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 <u>10 Year Revegetation Plan for the Grass Valley Creek</u> <u>Watershed (1996-2007)</u> 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/mi²/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

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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, recontouring 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 <u>10 Year Revegetation</u> <u>Plan for the Grass Valley Creek Watershed</u> 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 amen 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 microsite planting. These locations may have any number of attributes, including greater moisture, increased organic matter and wind protection. Microsite locations include the following:

<u>Shade zone.</u> 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.

<u>Woody debris.</u> 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.

<u>Canopy protection</u>. 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 subwatershed. 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 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/mi²/yr (Graham Matthews & Associates 2001).

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

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

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

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

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

Table 2. Fall 1993 Grass Valley Creek Planting Summary

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

Table 3. Spring 1993 Grass Valley Creek Planting Summary

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

Table 4. Fall 1994 Grass Valley Creek Planting Summary

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

Table 5. Spring 1994 Grass Valley Creek Planting Summary

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

Table 6. Fall 1995 Grass Valley Creek Planting Summary

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

Table 7. Spring 1995 Grass Valley Creek Planting Summary

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

Table 8. Fall 1996 Grass Valley Creek Planting Summary

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

Table 9. Spring 1996 Grass Valley Creek Planting Summary

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

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

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

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

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

Table 10. Fall 1997 Grass Valley Creek Planting Summary

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

Table 11. Spring 1997 Grass Valley Creek Planting Summary

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

Table 12. Fall 1998 Grass Valley Creek Planting Summary

Table 13. Spring 1998 Grass Valley Creek Planting Summary

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

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

Table 14. Fall 1999 Grass Valley Creek Planting Summary

 Table 15. Spring 1999 Grass Valley Creek Planting Summary

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

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

Table 16. Fall 2000 Grass Valley Creek Planting Summary

Table 17. Spring 2000 Grass Valley Creek Planting Summary

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

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

Table 18. Fall 2001 Grass Valley Creek Planting Summary

Table 19. Spring 2001 Grass Valley Creek Planting Summary

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

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

Table 20. Fall 2002 Grass Valley Creek Planting Summary

Table 21. Spring 2002 Grass Valley Creek Planting Summary

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

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

Table 22. Fall 2003 Grass Valley Creek Planting Summary

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

Table 23. Spring 2003 Grass Valley Creek Planting Summary

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

Table 24. Fall 2004 Grass Valley Creek Planting Summary

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

Table 25. Spring 2004 Grass Valley Creek Planting Summary

Appendix A. GVC Cost Expenditures

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| | D • // | | a i | a. | | DI 14 | DOD |
|-------------------|---------------|--------------------------|----------------|-----|----------|-----------|-------------|
| Dates | Proj # | Our Title | Grantor | Sta | te/Other | BLM | BOK |
| 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 PlanT.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 RevegT.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 | |
| | | | | | | | |
| | | | | \$ | 592,535 | \$596,795 | \$1,816,199 |
| | | | | | 19.7% | 19.9% | 60.4% |
| | | | | | | | |

Т

* Funding included the construction of the Buckhorn Sediment Dam

Appendix B. GVC Inventory Form

GRASS VALLEY CREEK WATERSHED RESTORATION REVEGETATION FORM

| Subwatershed# Database# | Field Site# | | _ | |
|----------------------------|-----------------|---------------|----------|---|
| Location: | Township: | Range: | Section: | |
| Revegetation Person: | Iownomp Inve | entoried By: | | _ |
| Date Inventoried: | | j | | |
| | | | | |
| SITE DATA: | | | | |
| Area: | Site Cha | racteristics: | | |
| Aspect: | Previous | Disturbance: | | _ |
| Elevation: | Logging | History: | | |
| Slope: | Access t | o Site: | | - |
| Overstory Canopy: | | | | |
| Plantability: High | _ Medium | Low | | |
| Surface Organic Material: | | | | |
| Vegetative Ground Cover: | | | | |
| Soil Depth: | | | | |
| | | | | |
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| | Τ. | | | |
| EXISTING VEGETATION | <u>N :</u> | | | |
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| SITE DIAGRAM: | | | | |
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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 17th 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 |

Elton Baldy Tsemeta Forest Nursery

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

Fall 2004/Spring 2005 Growing Contract - Species List

Note: Seed lots not from the TCRCD 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