	CEOC	<i>Cercis occidentalis</i>	3	1198
27	CONU4	<i>Cornus nuttallii</i>	2	90
27	FECA	<i>Festuca idahoensis</i>	2	1758
27	PSME	<i>Pseudotsuga menziesii</i>	2	139
27	SAMBU	<i>Sambucus species</i>	2	48
<b>S/W 27 Total</b>			<b>18</b>	<b>5919</b>
41	CECU	<i>Ceanothus cuneatus</i>	1	561
41	FECA	<i>Festuca idahoensis</i>	1	165
<b>S/W 41 Total</b>			<b>2</b>	<b>726</b>
<b>Fall 1995 Total</b>				<b>18,490</b>

**Table 7. Spring 1995 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1995 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
22	CADE27	<i>Calocedrus decurrens</i>	3	245
22	HODI	<i>Holodiscus discolor</i>	1	65
22	PSME	<i>Pseudotsuga menziesii</i>	4	635
22	RULA	<i>Rubus leucodermis</i>	1	25
22	WIST	Willow Stakes	2	125
<b>S/W 22 Total</b>			<b>11</b>	<b>1095</b>
25	CADE27	<i>Calocedrus decurrens</i>	10	1350
25	PIPO	<i>Pinus ponderosa</i>	12	2300
25	PSME	<i>Pseudotsuga menziesii</i>	7	900
25	Shrub	<i>Shrub species</i>	2	100
25	WIST	Willow Stakes	3	35
<b>S/W 25 Total</b>			<b>34</b>	<b>4685</b>
26	ACMA3	<i>Acer macrophyllum</i>	1	450
26	CADE27	<i>Calocedrus decurrens</i>	7	570
26	PIPO	<i>Pinus ponderosa</i>	9	1400
26	PSME	<i>Pseudotsuga menziesii</i>	7	1490
26	QUERC	<i>Quercus species</i>	1	100
26	SALIX	<i>Salix species</i>	4	625
26	WIST	Willow Stakes	1	30
26	WIWA	Willow Wattles	1	18
<b>S/W 26 Total</b>			<b>31</b>	<b>4683</b>
27	CADE27	<i>Calocedrus decurrens</i>	2	175
27	EQUIS	<i>Equisetum species</i>	1	0
27	PIJE	<i>Pinus jeffreyi</i>	1	125
27	PIPO	<i>Pinus ponderosa</i>	5	975
27	PSME	<i>Pseudotsuga menziesii</i>	4	525
<b>S/W 27 Total</b>			<b>13</b>	<b>1800</b>
29	CADE27	<i>Calocedrus decurrens</i>	1	167
29	PIPO	<i>Pinus ponderosa</i>	1	167
29	PSME	<i>Pseudotsuga menziesii</i>	1	167
<b>S/W 29 Total</b>			<b>3</b>	<b>501</b>
32	PIPO	<i>Pinus ponderosa</i>	1	5600
<b>S/W 32 Total</b>			<b>1</b>	<b>5600</b>
<b>Spring 1995 Total</b>				<b>18,364</b>



**Table 8. Fall 1996 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 1996 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
24	ALRH2	<i>Alnus rhombifolia</i>	2	115
24	CEOC	<i>Cercis occidentalis</i>	3	105
24	CHNA2	<i>Chrysothamnus nauseosus</i>	4	380
24	PHLE4	<i>Philadelphus lewisii</i>	1	147
24	PILA	<i>Pinus lambertiana</i>	21	7820
24	PIPO	<i>Pinus ponderosa</i>	1	260
24	QUGA4	<i>Quercus garryana</i>	2	50
<b>S/W 24 Total</b>			<b>34</b>	<b>8877</b>
29	QUCH2	<i>Quercus chrysolepis</i>	5	125
<b>S/W 29 Total</b>			<b>5</b>	<b>125</b>
30	QUCH2	<i>Quercus chrysolepis</i>	1	32
<b>S/W 30 Total</b>			<b>1</b>	<b>32</b>
41	CEOC	<i>Cercis occidentalis</i>	2	140
41	CHNA2	<i>Chrysothamnus nauseosus</i>	1	60
41	PILA	<i>Pinus lambertiana</i>	15	3860
41	PIPO	<i>Pinus ponderosa</i>	33	29300
41	QUCH2	<i>Quercus chrysolepis</i>	16	594
<b>S/W 41 Total</b>			<b>67</b>	<b>33954</b>
<b>Fall 1996 Total</b>				<b>42,988</b>

