

APPENDIX G
Stream Conservation Area Survey Summary
July 14, 2009

A survey of land use within the Stream Conservation Area (SCA) was conducted by staff from the Marin County Department of Public Works and the Marin Municipal Water District using protocols established through the California Surface Water Ambient Monitoring Program (SWAMP) protocol (State Water Resources Control Board, 2000). The SWAMP protocol was modified slightly to better meet the data needs of the SCA study. Twenty-nine parcels (29) consisting of 42 data points were surveyed from February through June 2009. A data point comprises a survey from the top of bank to the SCA boundary; some parcels included a survey on both the right and left banks, while others only captured one bank.

The SCA surveys were conducted either at the same location previously surveyed by Stillwater Sciences during the Existing Conditions Report riparian vegetation surveys or within the same reach. Ultimately, the location of the parcels surveyed depended on obtaining landowner access. Stream reaches surveyed for the Existing Conditions Report that were not included in the SCA survey are Larsen and upper and lower San Geronimo Creek.

Information collected during the SCA surveys included

- structure types and associated square footage
- distance of a structure from top of bank (TOB)
- percent land use by specific categories
- width of riparian forest (measured at the canopy level from TOB to drip line).

Structures (primary living structure, secondary structures, driveways, patios, etc.) represented a relatively low combined land use type (12%). [Table 1] However, the survey found that in most cases the primary living structure was located within the SCA, at an average distance of 43 feet from TOB. [Table 2] Coincidentally, the average width of the riparian canopy (measured as distance to drip line), was 44 feet from TOB. Riparian vegetation of any type was virtually non-existent beyond the riparian canopy drip line. [Table 3]

The SCA vegetation surveys mirrored the results of the 2008 Stillwater Sciences surveys for the Existing Conditions Report. The upper canopy trees (> 5m) were typically bay laurels and live oak. Lower canopy trees and shrubs included a more diverse mix of natives and non-natives such as: buckeye, live oak, bay, assorted ornamentals, Himalayan blackberry, and various fruit trees. The native herbaceous layer included miner's lettuce and ferns and the non-native layer was comprised of mostly vinca and ivy. [Table 4 and 5]

Table 1. Land Use Percent Cover

Land Use Type	% Cover
Main Structure	3
Secondary Structures	1
Decking	2
Driveway/parking - paved	3
Driveway/parking - gravel	1
Pool/spa	1
Patio (impervious)	<1
Lawn	3
Bare earth	5
Non-native vegetation	17
Riparian canopy	65

Table 2. Average structure set back from top of bank

Set Back to Structures (from TOB)		
	Ave. (ft)	Range (ft)
Main Structure	43	1 - 83
Secondary Structures	33	0 - 96

Table 3.

Riparian Forest Width	Average (ft)
Left Bank	49
Right Bank	38
Average	44
Range	4 - 100

Table 4. Vegetation survey data (SWAMP protocol includes assessing canopy cover by percentages ranked from 0-4: 0 = absent, 1 = <10%, 2 = 10-40%, 3 = 40-75%, 4 = >75%)

SCA Vegetation Survey Summary				
	Distance to drip line (average rank)			
	0-20 ft	21-60 ft	> 60 ft	All Plots
Upper Canopy (trees and saplings >5 m in height)				
Native	3	4	4	4
Non-native	0	0	0	0
Lower Canopy (trees, saplings, and shrubs 0.5 to 5 m high)				
Native	1	1	1	1
Non-native	1	1	1	1
Ground Cover (<0.5 m)				
Woody shrubs and saplings	0	1	1	1
Native herbaceous	1	1	2	2
Non-native herbaceous	2	3	2	2
Forest duff	2	2	2	2
Bare ground	1	1	1	1

Table 5. Size classes of native trees within native riparian forest corridor

Native Tree Size Classes (DBH)	% total
< 10 inches	66
10 - 30 inches	29
30 - 76 inches	4
> 76 inches	0

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