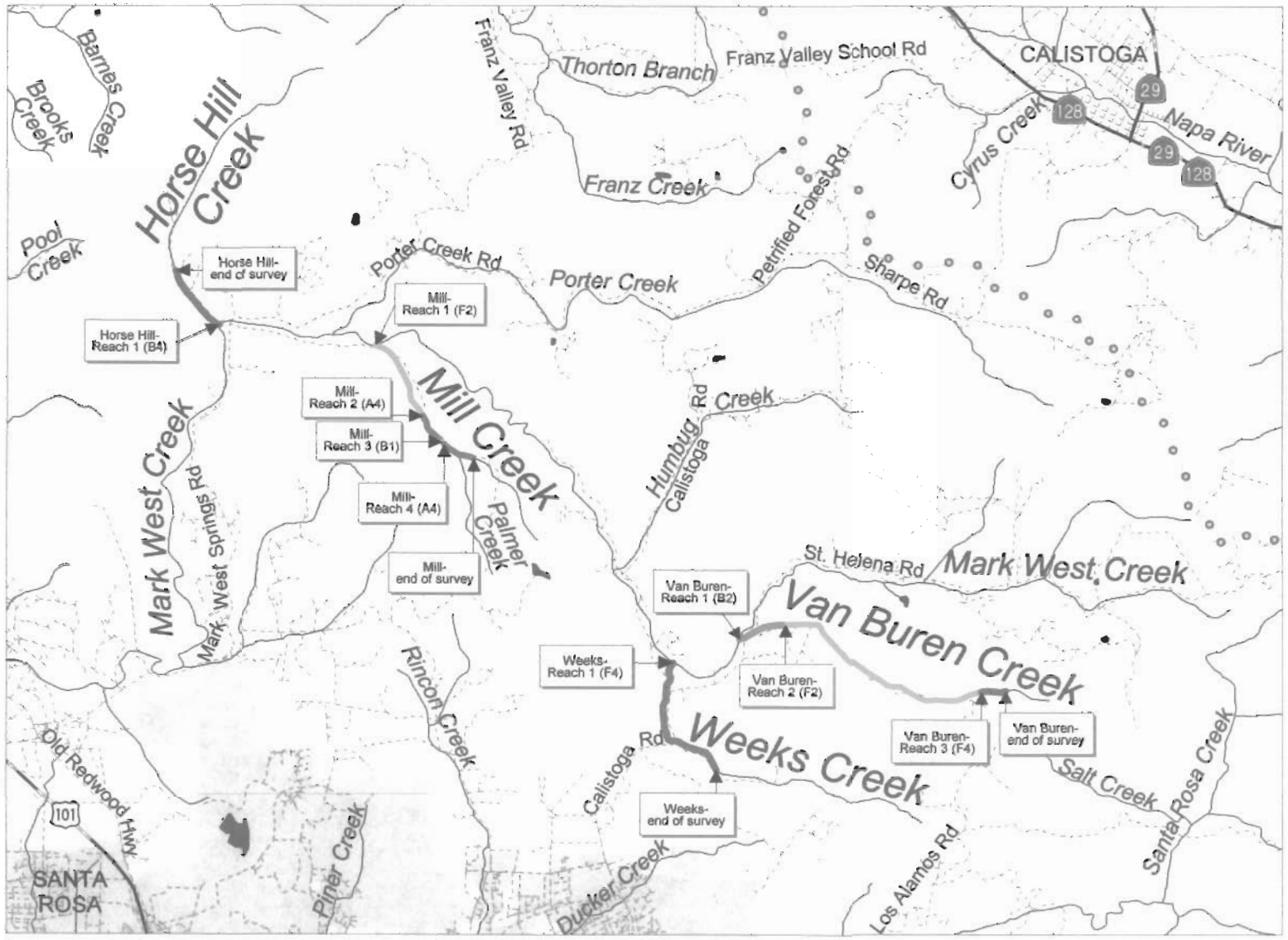
Mark West Tributaries-
Horse Hill Creek, Mill Creek, Weeks Creek, Van Buren Creek



Mill Creek

Drainage: Mark West Creek, Russian River

Table 1 - SUMMARY OF RIFFLE, FLATWATER, AND POOL HABITAT TYPES

Survey Dates: 07/29/97 to 07/30/97

Confluence Location: QUAD: Mark West Sprgs LEGAL DESCRIPTION: T08NR08WS13 LATITUDE: 38°32'49" LONGITUDE: 122°41'51"