**Table 9. Spring 1996 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1996 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
17	ARPA6	<i>Arctostaphylos patula</i>	2	65
17	CECU	<i>Ceanothus cuneatus</i>	1	10
17	CEIN3	<i>Ceanothus integerrimus</i>	2	85
17	CEOC	<i>Cercis occidentalis</i>	4	600
17	CEPI	<i>Ceanothus pinetorum</i>	1	18
17	FRLA	<i>Fraxinus latifolius</i>	4	300
17	PILA	<i>Pinus lambertiana</i>	2	109
17	PIPO	<i>Pinus ponderosa</i>	7	1096
<b>S/W 17 Total</b>			<b>23</b>	<b>2283</b>
18	ACLE	<i>Achnatherum lemmonii</i>	4	220
18	BRCA5	<i>Bromus carinatus</i>	1	20
18	CELE	<i>Ceanothus lemmonii</i>	3	180
18	CEPI	<i>Ceanothus pinetorum</i>	1	40
18	PIPO	<i>Pinus ponderosa</i>	11	5688
18	PISA2	<i>Pinus lambertiana</i>	1	300
<b>S/W 18 Total</b>			<b>21</b>	<b>6448</b>
19	BRCA5	<i>Bromus carinatus</i>	1	240
19	CECU	<i>Ceanothus cuneatus</i>	2	880
19	CEIN3	<i>Ceanothus integerrimus</i>	10	1945
19	CEOC	<i>Cercis occidentalis</i>	1	630
19	CERCO	<i>Cercocarpus species</i>	7	1330
19	PIJE	<i>Pinus jeffreyi</i>	10	7960
19	PIPO	<i>Pinus ponderosa</i>	11	9041
19	PSME	<i>Pseudotsuga menziesii</i>	5	2770
<b>S/W 19 Total</b>			<b>47</b>	<b>24796</b>
21	ARPA6	<i>Arctostaphylos patula</i>	1	85
21	ARVI4	<i>Arctostaphylos viscida</i>	1	28
21	CECU	<i>Ceanothus cuneatus</i>	3	440
21	CEIN3	<i>Ceanothus integerrimus</i>	4	910
21	CEPR	<i>Ceanothus prostratus</i>	2	450
21	PIPO	<i>Pinus ponderosa</i>	4	2000
<b>S/W 21 Total</b>			<b>15</b>	<b>3913</b>
23	POBAT	<i>Populus balsamifera ssp. trichocarpa</i>	1	50
23	PSME	<i>Pseudotsuga menziesii</i>	1	100
23	SALIX	<i>Salix species</i>	1	75
<b>S/W 23 Total</b>			<b>3</b>	<b>225</b>
24	ACMA3	<i>Acer macrophyllum</i>	3	500
24	ARME	<i>Arbutus menziesii</i>	3	325
24	CADE27	<i>Calocedrus decurrens</i>	1	30
24	CEIN3	<i>Ceanothus integerrimus</i>	1	820
24	COST4	<i>Cornus stolonifera</i>	3	770
24	PILA	<i>Pinus lambertiana</i>	1	20
<b>S/W 24 Total</b>			<b>12</b>	<b>2465</b>

**Table 9 cont'd. Spring 1996 Grass Valley Creek Planting Summary**

<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
26	ACMA3	<i>Acer macrophyllum</i>	1	400
26	CADE27	<i>Calocedrus decurrens</i>	1	80
26	PHLE4	<i>Philadelphus lewisii</i>	1	450
26	POBAT	<i>Populus balsamifera ssp. trichocarpa</i>	1	50
26	PSME	<i>Pseudotsuga menziesii</i>	1	50
26	SALIX	<i>Salix species</i>	1	25
<b>S/W 26 Total</b>			<b>6</b>	<b>1055</b>
27	ACMA3	<i>Acer macrophyllum</i>	1	146
27	CECU	<i>Ceanothus cuneatus</i>	1	370
27	CEIN3	<i>Ceanothus integerrimus</i>	3	1192
27	CEOC	<i>Cercis occidentalis</i>	1	440
27	PHLE4	<i>Philadelphus lewisii</i>	1	470
27	PILA	<i>Pinus lambertiana</i>	1	136
27	PIPO	<i>Pinus ponderosa</i>	3	820
27	POBAT	<i>Populus balsamifera ssp. trichocarpa</i>	1	150
27	PSME	<i>Pseudotsuga menziesii</i>	4	10503
27	SALIX	<i>Salix species</i>	1	200
<b>S/W 27 Total</b>			<b>17</b>	<b>14427</b>
28	CEIN3	<i>Ceanothus integerrimus</i>	5	733
28	CEOC	<i>Cercis occidentalis</i>	6	275
28	PIJE	<i>Pinus jeffreyi</i>	3	1000
28	PIPO	<i>Pinus ponderosa</i>	5	1570
<b>S/W 28 Total</b>			<b>19</b>	<b>3578</b>
29	ACCI	<i>Acer circinatum</i>	1	47
29	ACLE	<i>Achnatherum lemmonii</i>	1	138
29	ACMA3	<i>Acer macrophyllum</i>	3	160
29	ALRH2	<i>Alnus rhombifolia</i>	3	190
29	BRCA5	<i>Bromus carinatus</i>	1	268
29	CEIN3	<i>Ceanothus integerrimus</i>	1	255
29	CEOC	<i>Cercis occidentalis</i>	2	740
29	CERCO	<i>Cercocarpus species</i>	2	960
29	CONU4	<i>Cornus nuttallii</i>	3	300
29	COST4	<i>Cornus stolonifera</i>	1	33
29	PIJE	<i>Pinus jeffreyi</i>	1	1300
29	PIPO	<i>Pinus ponderosa</i>	3	4520
<b>S/W 29 Total</b>			<b>22</b>	<b>8911</b>

