

93522

Big Flat Slide Revegetation

Summary of Project Results

DATE ENTERED 8-18-97 INITIAL JF

DATE FILED 8-18-97 INITIAL JF

October 28, 1993

Phase 1

A public works contract, completed in October, 1992 accomplished the following treatments: 1) the toe of the slide was riprapped, 2) the steep upper slope was laid back, 3) a gully channel was lined with rock from top to bottom of the slide, and 4) the disturbed portions of the slide face were mulched for erosion control.

The height of the finished riprap is 10 feet above streambed. The contract called for 60 cubic yards of Type III riprap and 450 yards of type XI riprap, although the contractor actually placed much more than the specified amount. This will increase the flood protection in large magnitude events greatly. Another change in design was elimination of the seed which was a mix of species exotic to the site.

The excavation along the top of the slide resulted in a loss of an estimated 6' horizontally along half the length of the slide (125 feet). A few small trees were removed in the process.

A three to four foot bench was created above the rip-rap. Approximately 4/5th of the slide was covered with straw, leaving the north and south ends open. The steepest slope gradient is on the southern half of the slide.

Phase 2

October 28, 1992 the watershed shop and some folks from fisheries held a work day at Big Flat. A total of five rolls of jute netting were stapled on the upper portion of the slide. Two rolls of netting were laid across the top of the slide on the steepest section. Three rolls of netting were laid lengthwise, on the section not covered by straw.

Large boulders were brought in and positioned around the top of the slide to provide a barrier to prevent vehicles from driving too close to the edge and as a deterrent to pedestrians.

115 cuttings of two species of willows were collected from approximately 15 individuals at two locations 1/2 to 1 mile below Big Flat. 50 cuttings of a long-leaved species of willow were planted on the southern half of the slide, with the majority planted below the rip-rap along the flood plain. A few were planted amongst the rip-rap. 65 cuttings of a short-leaved species were planted on the northern half of the slide, again with the majority being planted below the rip-rap and the remainder amongst the rip-rap boulders. A total of 80 nursery-grown cottonwoods were planted; 30 just above the rip-rap, 30 scattered in between the boulders and below the rip-rap and 20 cottonwoods

were planted along the drainage channel amongst the rocks. A total of 200 conifers (an equal mix of doug fir, ponderosa pine, and cedar) were planted above the rip-rap on the slide face, with closer spacing along the top. Vexar tubes were placed over the cottonwoods, some conifers and a few willows.

In the last week of June, 1993, the lower portion of the slide was replanted, as the upper portion had dried out by the time the site was accessible. Heavy snow load on the newly planted face had up-ended most of the conifer seedlings from the October planting. It was decided to cover the remaining face of the slide, except for the rocky bench just above the riprap, with jute netting. This was accomplished in September. The netting was seeded with indigenous grass seed, collected from the vicinity, buck lotus seed from the North Fork Salmon River area, and 20# of lupinus perennis seed from a commercial source. Other work done in June included placing 50 more cuttings, which included cottonwood as well as willow, among the riprap. The total number of cuttings by species planted on the slide is given below. Shaping of the area draining to the slide was done, along with some rockwork to prevent erosion on the top of the slide until surface is stabilized.

In July 1993 the following cuttings were planted:

- 35 long-leaved willows
- 23 short-leaved willows
- 18 cottonwoods

bringing the total hardwoods planted to

- 85 long-leaved willows
- 88 short-leaved willows
- 18 cottonwood cuttings
- 80 cottonwood seedlings.

Next Phase

Conifers need to be replanted as soon as the site is ready. Boulders will be placed in the campsite and picnic area above the slide to control traffic and hence compaction. An interpretive sign is being made to provide information about the project and also to discourage foot traffic on the slide. Trail maintenance and improved signing needs to be done to improve utilization and reduce erosion on the trail from the campground to the stream. Coordination with the District Recreation Dept. and the Shasta-Trinity is underway to ensure that this happens.

Monitoring of Final Phase of Big Flat Coop Project September 1994

Jute netting was placed on 90% of the slide surface in 1993. In May of 1994 conifer seedlings were planted under the netting. In June barriers were placed in the campground area draining to the slide to control traffic, thereby facilitating reduced compaction over time. Traffic was re-routed away from the edge of the slide. In July trailhead signs were placed at the parking area to better delineate existing trail to the river to encourage access away from the

slide. Plans were made to eliminate trails near the slide going to the river's edge as part of a new campground management strategy to be implemented by the Recreation Dept.

Survival counts

July 1, 1993:

6 hardwoods (3% survival)*	
25 fir	20% survival for conifers
13 pine	
3 cedar	

This does not count 1993 plantings

Sept. 8, 1994

18 cottonwoods - 5 seedlings and 13 cuttings (approx. 6% of seedlings, 72% of cuttings survived)
 28 long-leaved willow (33% survival)
 12 short-leaved willow (14% survived)
 48 fir (83% survival)**
 185 pine (82% survival)**
 4 cedar (100%)

Of the grasses and forbs planted, no buck lotus or lupine was alive in September, although as of July the lupine had sprouted and was profuse. The botanist felt that it may have been mal-adapted (commercial source was nonindigenous native California seed) or else too dry a season for establishment. The buck lotus seed was picked on Salmon River, but from a lower elevation range. It was not possible to determine whether grass observed on site was planted or natural, but it was growing in over 40 clumps, covering less than 5% of the site. Most of the grass is growing in a strip down the center of the slide.

The best pioneer species for this site appears to be a pearly everlasting that has seeded in naturally.

* May have been too early in season to determine accurately
 ** Estimate of year 1 survival.

Robert Claude Water
 Hydrologist
 Salmon River RD
 Klamath National Forest

SFW coop Project File

MESSAGE DISPLAY FOR ROBBIE VANDEWATER

To R.VANDEWATER:R05F05D54A

From: Lorenda Cianci:R05F05A

Postmark: Nov 21, 94 9:42 AM

Delivered: Nov 21, 94 9:44 AM

Status: Certified Urgent

Subject: BIG FLAT SLIDE STABILIZATION BILLING 312906K

Message:

I'M GETTING READY TO BILL FOR THIS PROJECT FOR JULY-SEPT 94 CHARGES.
I WOULD APPRECIATE IT IF YOU COULD REVIEW THE FOLLOWING CHARGES & LET
ME KNOW IF IT'S OK TO BILL FOR THEM.

CHURCHILL LUMBER \$160.00 (20 POSTS)

CHURCHILL LUMBER .31 (INTEREST PAID) WE'LL NEED A SALMON RIVER

M/C TO CHARGE THIS INTEREST TO

STUDENT CONSERVATION ASSN \$1,286.60 (SALARY FOR K.SAMPSON & S.SMITH)

VEHICLE 5834 \$169.65 (VEHICLE USE)

VEHICLE 7997 70.03 (VEHICLE USE)

MOLITOR, V. 195.07 (PP18 SALARY)

JESPERSEN, W. 487.65 (PP18 SALARY)

ALEXANDER, L. 241.56 (PP18 SALARY)

TOTAL TO BILL \$2,610.56 FOR JULY-SEPT

THAT WILL LEAVE \$1,554.97 TO USE ON THIS PROJECT

PLEASE GET BACK TO ME AS SOON AS YOU CAN. THANKS, LORENDA

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rev Lorinda on 8/18/97:

- We billed last for '94 as above.
- Agremnt. expired in Jan. 95