HABITAT UNITS	UNITS FULLY MEASURED	HABITAT TYPE	HABITAT PERCENT OCCURRENCE	MEAN LENGTH (ft.)	TOTAL LENGTH (ft.)	PERCENT TOTAL LENGTH	MEAN WIDTH (ft.)	MEAN DEPTH (ft.)	MEAN AREA (sq.ft.)	ESTIMATED TOTAL AREA (sq.ft.)	MEAN VOLUME (cu.ft.)	ESTIMATED TOTAL VOLUME (cu.ft.)	MEAN RESIDUAL POOL VOL (cu.ft.)	MEAN SHELTER RATING
8	3	RIFFLE	10	27	213	3	4.2	0.4	103	822	97	778	0	10
25	9	FLATWATER	32	63	1582	22	5.1	0.3	258	6444	82	2048	0	2
22	7	POOL	28	32	694	10	9.3	0.7	284	6241	261	5739	310	24
23	1	DRY	29	203	4669	65	11.5	0.0	0	0	0	0	0	0

TOTAL UNITS	TOTAL UNITS	TOTAL LENGTH (ft.)	TOTAL AREA (sq. ft.)	TOTAL VOL. (cu. ft.)
78	20	7157	13507	8565

Mill Creek

Drainage: Mark West Creek, Russian River

Table 2 - SUMMARY OF HABITAT TYPES AND MEASURED PARAMETERS

Survey Dates: 07/29/97 to 07/30/97

Confluence Location: QUAD: Mark West Sprgs LEGAL DESCRIPTION: T08NR08WS13 LATITUDE: 38°32'49" LONGITUDE: 122°41'51"

HABITAT UNITS #	UNITS FULLY MEASURED	HABITAT TYPE	HABITAT OCCURRENCE %	MEAN LENGTH ft.	TOTAL LENGTH ft.	TOTAL LENGTH %	MEAN WIDTH ft.	MEAN DEPTH ft.	MAXIMUM DEPTH ft.	MEAN AREA sq.ft.	TOTAL AREA EST. sq.ft.	MEAN VOLUME cu.ft.	TOTAL VOLUME EST. cu.ft.	MEAN RESIDUAL POOL VOL cu.ft.	MEAN SHELTER RATING	MEAN CANOPY %
6	2	LGR	8	31	186	3	5	0.5	3.4	142	853	136	816	0	15	83
2	1	HGR	3	13	26	0	1	0.1	0.4	4	8	0	1	0	0	88
5	4	GLD	6	35	173	2	5	0.5	1.1	95	474	45	224	0	0	81
20	5	RUN	26	70	1409	20	5	0.3	1.3	301	6013	92	1834	0	3	86
1	0	TRP	1	54	54	1	5	0.5	1.1	202	202	101	101	0	0	85
1	1	MCP	1	58	58	1	7	1.1	2.0	426	426	468	468	0	0	70
14	3	LSR	18	32	446	6	10	0.8	3.9	333	4657	329	4608	428	30	83
4	2	LSBk	5	24	96	1	7	0.6	2.0	151	606	105	422	52	13	85
2	1	LSBo	3	19	39	1	11	0.4	1.1	175	351	70	140	23	18	95
23	1	DRY	29	203	4669	65	12	0.0	0.0	0	0	0	0	0	0	79

TOTAL UNITS	TOTAL UNITS	LENGTH (ft.)	AREA (sq.ft)	TOTAL VOL. (cu.ft)
78	20	7157	13589	8614

Mill Creek

Drainage: Mark West Creek, Russian River

Table 3 - SUMMARY OF POOL TYPES

Survey Dates: 07/29/97 to 07/30/97

Confluence Location: QUAD: Mark West Sprgs LEGAL DESCRIPTION: T08NR08WS13 LATITUDE: 38°32'49" LONGITUDE: 122°41'51"

HABITAT UNITS	UNITS FULLY MEASURED	HABITAT TYPE	HABITAT PERCENT OCCURRENCE	MEAN LENGTH (ft.)	TOTAL LENGTH (ft.)	PERCENT TOTAL LENGTH	MEAN WIDTH (ft.)	MEAN DEPTH (ft.)	MEAN AREA (sq.ft.)	TOTAL AREA EST. (sq.ft.)	MEAN VOLUME (cu.ft.)	TOTAL VOLUME EST. (cu.ft.)	MEAN RESIDUAL POOL VOL. (cu.ft.)	MEAN SHELTER RATING
2	1	MAIN	9	56	113	16	6.3	0.8	314	627	285	569	0	0
20	6	SCOUR	91	29	581	84	9.6	0.7	281	5614	259	5170	310	26

TOTAL UNITS	TOTAL UNITS	TOTAL LENGTH (ft.)	TOTAL AREA (sq.ft.)	TOTAL VOL. (cu.ft.)
22	7	694	6241	5739

Mill Creek

Drainage: Mark West Creek, Russian River

Table 4 - SUMMARY OF MAXIMUM POOL DEPTHS BY POOL HABITAT TYPES

Survey Dates: 07/29/97 to 07/30/97

Confluence Location: QUAD: Mark West Sprgs LEGAL DESCRIPTION: T08NR08WS13 LATITUDE: 38°32'49" LONGITUDE: 122°41'51"