**Table 9 cont'd. Spring 1996 Grass Valley Creek Planting Summary**

<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
41	ACCI	<i>Acer circinatum</i>	5	375
41	ACLE	<i>Achnatherum lemmonii</i>	4	2181
41	ACMA3	<i>Acer macrophyllum</i>	1	875
41	AGROS2	<i>Acrostic species</i>	1	104
41	ARME	<i>Arbutus menziesii</i>	4	140
41	BRCA5	<i>Bromus carinatus</i>	9	864
41	CADE27	<i>Calocedrus decurrens</i>	18	4023
41	CECU	<i>Ceanothus cuneatus</i>	2	1230
41	CEIN3	<i>Ceanothus integerrimus</i>	9	1272
41	CEOC	<i>Cercis occidentalis</i>	2	450
41	CEPI	<i>Ceanothus pinetorum</i>	7	566
41	CONU4	<i>Cornus nuttallii</i>	4	296
41	COST4	<i>Cornus stolonifera</i>	3	279
41	FECA	<i>Festuca californica</i>	1	267
41	LIDE3	<i>Lithocarpus densiflorus</i>	4	1030
41	PIJE	<i>Pinus jeffreyi</i>	10	7910
41	PILA	<i>Pinus lambertiana</i>	9	1970
41	PIPO	<i>Pinus ponderosa</i>	22	25039
41	PSME	<i>Pseudotsuga menziesii</i>	7	4460
41	STST2	<i>Stipa stillmanii</i>	1	189
<b>S/W 41 Total</b>			<b>123</b>	<b>53520</b>
<b>Spring 1996 Total</b>				<b>121,621</b>

**Table 10. Fall 1997 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek - Fall 1997 - Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
21	CEIN3	<i>Ceanothus integerramus</i>	7	1480
21	CELE	<i>Ceanothus lemmonii</i>	6	2630
21	ELGL	<i>Elymus glaucus</i>	2	440
21	PIPO	<i>Pinus ponderosa</i>	9	17745
21	SIHY	<i>Sitanion hystrix</i>	2	505
<b>S/W 21 Total</b>			<b>26</b>	<b>22800</b>
24	PIPO	<i>Pinus ponderosa</i>	4	6500
<b>S/W 24 Total</b>			<b>4</b>	<b>6500</b>
41	CEIN3	<i>Ceanothus integerramus</i>	4	1010
41	ELGL	<i>Elymus glaucus</i>	2	1165
41	PIPO	<i>Pinus ponderosa</i>	8	19600
<b>S/W 41 Total</b>			<b>14</b>	<b>21775</b>
<b>Fall 1997 Total</b>				<b>51,075</b>

**Table 11. Spring 1997 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1997 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
21	ACCI	<i>Acer circinatum</i>	1	338
21	ALRH2	<i>Alnus rhombifolia</i>	1	80
21	PSME	<i>Pseudotsuga menziesii</i>	1	150
<b>S/W 21 Total</b>			<b>3</b>	<b>568</b>
24	ARPA6	<i>Arctostaphylos patula</i>	4	90
24	CEIN3	<i>Ceanothus integerramus</i>	10	1245
24	ELGL	<i>Elymus glaucus</i>	10	2030
24	FECA	<i>Festuca californica</i>	27	20282
24	PILA	<i>Pinus lambertiana</i>	10	11275
24	PIPO	<i>Pinus ponderosa</i>	41	57690
24	PSME	<i>Pseudotsuga menziesii</i>	5	2319
<b>S/W 24 Total</b>			<b>107</b>	<b>94931</b>
26	CECU	<i>Ceanothus cuneatus</i>	1	2166
26	CEIN3	<i>Ceanothus integerramus</i>	1	38
<b>S/W 26 Total</b>			<b>2</b>	<b>2204</b>
27	ACMA3	<i>Acer macrophyllum</i>	1	368
27	ALRH2	<i>Alnus rhombifolia</i>	1	72
27	ARME	<i>Arbutus menziesii</i>	1	67
27	CONU4	<i>Cornus nuttallii</i>	1	500
<b>S/W 27 Total</b>			<b>4</b>	<b>1007</b>
29	ACMA3	<i>Acer macrophyllum</i>	1	700
29	ALRH2	<i>Alnus rhombifolia</i>	1	120
29	ARME	<i>Arbutus menziesii</i>	1	120
29	CONU4	<i>Cornus nuttallii</i>	1	98
29	ELGL	<i>Elymus glaucus</i>	2	157
29	PIPO	<i>Pinus ponderosa</i>	23	9945
29	PSME	<i>Pseudotsuga menziesii</i>	1	125
<b>S/W 29 Total</b>			<b>30</b>	<b>11265</b>
30	PIPO	<i>Pinus ponderosa</i>	2	1190
<b>S/W 30 Total</b>			<b>2</b>	<b>1190</b>
<b>Spring 1997 Total</b>				<b>111,165</b>

**Table 12. Fall 1998 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 1998 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
15	ACLE	<i>Achnatherum lemmonii</i>	2	300
15	CEIN3	<i>Ceanothus integerramus</i>	35	4506
15	ELGL	<i>Elymus glaucus</i>	25	6285
15	FEID	<i>Festuca idahoensis</i>	25	4535
15	PILA	<i>Pinus lambertiana</i>	4	825
15	PIPO	<i>Pinus ponderosa</i>	51	18166
15	POSC	<i>Poa secunda</i>	3	75
15	PSME	<i>Pseudotsuga menziesii</i>	4	1025
<b>S/W 15 Total</b>			<b>149</b>	<b>35717</b>
16	PILA	<i>Pinus lambertiana</i>	2	1525
16	PIPO	<i>Pinus ponderosa</i>	19	10919
<b>S/W 16 Total</b>			<b>21</b>	<b>12444</b>
17	PIPO	<i>Pinus ponderosa</i>	14	6550
<b>S/W 17 Total</b>			<b>14</b>	<b>6550</b>
<b>Fall 1998 Total</b>				<b>54,711</b>

