



**STRAW Project
2013-2014 Restoration Report: Miller Creek**

PROJECT DESCRIPTION

Students and Teachers Restoring A Watershed (STRAW) continues to work on riparian vegetation restoration along Miller Creek near Miller Creek Middle School under contract with the Marin County Stormwater Pollution Prevention Program (MCSTOPPP). The focus has been the removal of invasive exotic plant species, planting native species, erosion control, and providing educational and environmental stewardship opportunities for the local school.

PROJECT PARTICIPANTS

School Name	Teacher Name	Grade	Number of Presentations	Restoration Date	Number of Students/ volunteers
Miller Creek Middle School	Mike Schulist	8 th	5	11/25/13	185
	Janice Woods	8 th	2		
	Sue Holland	7 th	0	11/26/13	188
	Erik Lunde	7 th	0		
	Bob Arigi	6 th	5	12/5/13	228
	Erik Lunde	6 th	3		
TOTALS	5	-	15	3	601

WORK COMPLETED

The following work completed includes weeding and planting in zones designated on the site sketch revised September 2009 (see attached document, "Miller Cr Sketch.pdf"). The main invasive plant species removed were English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), cape ivy (*Delairea odorata*), privet (*Lingustrum spp.*) and periwinkle (*Vinca major*).

Zone 1.1

Clearing and sedge planting has been largely successful here. Performed follow-up weeding in last year's cleared area and moved downstream into adjacent dense

blackberry and ivy patches (see table 3 for total invasive species removed). Applied seed and rice straw mulch and transplanted more basket sedge (*Carex barbarae*) (see Table 1 for the grass seed mix). Planted 5 elderberries in the cleared areas with DriWater and tee post marking the plant (see Table 2). On the bank of Miller Creek itself, one roll of a coir BioNet erosion control blanket was installed. Three white alders were installed along the toe of the slope.

Zone 5.1 & 5.2

Continued to weed out the ivy, clipped privet sprouts, and sawed down privet suckers. The Molate fescue sewn last year is doing well. We re-seeded any bare patches using the grass seed mix in Table 1 and mulched with rice straw. Additional basket sedges were transplanted in the lower flats.

Zone 5.3

A large oak fell in this area near the main upper pathway. Seven native shrubs with browse protection cages and DriWater were planted in this opening as noted in Table 2. In addition, any existing "volunteer" sprouts of live oaks and valley oaks were caged here to prevent deer browsing and allow them to grow more rapidly. All plants in this zone were marked with metal tee posts to prevent being mowed or trampled accidentally.

Zone 8.0

Began weeding out periwinkle, cape ivy and blackberry.

Table 1. Seed Mix

70%	<i>Festuca rubra</i>	Molate red fescue
30%	<i>Elymus glaucus</i>	blue wildrye

Table 2. Container plants and transplants

Species		Zone 1.1	Zone 5.2	Zone 5.3	Total
<i>Alnus Rhombifolia</i>	white alder	3			3
<i>Carex barbarae</i>	basket sedge	75	50		125
<i>Frangula californica</i>	coffeeberry			4	4
<i>Heteromeles arbutifolia</i>	toyon			3	3
<i>Sambucus nigra spp cerulea</i>	blue elderberry	5			5
					140

Table 3. Area and volume of work completed

Total area restored	Area seeded	Area blanketed	Volume of invasive plants removed
11,250 sq. ft.	710 sq. ft.	200 sq. ft.	28.2 cu. yds.