UNITS MAX DPTH MEASURED	HABITAT TYPE	HABITAT PERCENT OCCURRENCE	<1 FOOT MAXIMUM DEPTH	<1 FOOT PERCENT OCCURRENCE	1-<2 FT. MAXIMUM DEPTH	1-<2 FOOT PERCENT OCCURRENCE	2-<3 FT. MAXIMUM DEPTH	2-<3 FOOT PERCENT OCCURRENCE	3-<4 FT. MAXIMUM DEPTH	3-<4 FOOT PERCENT OCCURRENCE	>=4 FEET MAXIMUM DEPTH	>=4 FEET PERCENT OCCURRENCE
1	TRP	5	0	0	1	100	0	0	0	0	0	0
1	MCP	5	0	0	0	0	1	100	0	0	0	0
14	LSR	64	2	14	8	57	2	14	2	14	0	0
4	LSBk	18	0	0	3	75	1	25	0	0	0	0
2	LSBo	9	1	50	1	50	0	0	0	0	0	0

TOTAL UNITS
22

Mill Creek | Drainage: Mark West Creek, Russian River

Table 5 - Summary of Shelter by Habitat Type | Survey Dates: 07/29/97 to 07/30/97

Confluence Location: QUAD: Mark West Sprgs LEGAL DESCRIPTION: T08NR08WS13 LATITUDE: 38°32'49" LONGITUDE: 122°41'51"

UNITS MEASURED	UNITS SHELTER MEASURED	HABITAT TYPE	% TOTAL UNDERCUT BANKS	% TOTAL SWD	% TOTAL LWD	% TOTAL ROOT MASS	% TOTAL TERR. VEGETATION	% TOTAL AQUATIC VEGETATION	% TOTAL WHITE WATER	% TOTAL BOULDERS	% TOTAL BEDROCK LEDGES
6	4	LGR	0	20	0	60	0	0	0	20	0
2	2	HGR	0	0	0	0	0	0	0	0	0
5	4	GLD	0	0	0	0	0	0	0	0	0
20	6	RUN	0	0	0	20	0	0	0	80	0
1	1	TRP	0	0	0	0	0	0	0	0	0
1	1	MCP	0	0	0	0	0	0	0	0	0
14	14	LSR	13	8	5	44	0	0	0	28	2
4	3	LSBk	0	4	0	0	0	7	0	49	40
2	2	LSBo	0	0	0	5	0	0	0	95	0
23	5	DRY	0	0	0	0	0	0	0	0	0
78	42	ALL HABITAT TYPES	10	7	4	38	0	0	0	37	3
22	21	POOLS ONLY	12	7	5	38	0	0	0	34	4

Mill Creek

Drainage: Mark West Creek, Russian River

Table 6 - SUMMARY OF DOMINANT SUBSTRATES BY HABITAT TYPE

Survey Dates: 07/29/97 to 07/30/97

Confluence Location: QUAD: Mark West Sprgs LEGAL DESCRIPTION: T08NR08WS13 LATITUDE: 38°32'49" LONGITUDE: 122°41'51"

TOTAL HABITAT UNITS	UNITS SUBSTRATE MEASURED	HABITAT TYPE	% TOTAL SILT/CLAY DOMINANT	% TOTAL SAND DOMINANT	% TOTAL GRAVEL DOMINANT	% TOTAL SM COBBLE DOMINANT	% TOTAL LG COBBLE DOMINANT	% TOTAL BOULDER DOMINANT	% TOTAL BEDROCK DOMINANT
6	2	LGR	0	0	0	0	50	50	0
2	1	HGR	0	0	0	0	0	0	100
5	4	GLD	0	0	25	0	0	25	50
20	5	RUN	0	0	0	0	60	20	20
1	0	TRP	0	0	0	0	0	0	0
1	1	MGP	0	0	0	100	0	0	0
4	3	LSR	0	0	0	0	67	0	33
4	2	LSBk	0	0	0	50	0	50	0
2	1	LSBo	0	0	0	0	100	0	0
23	5	DRY	0	0	0	0	60	40	0

Mill Creek

APPENDIX A. Summary of Mean Percent Vegetative Cover for Entire Stream

Mean Percent Canopy	Mean Percent Evergreen	Mean Percent Deciduous	Mean Right bank % Cover	Mean Left Bank % Cover
82.44	74.27	25.73	90.80	91.04

APPENDIX B.