**Table 13. Spring 1998 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1998 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
16	PIPO	<i>Pinus ponderosa</i>	19	15755
16	PSME	<i>Pseudotsuga menziesii</i>	1	3750
<b>S/W 16 Total</b>			<b>20</b>	<b>19505</b>
21	PIPO	<i>Pinus ponderosa</i>	6	26985
<b>S/W 21 Total</b>			<b>6</b>	<b>26985</b>
26	ACMA3	<i>Acer macrophyllum</i>	1	650
<b>S/W 26 Total</b>			<b>1</b>	<b>650</b>
41	CHNA2	<i>Chrysothamnus nauseosus</i>	4	505
41	FEID	<i>Festuca idahoensis</i>	1	75
41	PILA	<i>Pinus lambertiana</i>	8	10465
41	PIPO	<i>Pinus ponderosa</i>	41	34470
41	PSME	<i>Pseudotsuga menziesii</i>	27	14025
<b>S/W 41 Total</b>			<b>81</b>	<b>59540</b>
<b>Spring 1998 Total</b>				<b>106,680</b>

**Table 14. Fall 1999 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 1999 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
15	PIPO	<i>Pinus ponderosa</i>	25	34670
15	PSME	<i>Pseudotsuga menziesii</i>	2	100
<b>S/W 15 Total</b>			<b>27</b>	<b>34770</b>
16	PIPO	<i>Pinus ponderosa</i>	30	61705
<b>S/W 16 Total</b>			<b>30</b>	<b>61705</b>
17	BRCA5	<i>Bromus carinatus</i>	8	805
17	ELGL	<i>Elymus glaucus</i>	12	1205
17	PIPO	<i>Pinus ponderosa</i>	26	46290
17	POSC	<i>Poa secunda</i>	2	50
17	QUKE	<i>Quercus kelloggii</i>	12	793
<b>S/W 17 Total</b>			<b>60</b>	<b>49143</b>
<b>Fall 1999 Total</b>				<b>145,618</b>

**Table 15. Spring 1999 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 1999 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
15	PIJE	<i>Pinus jeffreyi</i>	2	750
15	PILA	<i>Pinus lambertiana</i>	4	1055
15	PIPO	<i>Pinus ponderosa</i>	12	12885
15	PSME	<i>Pseudotsuga menziesii</i>	3	710
<b>S/W 15 Total</b>			<b>21</b>	<b>15400</b>
16	CADE27	<i>Calocedrus decurrens</i>	11	905
16	PIJE	<i>Pinus jeffreyi</i>	2	850
16	PILA	<i>Pinus lambertiana</i>	10	3380
16	PIPO	<i>Pinus ponderosa</i>	69	78770
16	PSME	<i>Pseudotsuga menziesii</i>	29	4450
<b>S/W 16 Total</b>			<b>121</b>	<b>88355</b>
17	PIPO	<i>Pinus ponderosa</i>	24	18270
<b>S/W 17 Total</b>			<b>24</b>	<b>18270</b>
<b>Spring 1999 Total</b>				<b>122,025</b>



**Table 16. Fall 2000 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 2000 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
15	ACOC	<i>Achnatherum occidentale</i>	2	98
15	CEIN3	<i>Ceanothus integerramus</i>	4	2425
15	FEID	<i>Festuca idahoensis</i>	2	490
15	FEOC	<i>Festuca occidentalis</i>	4	1672
15	PIPO	<i>Pinus ponderosa</i>	52	40715
15	POSC	<i>Poa secunda</i>	3	294
15	PSME	<i>Pseudotsuga menziesii</i>	51	8560
<b>S/W 15 Total</b>			<b>118</b>	<b>54254</b>
16	CEIN3	<i>Ceanothus integerramus</i>	2	600
16	FEID	<i>Festuca idahoensis</i>	2	694
16	PIPO	<i>Pinus ponderosa</i>	2	840
16	PSME	<i>Pseudotsuga menziesii</i>	2	240
<b>S/W 16 Total</b>			<b>8</b>	<b>2374</b>
17	ACOC	<i>Achnatherum occidentale</i>	1	50
17	CEIN3	<i>Ceanothus integerramus</i>	33	11325
17	CELE	<i>Ceanothus lemmonii</i>	9	1130
17	FEID	<i>Festuca idahoensis</i>	9	1320
17	FEOC	<i>Festuca occidentalis</i>	9	1666
17	PIPO	<i>Pinus ponderosa</i>	35	23950
17	POSC	<i>Poa secunda</i>	1	80
17	PSME	<i>Pseudotsuga menziesii</i>	32	8510
<b>S/W 17 Total</b>			<b>129</b>	<b>48031</b>
<b>Fall 2000 Total</b>				<b>104,659</b>

**Table 17. Spring 2000 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 2000 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of sites</b>	<b>Amount Planted</b>
16	PIPO	<i>Pinus ponderosa</i>	27	9640
16	PSME	<i>Pseudotsuga menziesii</i>	25	1945
<b>S/W 16 Total</b>			<b>52</b>	<b>11585</b>
17	PIPO	<i>Pinus ponderosa</i>	37	30290
17	PSME	<i>Pseudotsuga menziesii</i>	34	6510
<b>S/W 17 Total</b>			<b>71</b>	<b>36800</b>
<b>Spring 2000 Total</b>				<b>48,385</b>

**Table 18. Fall 2001 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 2001 - Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
12	BRCA5	<i>Bromus carinatus</i>	6	7850
12	ELGL	<i>Elymus glaucus</i>	6	9085
12	FEID	<i>Festuca idahoensis</i>	6	4195
12	PIPO	<i>Pinus ponderosa</i>	5	3690
12	PSME	<i>Pseudotsuga menziesii</i>	3	1100
<b>Fall 2001 Total</b>			<b>26</b>	<b>25920</b>

**Table 19. Spring 2001 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 2001 - Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
9	ELEL5	<i>Elymus elymoides</i>	1	98
9	FEID	<i>Festuca idahoensis</i>	1	98
9	FEOC	<i>Festuca occidentalis</i>	1	98
9	PILA	<i>Pinus lambertiana</i>	43	15430
9	PIPO	<i>Pinus ponderosa</i>	85	46426
9	PSME	<i>Pseudotsuga menziesii</i>	81	16865
<b>S/W 9 Total</b>			<b>212</b>	<b>79015</b>
15	PIPO		2	570
15	PSME		2	225
<b>S/W 15 Total</b>			<b>4</b>	<b>795</b>
16	ACOC3	<i>Achnatherum occidentale</i>	1	170
16	ELEL5	<i>Elymus elymoides</i>	7	1075
16	FEID	<i>Festuca idahoensis</i>	10	1645
16	FEOC	<i>Festuca occidentalis</i>	2	175
16	PIPO	<i>Pinus ponderosa</i>	23	19100
16	PSME	<i>Pseudotsuga menziesii</i>	18	3630
<b>S/W 16 Total</b>				<b>25795</b>
<b>Spring 2001 Total</b>				<b>105,505</b>

**Table 20. Fall 2002 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 2002 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
10	CEPI	<i>Ceanothus pinetorum</i>	10	1245
10	PILA	<i>Pinus lambertiana</i>	8	3550
10	PIPO	<i>Pinus ponderosa</i>	25	39350
10	PSME	<i>Pseudotsuga menziesii</i>	24	12700
<b>S/W 10 Total</b>			<b>67</b>	<b>56845</b>
12	BRCA5	<i>Bromus carinatus</i>	15	5360
12	ELEL5	<i>Elymus elymoides</i>	12	5040
12	ELGL	<i>Elymus glaucus</i>	12	4600
12	FEID	<i>Festuca idahoensis</i>	13	4140
12	PILA	<i>Pinus lambertiana</i>	4	175
12	PIPO	<i>Pinus ponderosa</i>	16	10115
12	PSME	<i>Pseudotsuga menziesii</i>	16	2880
<b>S/W 12 Total</b>			<b>88</b>	<b>32310</b>
<b>Fall 2002 Total</b>				<b>89,155</b>

**Table 21. Spring 2002 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek - Spring 2002 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
9	ELEL5	<i>Elymus elymoides</i>	1	98
9	FEID	<i>Festuca idahoensis</i>	1	98
9	FEOC	<i>Festuca occidentalis</i>	1	98
9	PILA	<i>Pinus lambertiana</i>	43	15430
9	PIPO	<i>Pinus ponderosa</i>	85	46426
9	PSME	<i>Pseudotsuga menziesii</i>	81	16865
<b>S/W 9 Total</b>			<b>212</b>	<b>79015</b>
15	PIPO	<i>Pinus ponderosa</i>	2	570
15	PSME	<i>Pseudotsuga menziesii</i>	2	225
<b>S/W 15 Total</b>			<b>4</b>	<b>795</b>
16	ACOC3	<i>Achnatherum occidentale</i>	1	70
16	ELEL5	<i>Elymus elymoides</i>	7	1075
16	FEID	<i>Festuca idahoensis</i>	10	1645
16	FEOC	<i>Festuca occidentalis</i>	2	175
16	PIPO	<i>Pinus ponderosa</i>	23	19100
16	PSME	<i>Pseudotsuga menziesii</i>	18	3630
<b>S/W 16 Total</b>				<b>25695</b>
<b>Spring 2002 Total</b>				<b>105,505</b>

**Table 22. Fall 2003 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 2003 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
10	ACLE	<i>Achnatherum lemmonii</i>	2	35
10	ACMI2	<i>Achillea millefolium</i>	4	65
10	ASSP	<i>Asclepias speciosa</i>	1	18
10	BRCA5	<i>Bromus carinatus</i>	7	1690
10	CEPI	<i>Ceanothus pinetorum</i>	4	105
10	ELEL5	<i>Elymus elymoides</i>	12	2025
10	ELGL	<i>Elymus glaucus</i>	6	1075
10	FECA	<i>Festuca californica</i>	2	65
10	LOCR	<i>Lotus crassifolius</i>	4	77
10	PILA	<i>Pinus lambertiana</i>	2	275
10	PIPO	<i>Pinus ponderosa</i>	20	17435
10	PSME	<i>Pseudotsuga menziesii</i>	20	6135
<b>S/W 10 Total</b>			<b>84</b>	<b>29000</b>
11	ABCO	<i>Abies concolor</i>	3	2290
11	BRCA5	<i>Bromus carinatus</i>	3	1300
11	ELEL5	<i>Elymus elymoides</i>	1	75
11	PIPO	<i>Pinus ponderosa</i>	3	5600
11	PSME	<i>Pseudotsuga menziesii</i>	3	2485
<b>S/W 11 Total</b>			<b>13</b>	<b>11750</b>
14	ABCO	<i>Abies concolor</i>	6	2375
14	BRCA5	<i>Bromus carinatus</i>	11	1335
14	ELEL5	<i>Elymus elymoides</i>	17	2500
14	ELGL	<i>Elymus glaucus</i>	8	850
14	PILA	<i>Pinus lambertiana</i>	6	665
14	PIPO	<i>Pinus ponderosa</i>	22	14040
14	PSME	<i>Pseudotsuga menziesii</i>	18	3475
<b>S/W 14 Total</b>			<b>88</b>	<b>25240</b>
<b>Fall 2003 Total</b>				<b>65,990</b>