Mean Percentage of Dominant Substrate

Dominant Class of Substrate	Number Units Right Bank	Number Units Left Bank	Percent Total Units
Bedrock	5	5	20
Boulder	9	5	28
Cobble/Gravel	10	12	44
Silt/clay	1	3	8

Mean Percentage of Dominant Vegetation

Dominant Class of Vegetation	Number Units Right Bank	Number Units Left Bank	Percent Total Units
Grass	0	0	0
Brush	0	2	4
Deciduous Trees	0	2	4
Evergreen Trees	25	19	88
No Vegetation	0	2	4

APPENDIX C. FISH HABITAT INVENTORY DATA SUMMARY

STREAM NAME: Mill Creek
SAMPLE DATES: 07/29/97 to 07/30/97
SURVEY LENGTH:
MAIN CHANNEL: 7157 ft. SIDE CHANNEL: 0 ft.
LOCATION OF STREAM MOUTH:
USGS Quad Map: Mark West Sprgs Latitude: 38°32'49"
Legal Description: T08NR08WS13 Longitude: 122°41'51"

SUMMARY OF FISH HABITAT ELEMENTS BY STREAM REACH

STREAM REACH 1 (Units 1-50)

Channel Type: F2	Mean Canopy Density: 79%
Main Channel Length: 4019 ft.	Evergreen Component: 72%
Side Channel Length: 0 ft.	Deciduous Component: 28%
Riffle/Flatwater Mean Width: 6.0 ft.	Pools by Stream Length: 14%
Pool Mean Depth: 0.8 ft.	Pools >=2 ft. Deep: 35%
Base Flow: 0.0 cfs	Pools >=3 ft. Deep: 12%
Water: 60-64°F Air: 68-74°F	Mean Pool Shelter Rtn: 25
Dom. Bank Veg.: Evergreen Trees	Dom. Shelter: Boulders
Bank Vegetative Cover: 88%	Occurrence of LOD: 57%
Dom. Bank Substrate: Cobble/Gravel	Dry Channel: 2482 ft.

Embeddness Value: 1. 0% 2. 47% 3. 53% 4. 0% 5. 0%

STREAM REACH 2 (Units 51-70)

Channel Type: A4	Mean Canopy Density: 91%
Main Channel Length: 1524 ft.	Evergreen Component: 87%
Side Channel Length: 0 ft.	Deciduous Component: 14%
Riffle/Flatwater Mean Width: 3.8 ft.	Pools by Stream Length: 9%
Pool Mean Depth: 0.6 ft.	Pools >=2 ft. Deep: 0%
Base Flow: 0.0 cfs	Pools >=3 ft. Deep: 0%
Water: 64-64°F Air: 72-75°F	Mean Pool Shelter Rtn: 19
Dom. Bank Veg.: Evergreen Trees	Dom. Shelter: Boulders
Bank Vegetative Cover: 95%	Occurrence of LOD: 0%
Dom. Bank Substrate: Cobble/Gravel	Dry Channel: 683 ft.

Embeddness Value: 1. 0% 2. 0% 3. 0% 4. 100% 5. 0%

STREAM REACH 3 (Units 71-75)

Channel Type: B1	Mean Canopy Density: 84%
Main Channel Length: 105 ft.	Evergreen Component: 60%
Side Channel Length: 0 ft.	Deciduous Component: 40%
Riffle/Flatwater Mean Width: 3.4 ft.	Pools by Stream Length: 0%
Pool Mean Depth: 0.0 ft.	Pools >=2 ft. Deep: **********%
Base Flow: 0.0 cfs	Pools >=3 ft. Deep: **********%
Water: 62-62°F Air: 66-66°F	Mean Pool Shelter Rtn: 0
Dom. Bank Veg.: Evergreen Trees	Dom. Shelter: Undercut Banks
Bank Vegetative Cover: 94%	Occurrence of LOD: 0%
Dom. Bank Substrate: Cobble/Gravel	Dry Channel: 0 ft.

Embeddness Value: 1. 2. 3. 4. 5.

STREAM REACH 4 (Units 76-78)

Channel Type: A4
Main Channel Length: 1509 ft.
Side Channel Length: 0 ft.
Riffle/Flatwater Mean Width: 0.8 ft.
Pool Mean Depth: 0.0 ft.
Base Flow: 0.0 cfs
Water: 62-62°F Air: 66-66°F
Dom. Bank Veg.: Evergreen Trees
Bank Vegetative Cover: 90%
Dom. Bank Substrate: Cobble/Gravel
Embeddness Value: 1. 2. 3. 4. 5.

Mean Canopy Density: 83%
Evergreen Component: 65%
Deciduous Component: 35%
Pools by Stream Length: 0%
Pools >=2 ft. Deep: **********%
Pools >=3 ft. Deep: **********%
Mean Pool Shelter Rtn: 0
Dom. Shelter: Undercut Banks
Occurrence of LOD: 0%
Dry Channel: 1504 ft.