**Table 23. Spring 2003 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek - Spring 2003 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
9	CECU	<i>Ceanothus cuneatus</i>	1	828
9	PILA	<i>Pinus lambertiana</i>	6	1725
9	PIPO	<i>Pinus ponderosa</i>	14	10650
9	PSME	<i>Pseudotsuga menziesii</i>	12	3335
9	QUCH2	<i>Quercus chrysolepis</i>	1	467
<b>S/W 9 Total</b>			<b>34</b>	<b>17005</b>
10	PILA	<i>Pinus lambertiana</i>	4	950
10	PIPO	<i>Pinus ponderosa</i>	15	6675
10	PSME	<i>Pseudotsuga menziesii</i>	15	2515
<b>S/W 10 Total</b>			<b>34</b>	<b>10140</b>
11	CEPI	<i>Ceanothus pinetorum</i>	2	155
11	DEEL	<i>Deschampsia elongata</i>	2	800
11	PILA	<i>Pinus lambertiana</i>	16	17990
11	PIPO	<i>Pinus ponderosa</i>	17	25555
11	PSME	<i>Pseudotsuga menziesii</i>	17	14260
<b>S/W 11 Total</b>			<b>54</b>	<b>58760</b>
<b>Spring 2003 Total</b>				<b>85,905</b>

**Table 24. Fall 2004 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Fall 2004 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
13	ABCO	<i>Abies concolor</i>	17	4860
13	BRCA5	<i>Bromus carinatus</i>	6	1150
13	CECU	<i>Ceanothus cuneatus</i>	3	126
13	CELE	<i>Ceanothus lemmonii</i>	2	95
13	CEPI	<i>Ceanothus pinetorum</i>	9	385
13	ELEL5	<i>Elymus elymoides</i>	8	1305
13	FEID	<i>Festuca californica</i>	8	1225
13	PILA	<i>Pinus lambertiana</i>	7	1975
13	PIPO	<i>Pinus ponderosa</i>	17	12248
13	PSME	<i>Pseudotsuga menziesii</i>	17	6164
13	QUCH2	<i>Quercus chrysolepis</i>	7	207
<b>S/W 13 Total</b>			<b>101</b>	<b>29740</b>
18	ABCO	<i>Abies concolor</i>	11	2450
18	BRCA5	<i>Bromus carinatus</i>	16	3225
18	CEBE3	<i>Cercocarpus betuloides</i>	13	1114
18	CEIN3	<i>Ceanothus integerramus</i>	10	630
18	CELE	<i>Ceanothus lemmonii</i>	20	2288
18	CEPI	<i>Ceanothus pinetorum</i>	1	36
18	ELEL5	<i>Elymus elymoides</i>	15	3891
18	ERUM	<i>Eriogonum umbellatum</i>	1	75
18	FEID	<i>Festuca californica</i>	23	8831
18	PILA	<i>Pinus lambertiana</i>	38	13440
18	PIPO	<i>Pinus ponderosa</i>	58	50160
18	PSME	<i>Pseudotsuga menziesii</i>	58	18700
18	QUCH2	<i>Quercus chrysolepis</i>	13	875
18	QUGA4	<i>Quercus garryana</i>	3	303
18	QUKE	<i>Quercus kelloggii</i>	2	45
<b>S/W 18 Total</b>			<b>282</b>	<b>106063</b>
<b>Fall 2004 Total</b>				<b>135,803</b>

**Table 25. Spring 2004 Grass Valley Creek Planting Summary**

<b>Grass Valley Creek – Spring 2004 – Planting Summary</b>				
<b>Subwatershed</b>	<b>Species Abbrev.</b>	<b>Scientific Name</b>	<b>Number of Sites</b>	<b>Amount Planted</b>
9	ABCO	<i>Abies concolor</i>	1	75
9	ASSP	<i>Asclepias speciosa</i>	1	80
9	LOCR	<i>Lotus crassifolius</i>	2	12
9	PILA	<i>Pinus lambertiana</i>	4	535
9	PIPO	<i>Pinus ponderosa</i>	10	4475
9	PSME	<i>Pseudotsuga menziesii</i>	9	2360
9	QUGA4	<i>Quercus garryana</i>	3	27
9	QUKE	<i>Quercus kelloggii</i>	2	12
<b>S/W 9 Total</b>			<b>32</b>	<b>7576</b>
10	ABCO	<i>Abies concolor</i>	4	175
10	ACLE	<i>Achnatherum lemmonii</i>	1	120
10	FECA	<i>Festuca californica</i>	2	245
10	PILA	<i>Pinus lambertiana</i>	17	8350
10	PIPO	<i>Pinus ponderosa</i>	17	9145
10	PSME	<i>Pseudotsuga menziesii</i>	16	5950
<b>S/W 10 Total</b>			<b>57</b>	<b>23985</b>
14	ABCO	<i>Abies concolor</i>	16	4960
14	PILA	<i>Pinus lambertiana</i>	21	6770
14	PIPO	<i>Pinus ponderosa</i>	22	8735
14	PSME	<i>Pseudotsuga menziesii</i>	21	4685
<b>S/W 14 Total</b>			<b>80</b>	<b>25150</b>
17	ACCI	<i>Acer circinatum</i>	2	3
17	ACMA3	<i>Acer macrophyllum</i>	1	1
17	ACMI2	<i>Achillea millefolium</i>	9	273
17	ALRH2	<i>Alnus rhombifolia</i>	2	2
17	ASSP	<i>Asclepias speciosa</i>	4	85
17	CEPI	<i>Ceanothus pinetorum</i>	10	621
17	COSE3	<i>Cornus sessilis</i>	6	10
17	COST4	<i>Cornus stolonifera</i>	1	4
17	LOCR	<i>Lotus crassifolius</i>	5	103
17	PILA	<i>Pinus lambertiana</i>	6	148
17	PIPO	<i>Pinus ponderosa</i>	6	223
17	POBAT	<i>Populus balsamifera ssp. trichocarpa</i>	2	2
17	PSME	<i>Pseudotsuga menziesii</i>	4	80
17	QUGA4	<i>Quercus garryana</i>	4	17
<b>S/W 17 Total</b>			<b>62</b>	<b>1572</b>
<b>Spring 2004 Total</b>				<b>58,283</b>

**Appendix A. GVC Cost Expenditures**

<b>Dates</b>	<b>Proj #</b>	<b>Our Title</b>	<b>Grantor</b>	<b>State/Other</b>	<b>BLM</b>	<b>BOR</b>
04/23/01-05/30/03	13	GVC Reveg	DFG	123,264		
08/27/01-09/30/03	39	GVC Cone Prop T.O.#6	BLM		111,550	
06/28/01-07/15/03	48	GVC Fuels Plan T.O.#3	BLM		47,466	
06/21/00-09/30/02	79	GVC O&M	BOR		-	427,000
09/28/98-05/01/01	80	GVC Reveg T.O.#10	BLM		125,000	
05/14/99-09/30/99	81	GVC Roads T.O.#7	BLM		50,830	
09/01/00-10/01/01	88	GVC Reveg T.O.#23	BLM		138,000	
10/01/94-09/30/99	27	GVC-O&M Monitoring	BOR		-	678,084
09/30/94-09/30/98	40	Hoadley Gulch/Indian Crk	BOR		-	415,365
6/1/1999-03/15/01	60	GVC Diversion	DFG	16,508		
06/01/99-03/15/01	61	GVC Reveg	DFG	94,229		
05/20/00-09/30/01	78	GVC Watershed Rehab	BOR		-	64,000
04/05/00-12/31/01	85	GVC Native Grass T.O.#22	BLM		9,448	
09/30/92-09/30/99	17	GVC Watershed Rest	BOR		-	*5,198,329
05/15/03-10/31/04	76	GVC Reveg & Inv	DFG	194,465		
1/25/05-4/01/05	128	GVC Reveg	Trinity County	96,690		
10/01/03-9/30/05	113	Hamilton Ponds	BOR			231,750
8/06/01-9/30/03	70	GVC Planting & Inventory	Trinity County	67,379		
4/01/03-12/30/04	78	Seed Collection & Prop	BLM		42,023	
5/26/04-05/30/05	118	GVC Propagation	BLM		72,478	
				<b>\$ 592,535</b>	<b>\$ 596,795</b>	<b>\$ 1,816,199</b>
				19.7%	19.9%	60.4%

\* Funding included the construction of the Buckhorn Sediment Dam



**Appendix B. GVC Inventory Form**

**GRASS VALLEY CREEK WATERSHED RESTORATION  
REVEGETATION FORM**

Subwatershed# \_\_\_\_\_ Field Site# \_\_\_\_\_  
Database# \_\_\_\_\_  
Location: \_\_\_\_\_ Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section: \_\_\_\_\_  
Revegetation Person: \_\_\_\_\_ Inventoried By: \_\_\_\_\_  
Date Inventoried: \_\_\_\_\_

**SITE DATA:**

Area: \_\_\_\_\_ Site Characteristics: \_\_\_\_\_  
Aspect: \_\_\_\_\_ Previous Disturbance: \_\_\_\_\_  
Elevation: \_\_\_\_\_ Logging History: \_\_\_\_\_  
Slope: \_\_\_\_\_ Access to Site: \_\_\_\_\_  
Overstory Canopy: \_\_\_\_\_  
Plantability: High \_\_\_\_\_ Medium \_\_\_\_\_ Low \_\_\_\_\_  
Surface Organic Material: \_\_\_\_\_  
Vegetative Ground Cover: \_\_\_\_\_  
Soil Depth: \_\_\_\_\_

**EXISTING VEGETATION :**

**SITE DIAGRAM:**

## Appendix C. Growing Contract 2004/2005

### AGREEMENT FOR SERVICES between the TRINITY COUNTY RESOURCE CONSERVATION DISTRICT and TSEMETA FOREST NURSERY

Relative to: Growing 135,000 conifer seedlings in stryo-5 containers and 20,000 grass plugs in 10" containers (as specified on the following page) at a cost of \$169.85 per 1,000 by the Tsemeta Forest Nursery. Seedlings will be produced during the growing season of 2004 for planting in the fall of 2004 and spring of 2005.

This agreement, made and entered into this 17<sup>th</sup> day of December, 2003, by and between TRINITY COUNTY RESOURCE CONSERVATION DISTRICT, whose address is P.O. Box 1450, Weaverville, California 96093, hereinafter referred to as "District" and TSEMETA FOREST NURSERY, whose address is P.O. Box 358, Hoopa, California 95546, hereinafter referred to as "Nursery". This contract is valid through April 30, 2005.

WHEREAS, the DISTRICT has an ongoing restoration project in the Grass Valley Creek Watershed for which planting stock is needed on a yearly basis.

WHEREAS, the NURSERY has a proven track record for producing quality planting stock affordably.

NOW, THEREFORE, BE IT RESOLVED that in consideration of these premises and the following mutual promises, covenants, and conditions, the parties hereto agree as follows:

I. The DISTRICT agrees to:

- a. Provide seed for the agreement; most of which will come from the DISTRICT'S seedbank at the L.A. Moran Reforestation Center in Davis, California.
- b. Be responsible for transporting seedlings from NURSERY to Weaverville.
- c. Provide payment to the NURSERY upon submittal of billing invoice for successfully grown seedlings at the agreed rate of \$169.85 per 1,000.

II. The NURSERY agrees to:

- a. Grow 135,000 conifer seedlings in stryo 5 containers and 20,000 grass plugs in 10" containers (as specified on the following page) at a cost of \$169.85 per 1,000. Seedlings will be produced during the growing season of 2004 for planting in the fall of 2004 and spring of 2005.
- b. Be responsible for stratifying seed, growing and packaging all seedlings in serviceable, waxed boxes with plastic-bag liners. All grass plugs will need to be ready for the fall planting since they store poorly. 70,000 to 100,000 seedlings will need to be ready for lifting by the beginning of November. The remainder of the seedlings will be needed in the spring (date as yet to be determined). Seedlings will be packed in boxes ready to be transported within 1 week of the DISTRICT'S request.
- c. Boxes will be in good working order and will not exceed 50 lbs.

II. It is mutually agreed that:

- a. This agreement will be effective through April 30, 2005.
- b. Either party may terminate this agreement by providing 30 day written notice of termination.
- c. This agreement may be modified, in writing, upon mutual consent of both parties.
- d. In the event that the NURSERY is unable to provide the services indicated due to any cause, NURSERY shall notify DISTRICT on a timely basis of the fact, and thereafter shall take appropriate action as agreed upon by DISTRICT and NURSERY.
- e. The DISTRICT, its officers, agents, and employees, shall not be liable or responsible for any injury or damage to person or property resulting from the operations or activities of NURSERY or its employees while engaged in complying with any of the terms of this Agreement. NURSERY agrees to indemnify and hold harmless the DISTRICT and its officers, agents, and employees, from and against all claims and liability for damage or injury to persons or property resulting from the activities of NURSERY.
- f. NURSERY shall not be liable or responsible for any injury or damage to person or property resulting from the operations or activities of the DISTRICT or its employees while engaged in complying with any of the terms of this Agreement. The DISTRICT agrees to indemnify and hold harmless NURSERY, from and against all claims and liability for damage or injury to persons or property resulting from the activities of the DISTRICT.

IN WITNESS WHEREOF, the parties hereby have caused this agreement to be executed on the date listed below.

By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Mike Rourke, Chairman of the Board  
 Trinity County Resource Conservation District

By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Elton Baldy  
 Tsemeta Forest Nursery

Fall 2004/Spring 2005 Growing Contract – Species List

<u>Species</u>	<u>Zone &amp; Elevation</u>	<u>Amount Requested</u>	<u>Percent Filled</u>	<u>Seeds per Pound</u>
<i>Abies concolor</i>	332.45 *	10,000	75	10,225
<i>Pinus ponderosa</i>	332.25 *	10,000	98	10,856
	332.30 *	10,000	82	9,429
	332.40 *	15,000	91	9,742
	332.45 *	15,000	90	10,202
	332.50 *	15,000	85	12,384
<i>Pinus lambertiana</i>	332.40 *	15,000	53	1,813
	332.45 *	15,000	67	1,851
<i>Pseudotsuga menziesii</i>	332.low *	15,000	94 germ	24,356
	332.high *	15,000	95 germ	25,883
<i>Elymus glaucus</i>	Shasta-Trinity	5,000		
<i>Bromus carinatus</i>	Shasta-Trinity	5,000		
<i>Elymus elymoides</i>	Shasta-Trinity	5,000		
<i>Festuca idahoensis</i>	Shasta-Trinity	5,000		
<b>Total Seedlings</b>		155,000		

Note: Seed lots not from the TCRC seedbank (marked with\*), which is stored at the CDF L.A. Moran Reforestation Center, will be sent from the District to the nursery. Seed from the CDF Reforestation Center will be sent directly from the Center to the nursery.

If the nursery has questions or concerns about the seed stored at the GVC Seed Bank, the following is the information for our contact person at the center:

CDF L.A. Moran Reforestation Center  
 PO Box 1590  
 Davis, CA 95617  
 Phone: 530-753-2441  
 Contact: Teri Griffis